WELCOME

Public Advisory Group Meeting

Prince Albert Timber Supply Area

November 9, 2021

(1:30 – 3:30 pm)

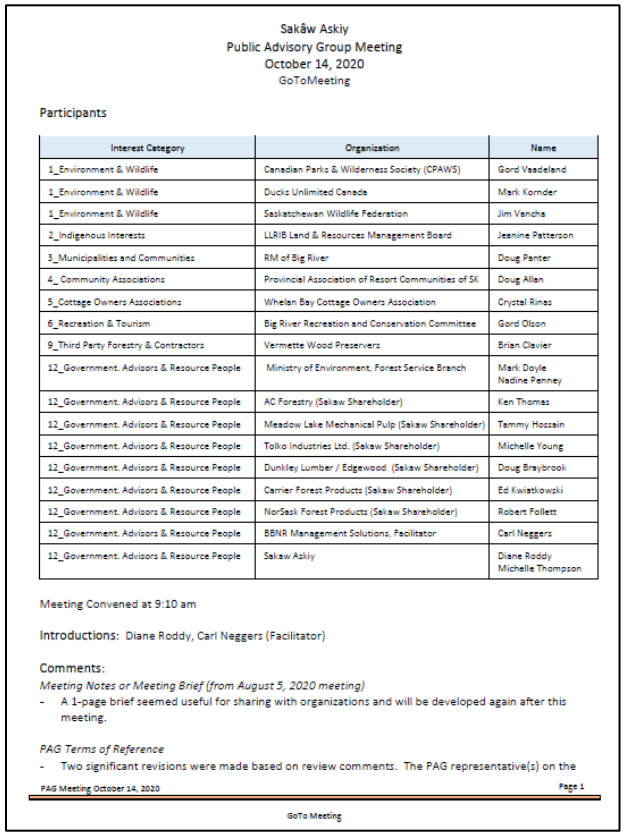
AGENDA

1. Introductions
2. Terms of Reference (highlights)
3. Review Agenda
4. Previous Notes and Action Items
   - Meeting Notes or Meeting Brief - October 14, 2020
   - Update on FMP Amendment 2 (Adapt to Caribou Range Plan) - May 13, 2021
4. Updates
   - Announcements of new wood allocations/industry expansion
   - Development of 2022/23 Operating Plan
5. FMP 2021 Annual Report (2019-20 Operating Year)
6. Wrap up & Next Meeting

PREVIOUS NOTES & ACTION ITEMS

Meeting of October 14, 2020

Meeting Notes – 4 pages



Sakâw Askiy
Public Advisory Group Meeting
October 14, 2020
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Participants

Interest Category	Organization	Name
1_Environment & Wildlife	Canadian Parks & Wilderness Society (CPAWS)	Gord Vasdeland
1_Environment & Wildlife	Ducks Unlimited Canada	Mark Kornder
1_Environment & Wildlife	Saskatchewan Wildlife Federation	Jim Vancha
2_Indigenous Interests	LLRIB Land & Resources Management Board	Jeanine Patterson
3_Municipalities and Communities	RM of Big River	Doug Panter
4_ Community Associations	Provincial Association of Resort Communities of SK	Doug Allan
5_Cottage Owners Associations	Whelan Bay Cottage Owners Association	Crystal Rines
6_Recreation & Tourism	Big River Recreation and Conservation Committee	Gord Olson
9_Third Party Forestry & Contractors	Vermette Wood Preservers	Brian Clavier
12_Government. Advisors & Resource People	Ministry of Environment, Forest Service Branch	Mark Doyle Nadine Penney
12_Government. Advisors & Resource People	AC Forestry (Sakaw Shareholder)	Ken Thomas
12_Government. Advisors & Resource People	Meadow Lake Mechanical Pulp (Sakaw Shareholder)	Tammy Hossain
12_Government. Advisors & Resource People	Tolko Industries Ltd. (Sakaw Shareholder)	Michelle Young
12_Government. Advisors & Resource People	Dunkley Lumber / Edgewood (Sakaw Shareholder)	Doug Braybrook
12_Government. Advisors & Resource People	Carrier Forest Products (Sakaw Shareholder)	Ed Kwiatkowski
12_Government. Advisors & Resource People	NorSask Forest Products (Sakaw Shareholder)	Robert Follett
12_Government. Advisors & Resource People	BBNR Management Solutions, Facilitator	Carl Neggers
12_Government. Advisors & Resource People	Sakaw Askiy	Diane Roddy Michelle Thompson

Meeting Convened at 9:10 am

Introductions: Diane Roddy, Carl Neggers (Facilitator)

Comments:

Meeting Notes or Meeting Brief (from August 5, 2020 meeting)

- A 1-page brief seemed useful for sharing with organizations and will be developed again after this meeting.

PAG Terms of Reference

- Two significant revisions were made based on review comments. The PAG representative(s) on the

PAG Meeting October 14, 2020 Page 1

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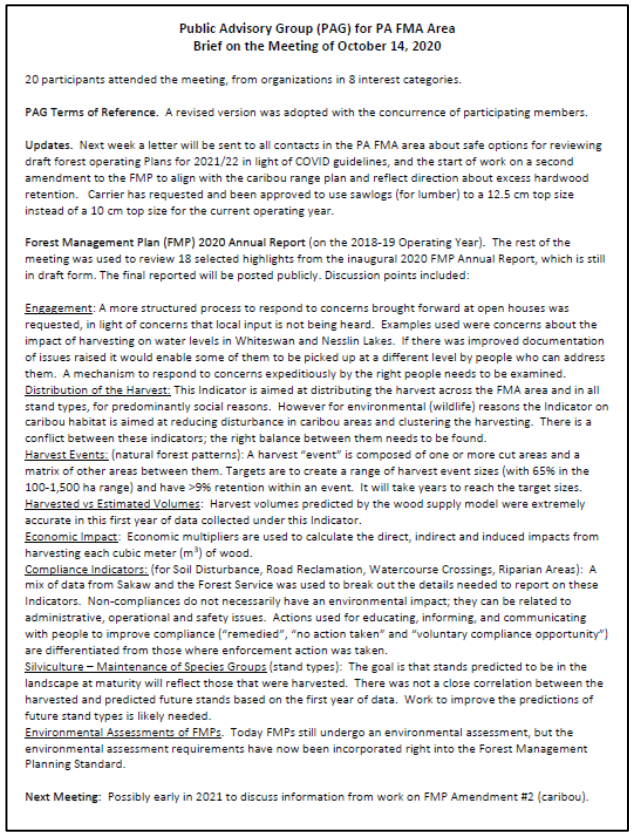
Meeting Brief – 1 page



Public Advisory Group (PAG) for PA FMA Area
Brief on the Meeting of October 14, 2020

20 participants attended the meeting, from organizations in 8 interest categories.

PAG Terms of Reference. A revised version was adopted with the concurrence of participating members.

Updates. Next week a letter will be sent to all contacts in the PA FMA area about safe options for reviewing draft forest operating Plans for 2021/22 in light of COVID guidelines, and the start of work on a second amendment to the FMP to align with the caribou range plan and reflect direction about excess hardwood retention. Carrier has requested and been approved to use sawlogs (for lumber) to a 12.5 cm top size instead of a 10 cm top size for the current operating year.

Forest Management Plan (FMP) 2020 Annual Report (on the 2018-19 Operating Year). The rest of the meeting was used to review 18 selected highlights from the inaugural 2020 FMP Annual Report, which is still in draft form. The final reported will be posted publicly. Discussion points included:

Engagement: A more structured process to respond to concerns brought forward at open houses was requested, in light of concerns that local input is not being heard. Examples used were concerns about the impact of harvesting on water levels in Whiteswan and Nesslin Lakes. If there was improved documentation of issues raised it would enable some of them to be picked up at a different level by people who can address them. A mechanism to respond to concerns expeditiously by the right people needs to be examined.
Distribution of the Harvest: This Indicator is aimed at distributing the harvest across the FMA area and in all stand types, for predominantly social reasons. However for environmental (wildlife) reasons the Indicator on caribou habitat is aimed at reducing disturbance in caribou areas and clustering the harvesting. There is a conflict between these indicators; the right balance between them needs to be found.
Harvest Events: (natural forest patterns): A harvest "event" is composed of one or more cut areas and a matrix of other areas between them. Targets are to create a range of harvest event sizes (with 65% in the 100-1,500 ha range) and have >9% retention within an event. It will take years to reach the target sizes.
Harvested vs Estimated Volumes: Harvest volumes predicted by the wood supply model were extremely accurate in this first year of data collected under this Indicator.
Economic Impact: Economic multipliers are used to calculate the direct, indirect and induced impacts from harvesting each cubic meter (m^3) of wood.
Compliance Indicators: (for Soil Disturbance, Road Reclamation, Watercourse Crossings, Riparian Areas): A mix of data from Sakaw and the Forest Service was used to break out the details needed to report on these Indicators. Non-compliances do not necessarily have an environmental impact; they can be related to administrative, operational and safety issues. Actions used for educating, informing, and communicating with people to improve compliance ("remedied", "no action taken" and "voluntary compliance opportunity") are differentiated from those where enforcement action was taken.
Silviculture – Maintenance of Species Groups (stand types): The goal is that stands predicted to be in the landscape at maturity will reflect those that were harvested. There was not a close correlation between the harvested and predicted future stands based on the first year of data. Work to improve the predictions of future stand types is likely needed.
Environmental Assessments of FMPs. Today FMPs still undergo an environmental assessment, but the environmental assessment requirements have now been incorporated right into the Forest Management Planning Standard.

Next Meeting: Possibly early in 2021 to discuss information from work on FMP Amendment #2 (caribou).

Social-Engagement

A mechanism to respond to concerns expeditiously by the right people needs to be examined.

PREVIOUS NOTES & ACTION ITEMS

Email of May 13, 2021

Emailed Letter

Subject: Update on FMP Amendment #2 (Adapt to Caribou Range Plan)
Date: May 13, 2021 2:34:38 PM
Attachments: Summary FMP Amendment 2 (Caribou Range Plan) Final.pdf

Dear Public Advisory Group (PAG) Members,

When this group met last October the process of amending the long-term Forest Management Plan (FMP) for the Prince Albert FMA area, to adapt it to Saskatchewan's caribou range plan for this area, was just getting underway.

Over the fall, winter and spring an FMP Planning Team met on a regular basis to discuss the changes needed to the FMP and review the results of modeling runs carried out to look at the impacts of various strategies on caribou habitat and the available wood supply.

The Planning Team was made up of representatives from the Forest Service, Fish Wildlife and Lands Branch, Sakaw and shareholders, this PAG (represented by Gord Vaadeland) and consultants. There were 4-5 sets of modeling runs done to answer various questions and look at "what if" scenarios, and close to 20 meetings and discussions. The solution that crystalized out of that work is described in the attached summary. The amended FMP was submitted at the beginning of this month, and is currently under review.

Please let me know if you have questions about the summary, or would like to discuss the project in more detail.

I hope you stayed well over the winter and are enjoying spring.

Regards,

Diane

Diane Roddy, General Manager
Sakâw Askiy Management Inc.
219 – 1061 Central Ave, Prince Albert SK S6V 4V4
Office: 306 953-2021
Cell: 306 961-2057
Email: gm@sakaw.ca

Summary – FMP Amendment, Caribou

Summary

Forest Management Plan Amendment #2
Adapting to Caribou Range Plan

Background

The Prince Albert Forest Management Agreement (PA FMA) area consists of 3.4 million hectares of provincial forest located north of Prince Albert, Saskatchewan.

Sakâw Askiy Management Inc. is a corporation that holds the PA FMA on behalf of a partnership of five forest companies and two First Nations. The Sakaw shareholders hold softwood and hardwood allocations in operating zones within the FMA area, and carry out forestry operations that involve planning, building and maintain roads, harvesting timber and renewing the forest. The shareholders are AC Forestry, Carrier Forest Products, Edgewood Forest Products Operation of Dunkley Lumber, Meadow Lake Mechanical Pulp, Montreal Lake Business Ventures, NorSask Forest Products, and Tolko Meadow Lake OSB Division. Several independent operators also use timber from this forest area.

A 20-year Forest Management Plan (2018-2038 FMP) for the PA FMA area came into effect on April 1, 2018. The long-term FMP outlines forest management strategies that are implemented through operating plans that are developed each year.

The FMP was amended effective April 1, 2020 to address operational realities related to an imbalance between the mills and the wood supply available; specifically, the practice of leaving excess hardwood standing when there is no market for it and using a 12.5 cm top size for softwood sawlogs.

The FMP was amended again in 2021 to adapt the FMP to the final version of the *Range Plan for Woodland Caribou in Saskatchewan (SK2 Central Administration Unit)* July 2019. Although the FMP contained a caribou habitat management strategy, the habitat areas were based on the draft range plan maps that were available at the time.

UPDATES – New Wood Allocations

One Sky OSB Mill. Prince Albert. 845,000 m3 of hardwood.
https://www.saskatchewan.ca/government/news-and-media/2021/september/08/timber-allocations-approved-for-new-mill-in-northern-saskatchewan

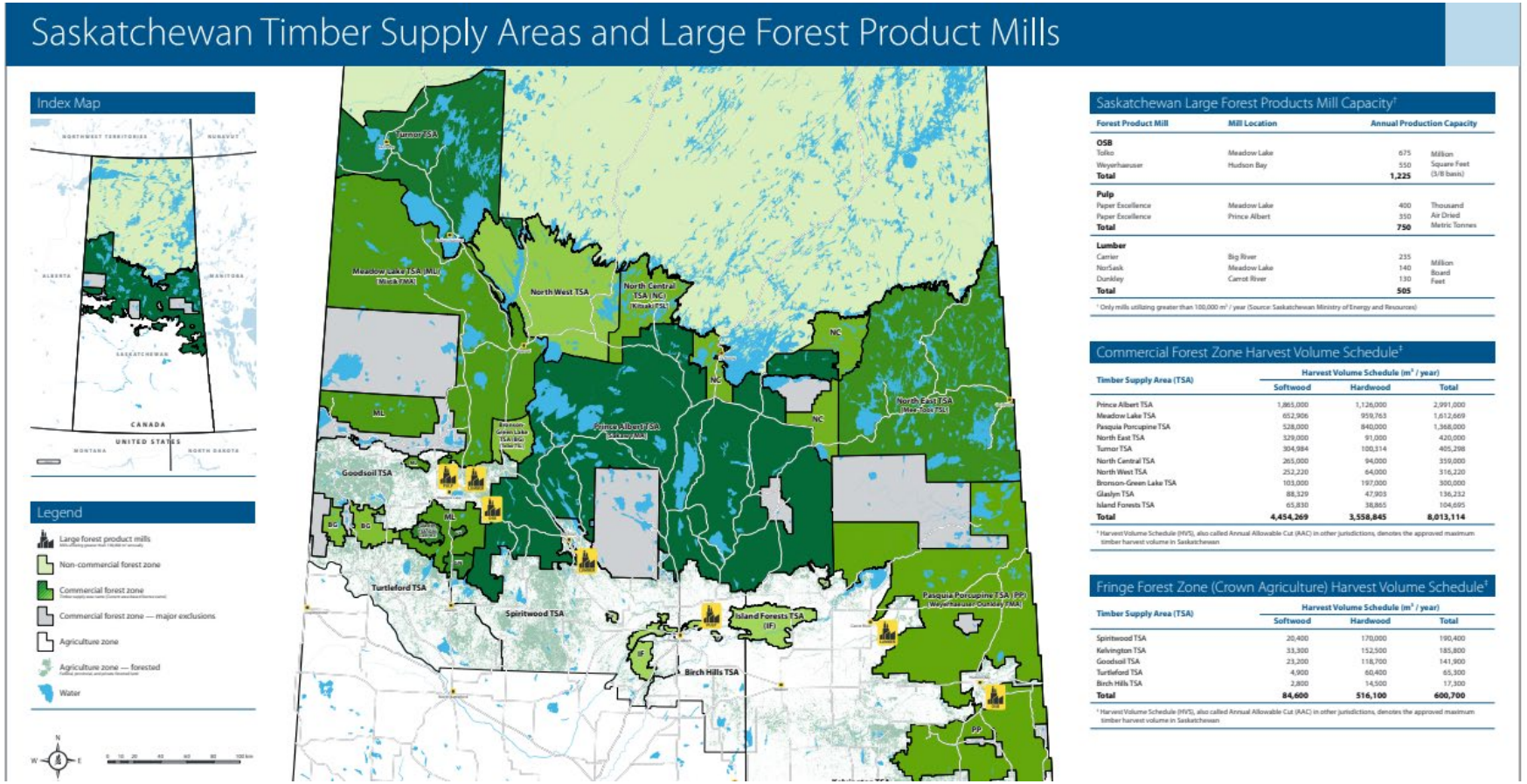
Paper Excellence Pulpmill. Prince Albert. 1,800,000 m3 of softwood
https://globalnews.ca/news/8178208/paper-excellence-prince-albert-pulp-mill-timber-allocation/

Dunkley Lumber. Carrot River. Expansion
https://www.woodbusiness.ca/saskatchewan-approves-timber-allocations-for-dunkley-lumber-mill-expansion/?custnum=&CUSTNUM;&title=&*URLENCODE(&TITLE;)&utm_source=&PUB_CODE;&utm_medium=email&utm_campaign=&*URLENCODE({{*JobID}})&oly_enc_id=8464C0091134D1S

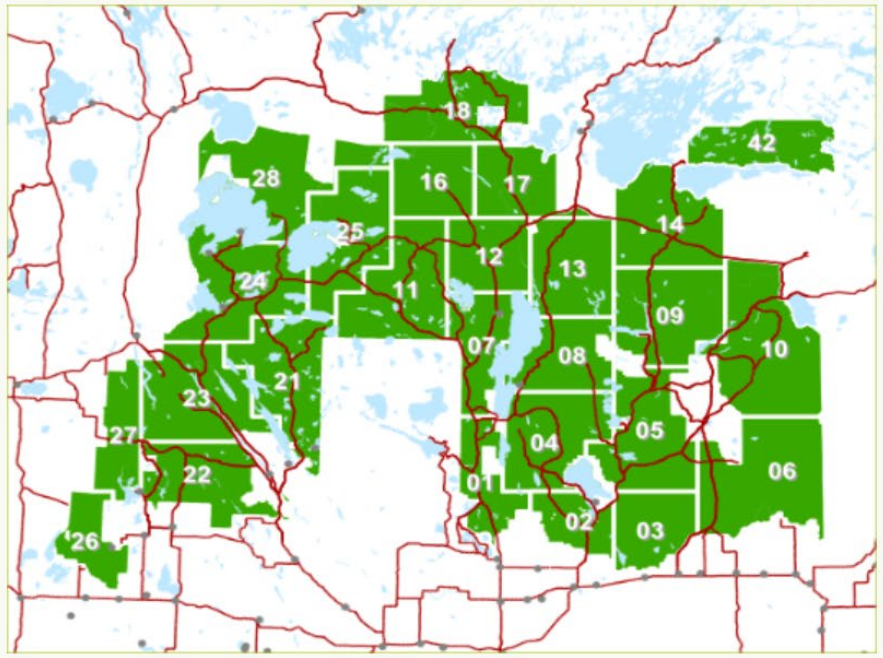
Carrier Lumber. Big River. Expansion
https://panow.com/2021/09/10/province-approves-more-timber-allocations-for-northern-mills/

Timber Supply Areas

https://gisappl.saskatchewan.ca/Map_Gallery/Administrative/pdf/Timber_Supply_Map.pdf



UPDATES – 2022/23 Operating Plan



2022 Operating Plan
Draft Planning Maps (Oct 2021):

To view operating planning maps in pdf. format, click on the links below.

NOTE: *These are large map files and may load slowly.*

- Unit 01
- Unit 02
- Unit 03
- Unit 04
- Unit 05
- Unit 06
- Unit 07
- Unit 08
- Unit 09
- Unit 10
- Unit 11
- Unit 12
- Unit 13
- Unit 14
- Unit 16
- Unit 17
- Unit 18
- Unit 21 (1 of 2) and (2 of 2)
- Unit 22
- Unit 23 (1 of 2) and (2 of 2)
- Unit 24 (1 of 2) and (2 of 2)
- Unit 25
- Unit 26
- Unit 27
- Unit 28
- Unit 42

Ads: radio, newspaper, online news sites, Facebook

Small meetings & field visits. Current health guidelines

Letters, Emails

Sakaw as a central contact to reach the right company and planners

Forest Management Plan 2021 Annual Report

PRINCE ALBERT TIMBER SUPPLY AREA

GENERAL COMMENTS

Used Version 1 of Indicators, from the originally approved FMP

- Effective for 2018-19 and 2019-20

Third Party Operators

- Data reported is for Sakâw shareholders
- The relatively minor amounts harvested by Third Party Operators are usually excluded
- Deviations resulting from independent operations are not counted against the FMP targets.

Suggested Topics to Highlight

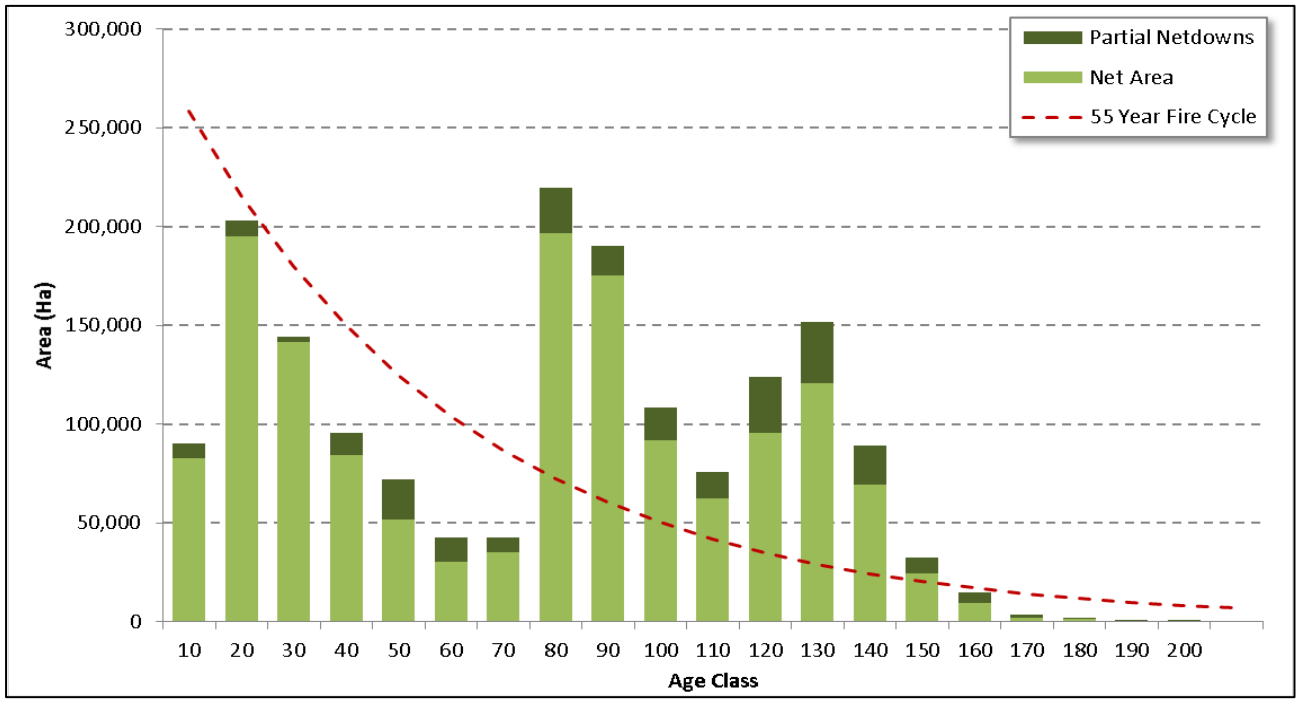
Social	Engagement (22, 25, 29) Incorporating Traditional Knowledge into Planning Process (27) Non-timber Resources & Uses (23) Distribution of the Harvest (24)
Environmental	Caribou (7c)
	<u>Natural Forest Patterns:</u> Event Size (3) Event Retention (4)
	Wood Volumes – Estimated versus Actual (13) Wood Volumes – Harvested versus Approved (21)
	<u>Compliance:</u> Soil, Road Reclamation, Watercourse Crossings, Riparian Areas (16-19)
	<u>Renewal:</u> Species Groups Maintained (6)
Economic	Economic Contribution from Forest Industry (28)

GENERAL COMMENTS

Reporting Cycle & Status

#	Indicator Title	Reporting Cycle	Detailed Assessment		Operating Year of Activity									
					2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
1	Age Class Distribution	5 Year	10 Year	Reporting Yr:					2024					2029
2	Old/Very Old Forest	Annual	-	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
3	Harvest Event Size	Annual	10 Year	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
4	Harvest Event Retention	Annual	-	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
5	Softwood in H Types	Annual	5 Year	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
6	Species Groups Maintained	Annual	5 Year	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
7a	Moose Habitat	5 Year	5 Year	Reporting Yr:					2024					2029
7b	Fisher Habitat	5 Year	5 Year	Reporting Yr:					2024					2029
7c	Caribou Habitat	Annual	5 Year	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
8	Source of Planted Seedlings	Annual	5 Year	Reporting Yr:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029

Ind 1 Age Class Distribution of Managed Forest Land Base (MFLB)

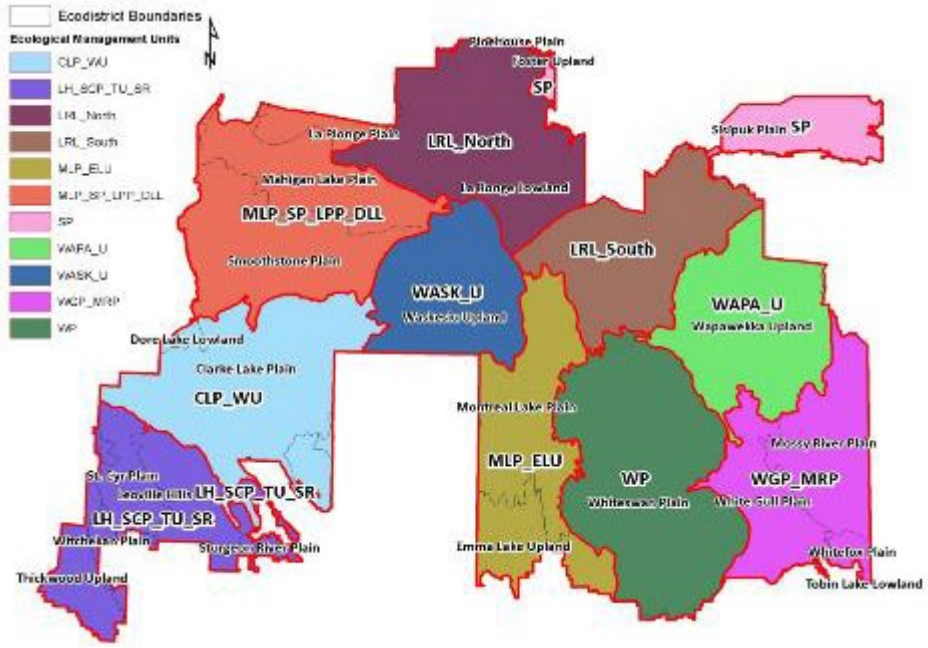


Will take decades to influence the age class towards target

Reported every 5 years

Assessed at 10 years

Ind 2 Old & Very Old Forest, by Species Group, in Ecological Mgmt Units



Old + Very Old forest (a minimum portion of which is Very Old)

… in 5 forest type groupings,

… in 11 Ecological Management Units

= 110 targets

Can move if find a suitable replacement

Original FMP old seral deferrals areas were redone spring of 2020.

Table - Cumulative amounts of old forest reserves (on revised list) impacted by operations in 2018-19 and 2019-20

224 ha impacted, and 224 ha replaced

Events: Ind 3 Size Distribution

Table 6 Harvest Event Size Distribution

Operating Year	< 100	100 -1,500	>1,501-3,500	>3,501-8,000
2018-19	3	2	0	0
2019-20	14	6	0	0
2020-21				
2021-22				
.....				
2027-28				
Cumulative Total	17	8	0	0
% of Events	68%	32%	0%	0%
FMP Targets	10%	65%	15%	10%

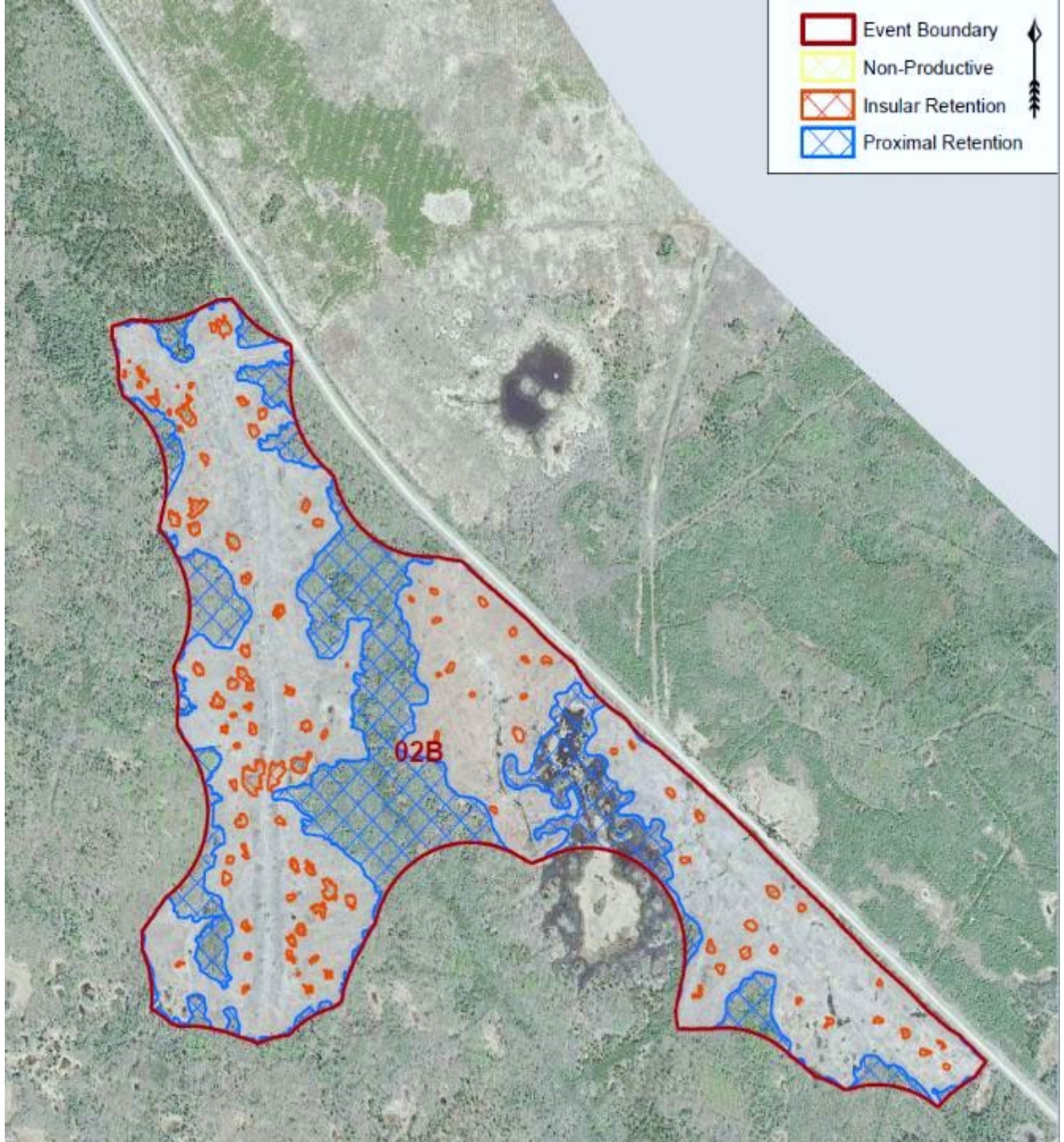
Skewed to smallest size category, currently off-track

Events: Ind 4 Event Retention

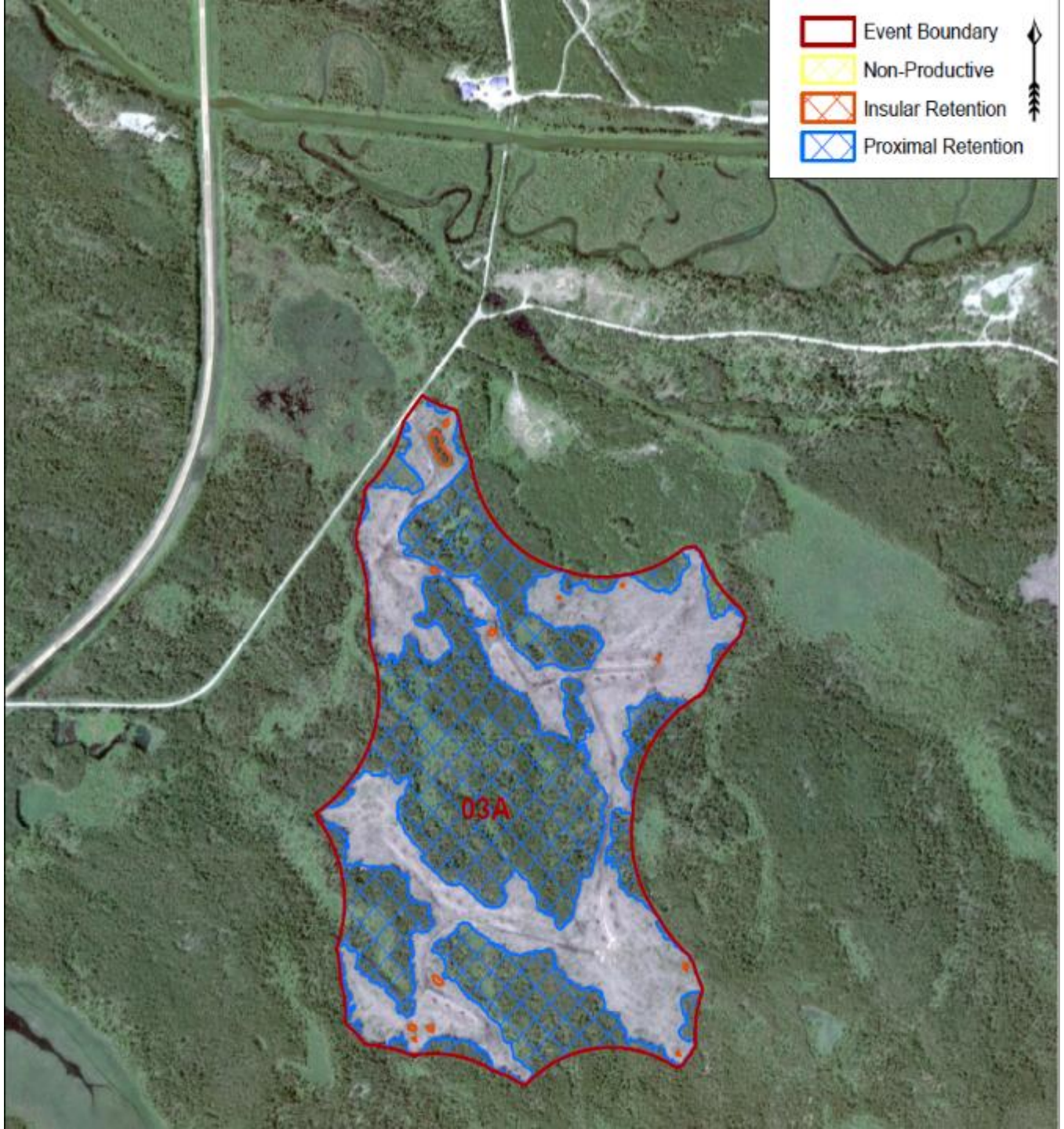
Table 7 Area of Merchantable Insular and Proximal Retention in Events

Operating Year	Event	Harvest Area	Insular Retention (Clumps/Islands)		Proximal Retention		Event Total Retention[1]	Event Insular Retention
		(ha)	(ha)	(%)	(ha)	(%)	(%) >9% (Y/N)	≥4% (Y/N)
2018-19	21A	43.5	3.5	8.0%	7.1	16.4%	13% Y	Y
	21B	235.8	12.5	5.3%	63.0	26.7%	10.3% Y	Y
	23A	29.0	0	0%	4.2	14.6%	5% N	N
	Totals	**308.3**	**16**	**5.2%**	**74.4**	**24.1%**	**10.2%**	
2019-20	2B	108.10	3.7	3.4%	16.3	15.1%	8.4% N	N
	3A	31.70	0.2	0.8%	18.6	58.7%	5.8% N	N
	4C	28.34	1.1	3.8%	6.3	22.2%	8.8% N	N
	4D	27.24	0.5	1.7%	1.8	6.6%	6.7% N	N
	4E	36.83	0.4	1.0%	7.1	19.1%	6.0% N	N
	4G	23.55	1.0	4.3%	4.4	18.6%	9.3% Y	Y
	6D	125.7	3.9	3.1%	44.6	35.5%	8.1% n	N
	16A	75.58	0.3	0.4%	2.4	3.1%	3.5% N	N
	22B	98.52	4.5	4.6%	16.2	16.4%	9.6% Y	Y
	25A	41.0	0.3	0.8%	18.9	46.0%	5.8% n	N
	Totals	**596.5**	**15.8**	**2.7%**	**136.4**	**23%**	**7.4%**	

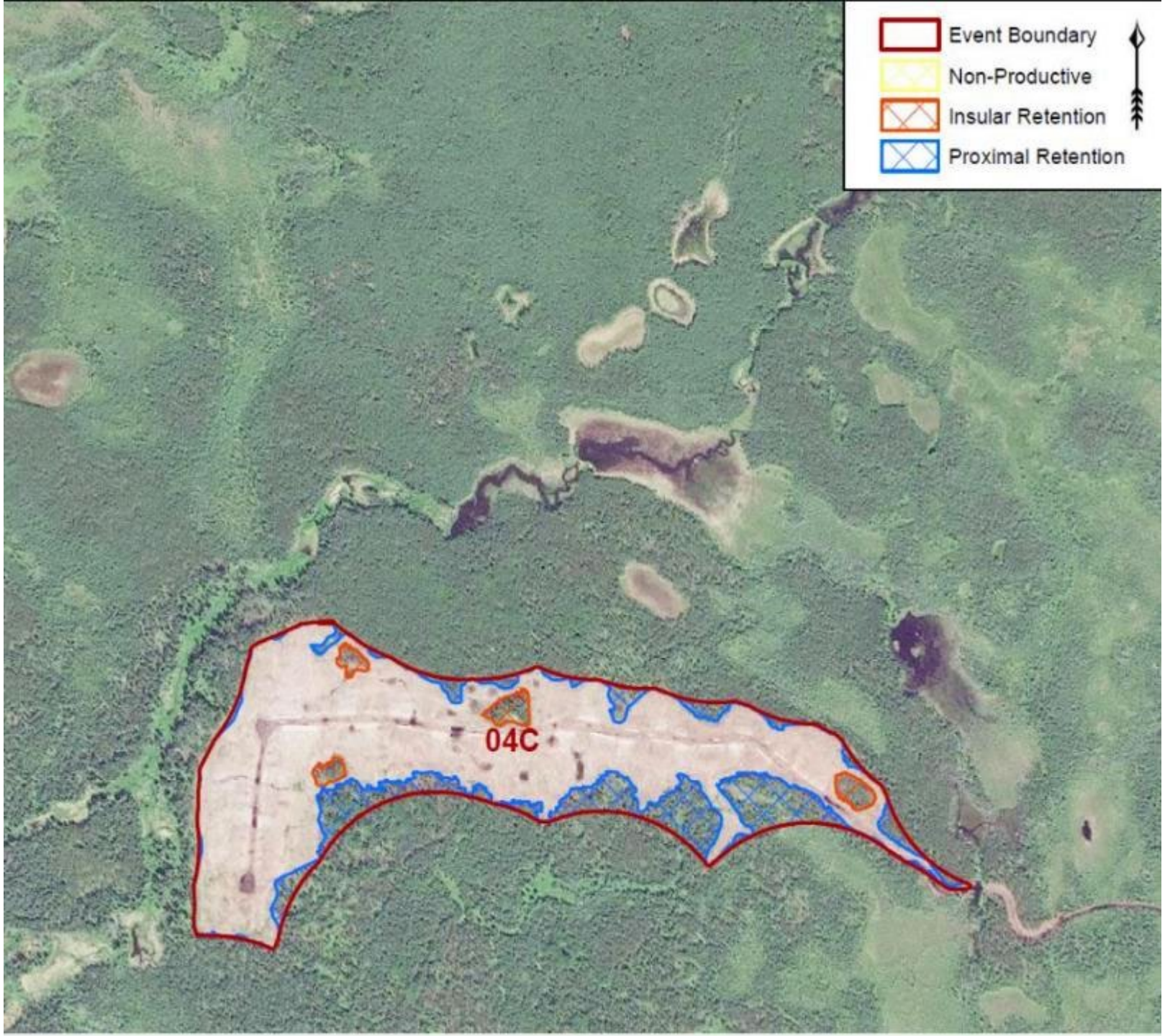
2B
Insular 3.4%
Proximal 15.1%
Total: 8.4%



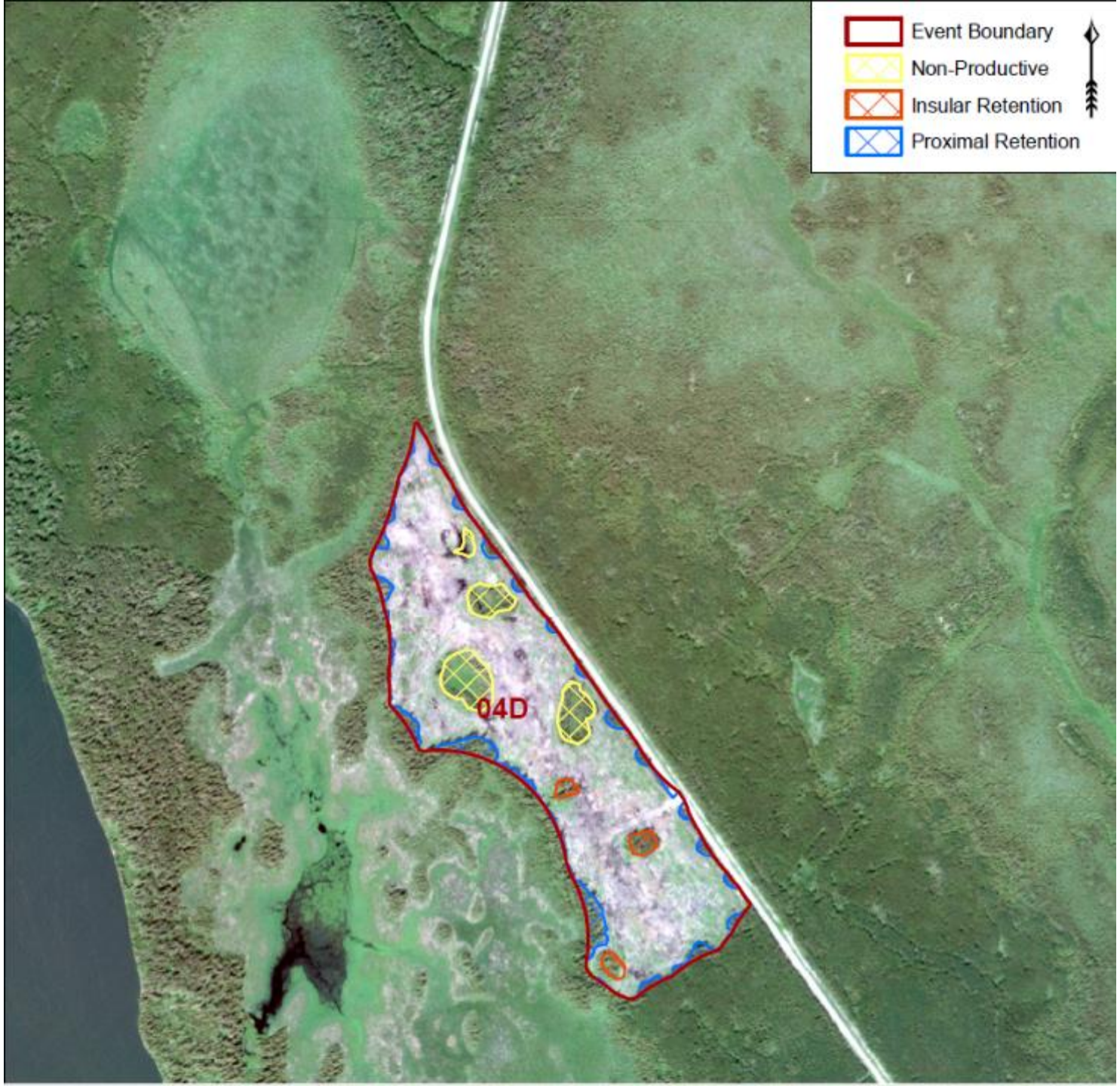
3A
Insular 0.8%
Proximal 58.7%
Total: 5.8%



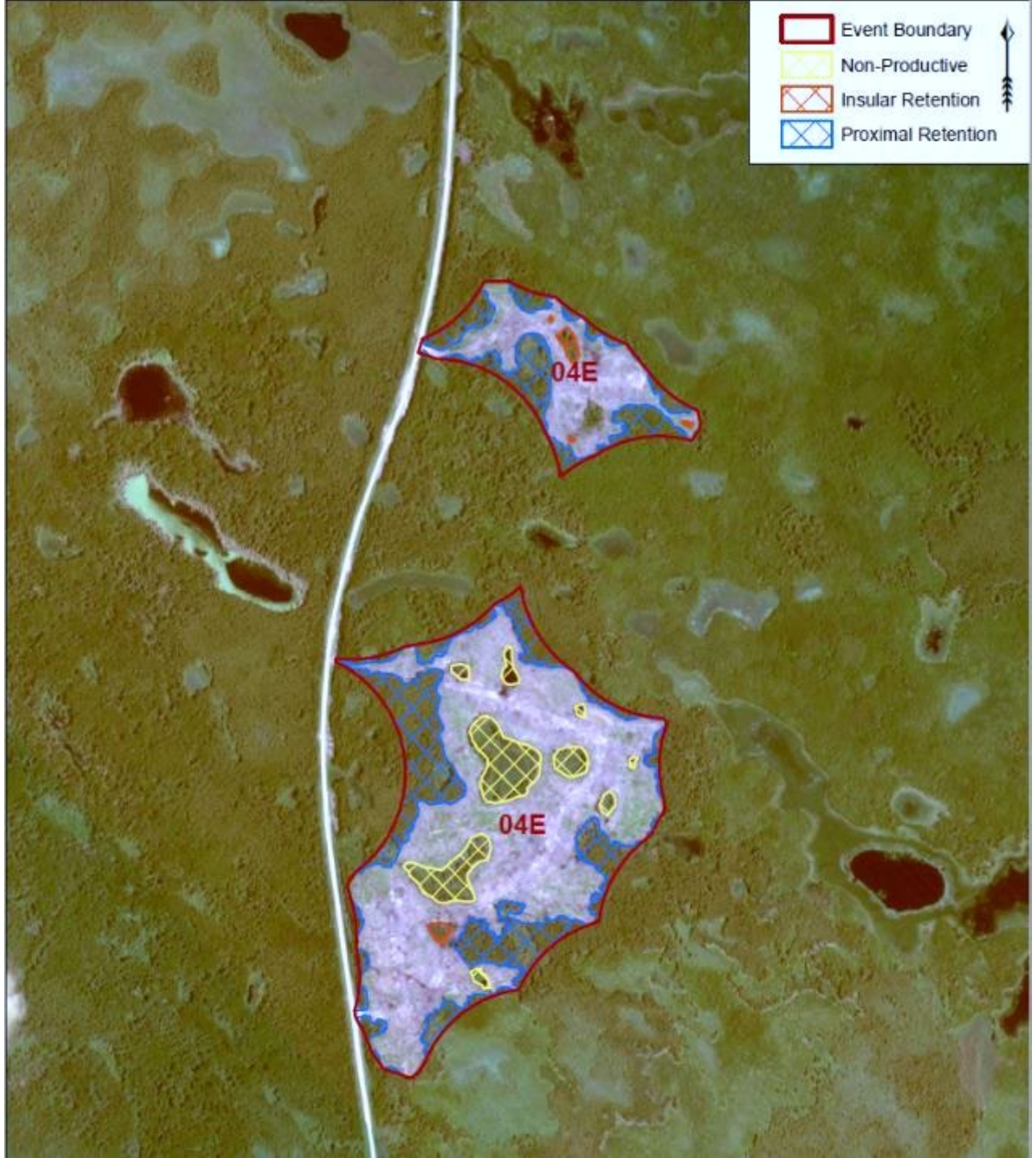
4C
Insular 3.8%
Proximal 22.2%
Total: 8.8%



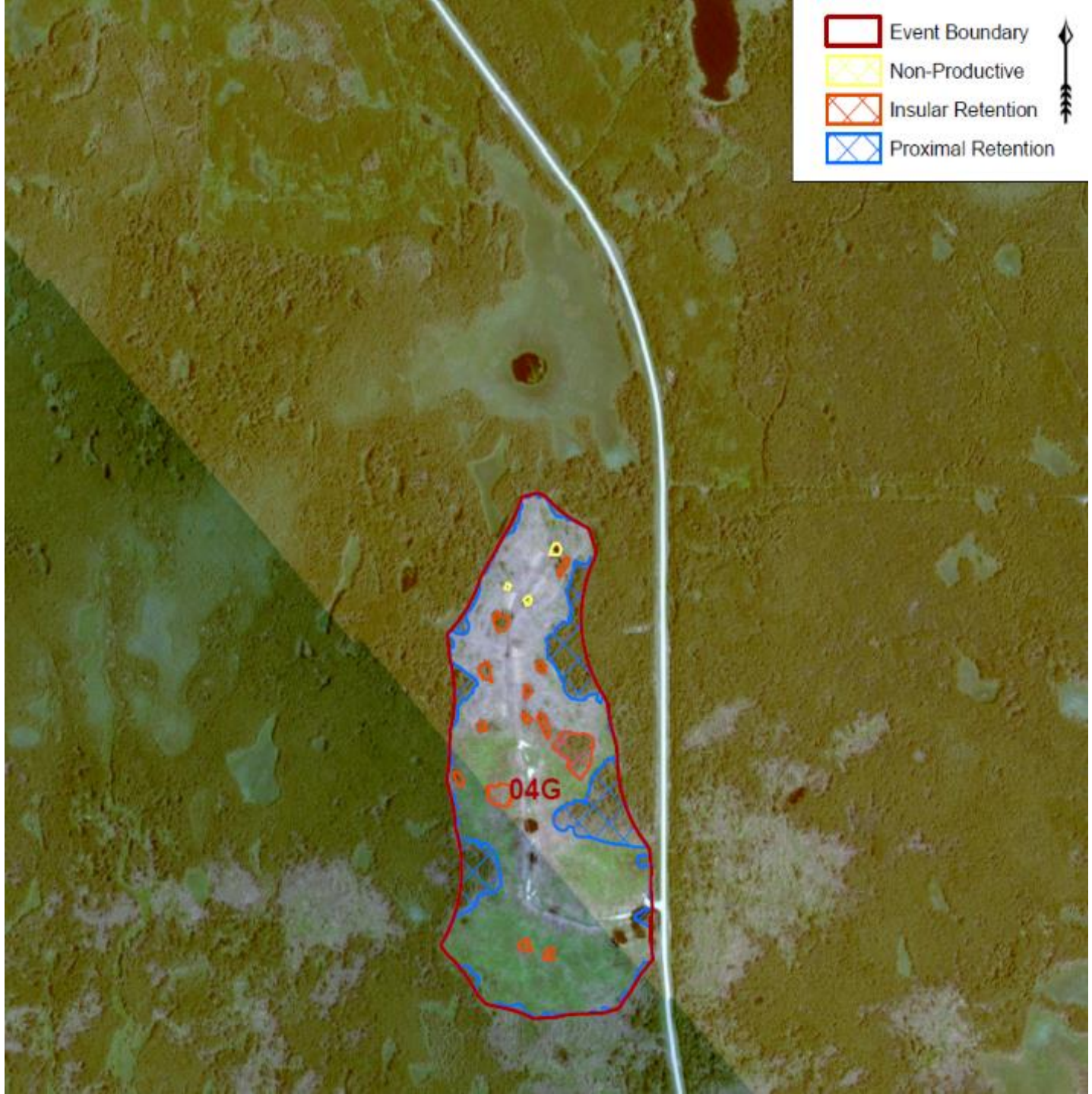
4D
Insular 1.7%
Proximal 6.6%
Total: 6.7%



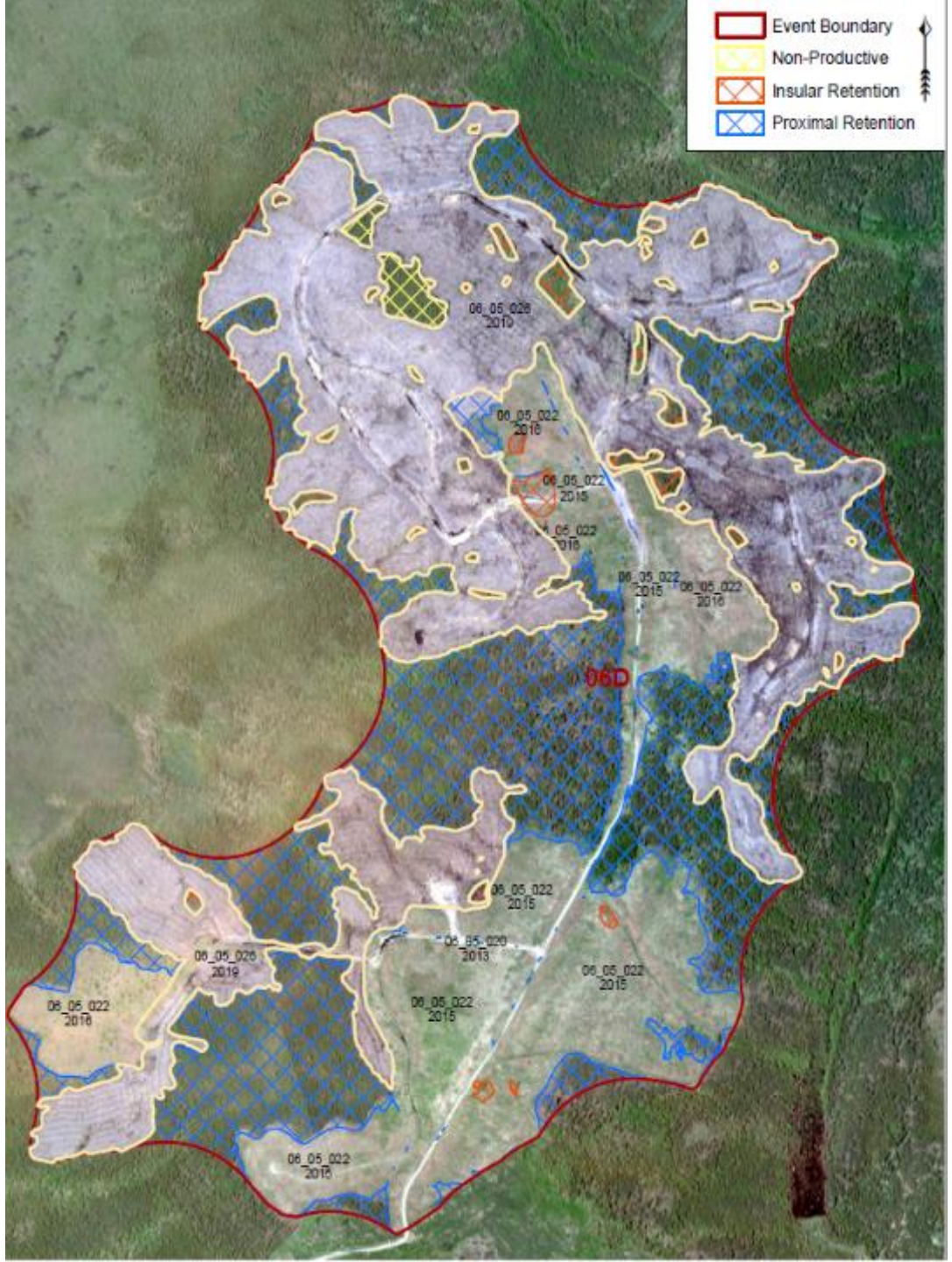
4E
Insular 1.0%
Proximal 19.1%
Total: 6.0%



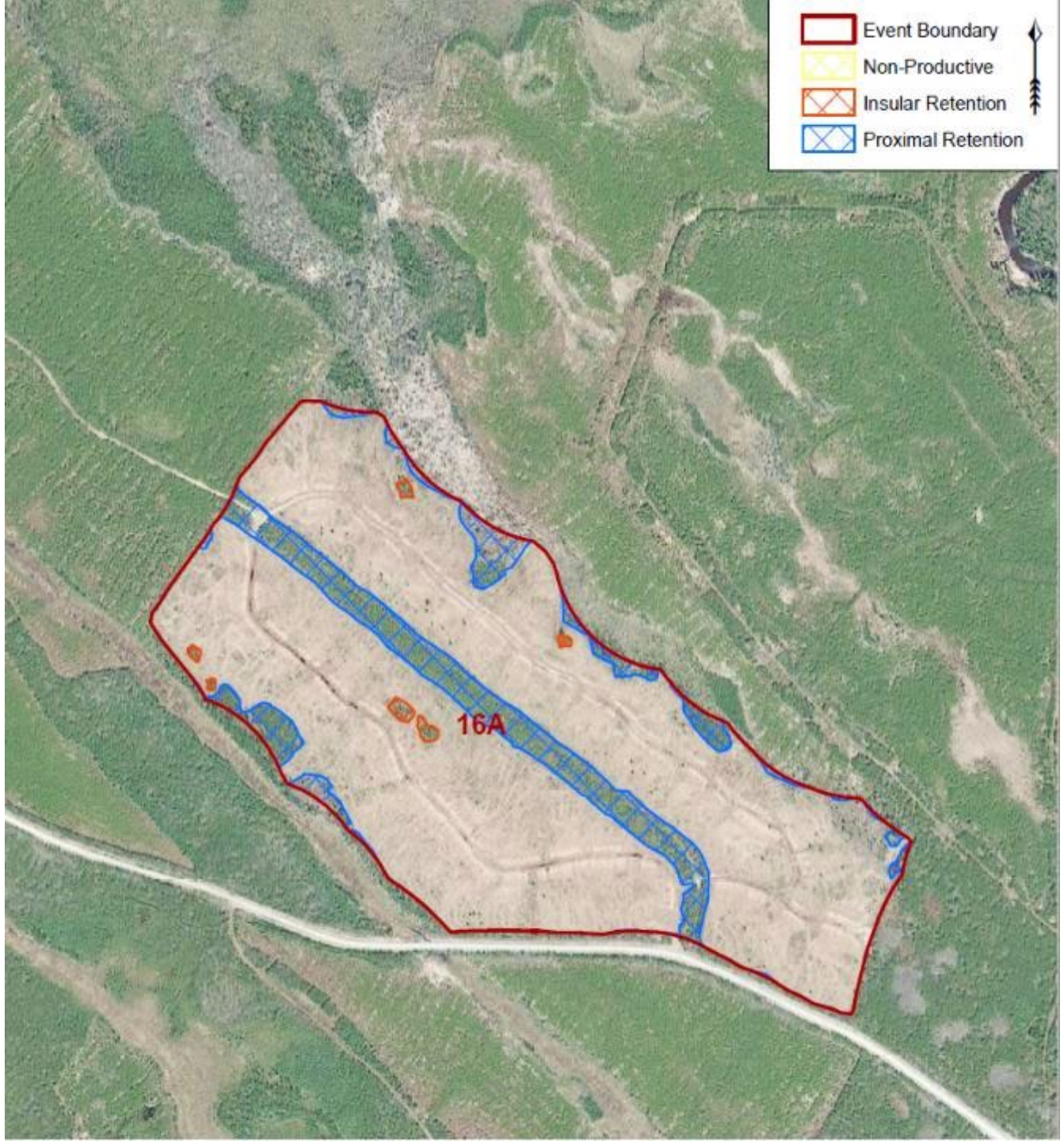
4G
Insular 4.3%
Proximal 18.6%
Total: 9.3%



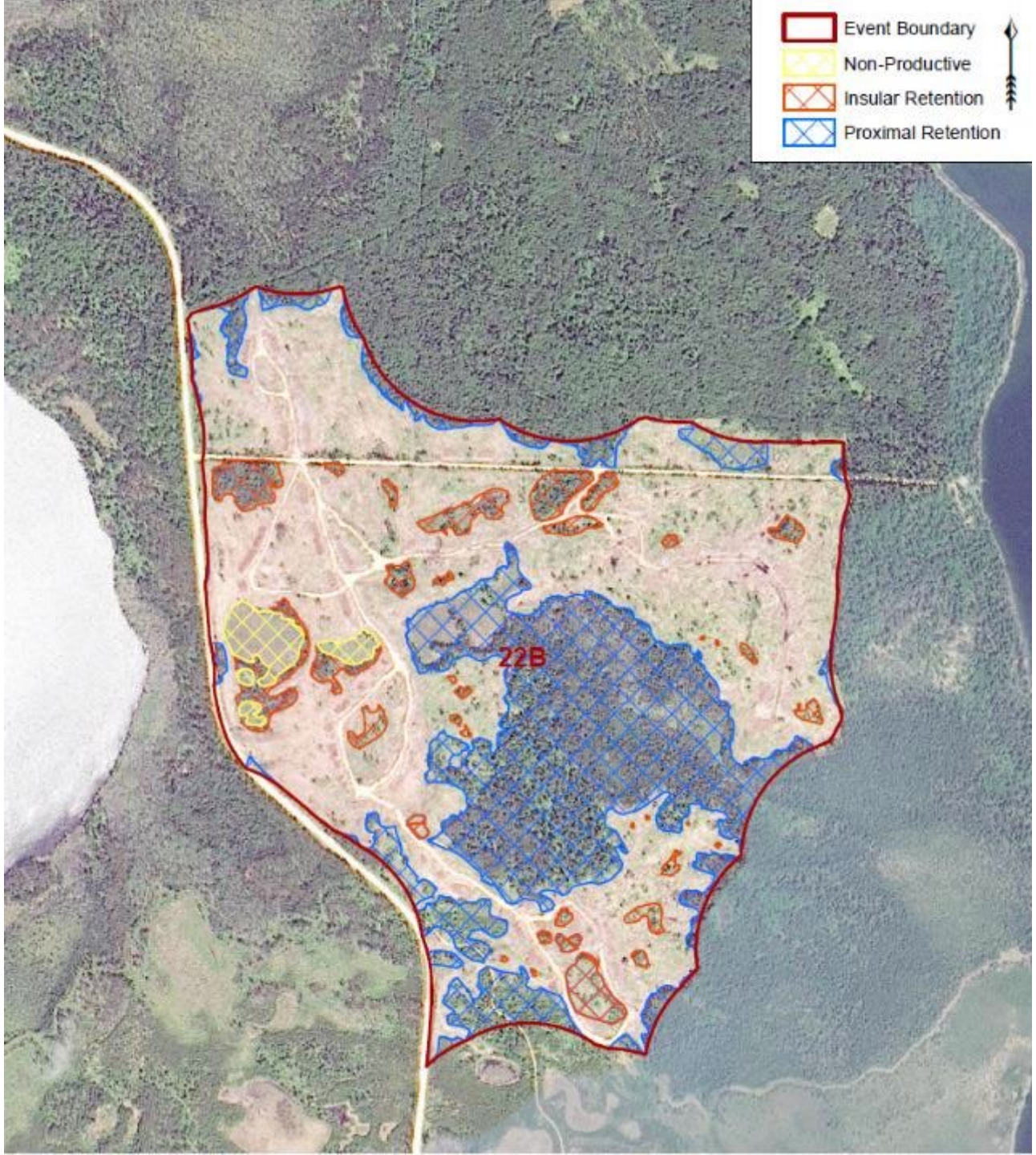
6D
Insular 3.1 %
Proximal 35.5%
Total: 8.1%



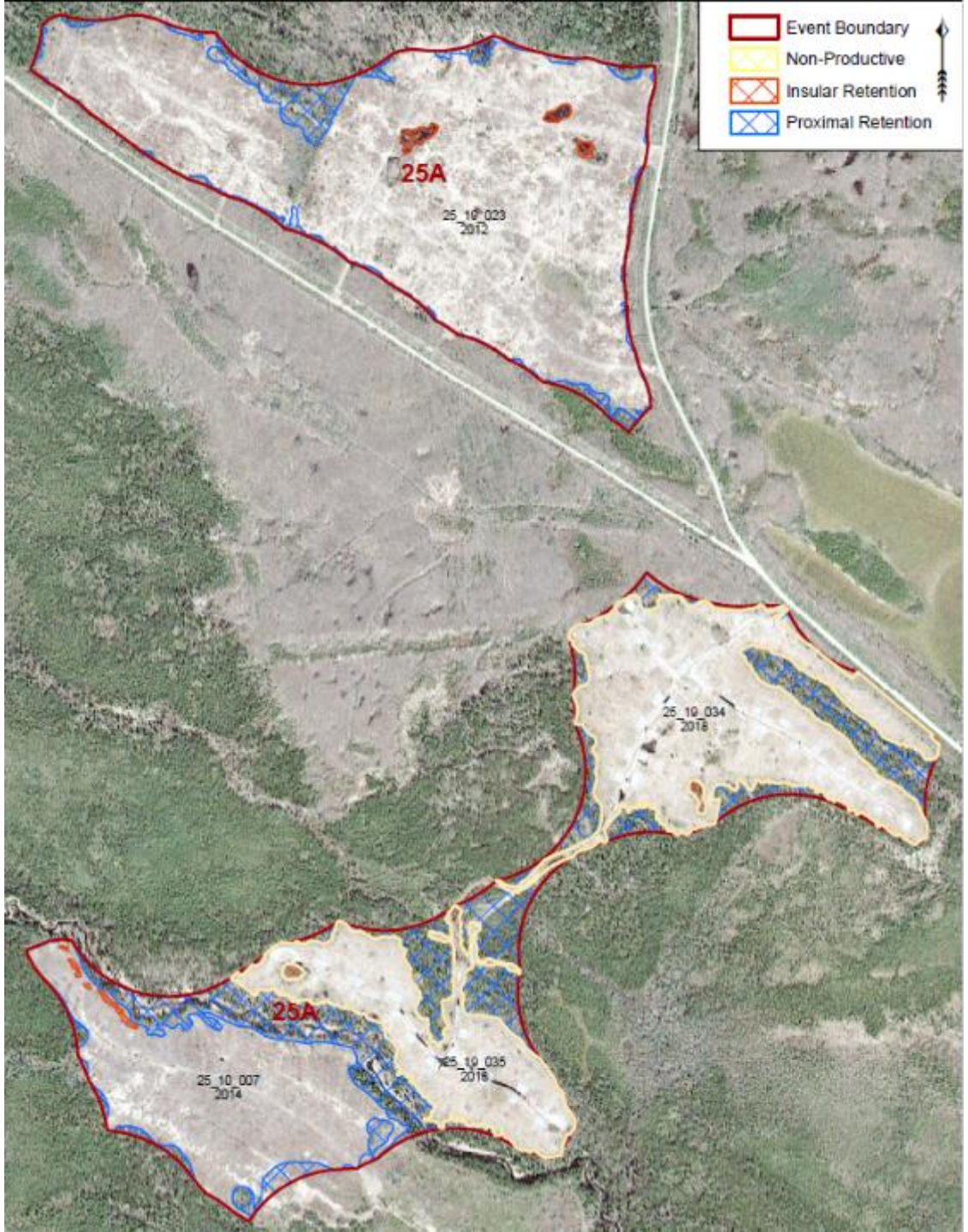
16A
Insular 0.4%
Proximal 3.1%
Total: 3.5%



22B
Insular 4.6%
Proximal 16.4%
Total: 9.6%



25A
Insular 0.8%
Proximal 46.0%
Total: 5.8%



Events: Ind 20 Event Duration

Duration – 10 years or less, renewal & reclamation both complete

No events exceeded the 10-year maximum

Table 27 Event Duration

Reporting Period	Event	Event Start Date	Event End Date	% Complete (as of Aug 2021)	Event Duration (years)
2019-20	02B	2018-01-02	2019-05-25	100%	1
	03A	2019-11-18	2021-03-31	100%	1
	04A	2019-02-18	2020-01-30	100%	1
	04C	2019-02-04	2020-05-31	100%	1
	04D	2019-09-18	2021-06-29	100%	2
	04E	2019-10-07	2021-06-24	100%	2
	04F	2019-06-05	2020-09-30	100%	1
	04G	2019-01-13	2021-06-29	100%	2
	05A	2019-07-22	2020-06-26	100%	1
	06B	2019-09-13	2021-07-01	100%	2
	06C	2019-02-02	2021-06-25	100%	2
	06D	2013-12-31	2020-11-09	100%	7
	06E	2012-06-21	2019-11-02	100%	7

Silviculture: Ind 5 Swd Component in H Stands

- Target - Swd densities in H stands ≥200 sph of Swd (FTG surveys)
- Can also use areas that meet Early FTG (establishment surveys)
- First data from establishment surveys on blocks harvested in 2018-19 (2027 Annual Report)

- Started a system for tracking protection of white spruce understory in H stands
- Silviculture Liabilities analysis based on 8 years of harvesting: 1,009 more ha SwD stands in H blocks were treated, than SwD stands in H blocks that had not been treated

Silviculture Ground Rules

Reference Code: 1-H-HW

Transitions

Existing Forest Condition

Development Type	Area (ha)	Yield	FMZ	Site	Density
HW	89,264	01	1, 2, 3	All	B
	291,516	02	1, 2, 3	All	C, D

(PFT = TAB, AOH)

Future Forest Condition

%	Yield Group	Species Type	Vol/ha @	Rotation Age
100%	01-H-HW	H8S2	105 m³/ha	60 yrs
100%	02-H-HW	H8S2	150 m³/ha	60 yrs

Treatment Options

Silviculture System

Clearcut with retention

Logging Method and Slash Management

Full-Tree; process at roadside and spread, or
Tree-Length; process at roadside and spread, or
Cut-To-Length; process at stump or process at roadside (spread)

% Applied	Renewal Name	Site Preparation	Regeneration	Tending (Pre-/Post Free-to-Grow)
95%	A. Leave	None	Leave For naturals	Only if required
5%	C. Plant	If required (mechanical)	Plant @ 800 sph	Only if required

- Planting is only expected where small pockets of existing H stands are incidentally treated within blocks of S or SH stands.
- Maintain softwood presence by retaining overstory conifer as seed trees and/or protecting advance growth within the understory.
- Tending may occur to control over-stocking (e.g., ≥30,000 sph) and/or influence stem quality.

Regeneration Targets

Survey Window		Preferred Species/Height (m)	Acceptable Species/Height (m)	Stocking
Establishment (4 to 7 years)	S:	wS/0.3, bS/0.1	jP/0.3, tL/0.1	Minimum: ≥80% stocked and ≥800 sph At <10,000 sph: S <7% of stems At ≥10,000 sph, S <3% of stems
	H:	tA/0.3	bP/0.1, wB/0.1	
FTG (8 to 14 years)	S:	wS/1.5, bS/1.5	jP/2.0, tL/2.0	
	H:	tA/2.0	bP/2.0, wB/2.0	

- The 80% stocking requirement typically requires >1200 sph of uniformly spaced (planted) trees or >3000 sph in less uniform areas. These densities are assumed to deliver forecasted yields in future.
- The target stocking percentages by species types at establishment and FTG are expected to develop the desired species type (H) at rotation age (adapted from 'Development of a Regenerating Mixedwood Succession Matrix', Gelhorn, 2009 – see densities from matrix to the right).
- Some planted stands that regenerate to HS will offset the reverse trend elsewhere.

Spruce Mixed @ 80 yrs

Softwood (sph) \ Hardwood Densities (sph)	30000	20000	15000	10000	5000	4000	3000	2000	1500	1000	750	500	250
1500	SH	SH	SH	SH	SH	SH	SH	S	S	S	S	S	S
1250	SH	HS	HS	SH	SH	SH	SH	S	S	S	S	S	S
1000	HS	HS	HS	HS	SH	SH	SH	SH	S	S	S	S	S
800	HS	HS	HS	HS	SH	SH	SH	SH	SH	S	S	S	S
600	HS	HS	HS	HS	HS	HS	HS	SH	SH	SH	S	S	S
500	HS	H	HS	HS	HS	HS	HS	SH	SH	SH	SH	S	S
350	H	H	H	HS	HS	HS	HS	HS	SH	SH	SH	SH	S
200	H	H	H	H	H	H	H	HS	HS	HS	SH	SH	S
100	H	H	H	H	H	H	H	H	H	HS	HS	HS	SH

Silviculture: Ind 6 CSGs Harvested & Predicted

- Compares CSGs harvested to CSGs predicted when regenerated stands reach maturity
- Based on species and tree densities present at age 14 (at free to grow survey)

Table 8 Cover Species Group-Actual versus Predicted

Operating Year	CSG	Harvested Area		Predicted Area Using SGR Tables	
		(ha)	(adjusted ha)	(ha)	% Difference (predicted to harvested)
2018-19 *2004 Legacy Harvest*	S	5,364	5,123	3,781	-26%
	SH	1,476	1,409	3,912	178%
	HS	1,879	1,794	2,050	14%
	H	3,706	3,540	2,123	-40%
		12,424	**11,867**	**11,867**	
2019-20	S	3,179	2,580	1,777	-31%
	SH	783	635	2,494	293%
	HS	827	671	1,382	106%
	H	2,921	2,371	604	-75%
		7,710	**6,257**	**6,257**	

Habitat: Ind 7a Area of Moose Habitat

Moose cover habitat is defined as stands >50 years old in the following species groups:

- White Spruce/Balsam Fir leading softwood stands (WSF)
- Black Spruce leading softwood stands (BSL, BSJ)
- Jack Pine leading softwood stands (JLP), and
- Mixedwood (hardwood & softwood) stands (PMW, SMW, HSM, HPM)

Moose browsing habitat is defined as stands <20 years old.

Reported every 5 years

FMP Year	Year 0 (2018)	Year 5 (2023)			Year 10 (2028)		
	Actual (ha)	Predicted (ha)	Actual (ha)	Variance (%)	Predicted (ha)	Actual (ha)	Variance (%)
Moose Cover Habitat	968,408	925,469			848,632		
Moose Browse Habitat	260,117	302,216			305,086		

Habitat: Ind 7b Area of Fisher Habitat

Fisher habitat is defined as stands 50-120 years old in the following species groups:

- White Spruce/Balsam Fir leading softwood stands (WSF)
- Black Spruce leading softwood stands (BSL, BSJ)
- Jack Pine leading softwood stands (JLP), and
- Mixedwood (hardwood & softwood) stands (SMW, HSM)

FMP Year	Year 0 (2018)	Year 5 (2023)			Year 10 (		
	Actual (ha)	Predicted (ha)	Actual (ha)	Variance (%)	Predicted (ha)	Actu (ha	
Fisher Habitat Patches <5,000 ha	251,085	231,056			217,636		
Fisher Habitat Patches 5,000 – 10,000 ha	49,325	42,231			52,872		
Fisher Habitat Patches >10,000 ha	59,163	10,974			0		
Total	359,573	284,261			270,508		

Habitat: Ind 7c Caribou Habitat

Targets:

- no harvesting in Tier 1
- no harvesting in Tier 2 after 10 years
- ≤ 35% disturbance in SK2 Central portion of FMA area
- disturbance levels can exceed 35% by as much as 5% (total of 40%) during the term of the plan as long as there is a 30-year trend toward recovery to the 35% level.

Habitat: Ind 7c Caribou Habitat

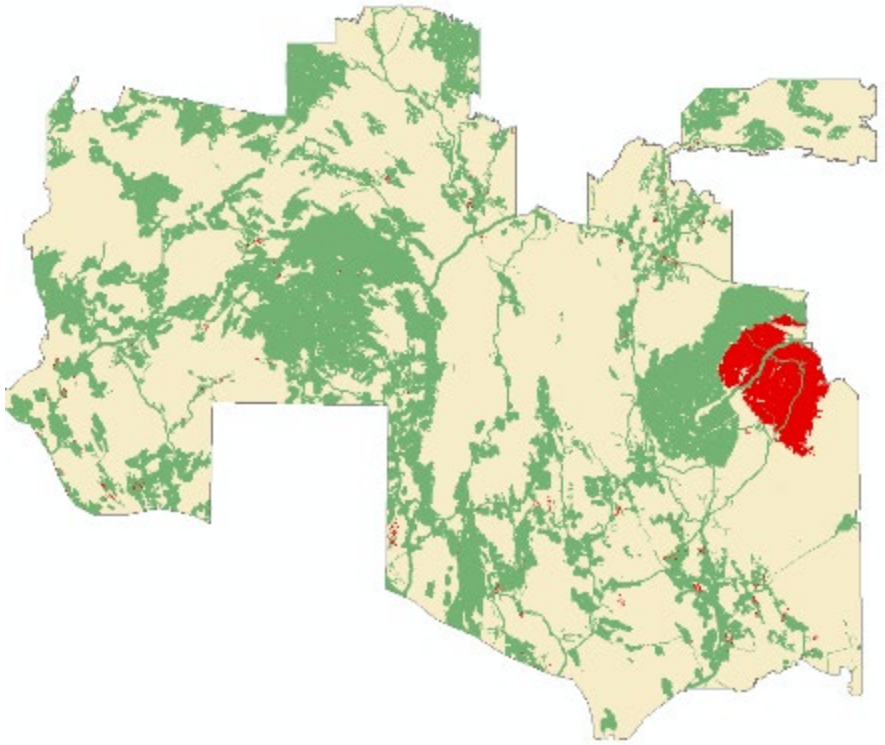
Table 12 Caribou Disturbance Assessment

	2017 Disturbance Assessment		2018 Disturbance Assessment		2019 Disturbance Assessment	
Disturbance Type	Non-Overlapping Area (ha)	% of Area	Non-Overlapping Area (ha)	% of Area	Non-Overlapping Area (ha)	% of Area
Linear Buffers	186,510	6.5%	186,940	6.5%	194,011	6.80%
Harvest Areas	109,392	3.8%	111,082	3.9%	109,754	3.8%
Harvest Area Buffers	140,381	4.9%	156,750	5.5%	167,013	5.9%
Natural Disturbance	506,098	17.7%	448,214	15.7%	448,250	15.7%
Total Disturbed	**942,381**	**33.0%**	**902,986**	**31.6%**	**919,028**	**32.2%**
Undisturbed	1,912,156	67.0%	1,951,551	68.4%	1,935,509	67.8%

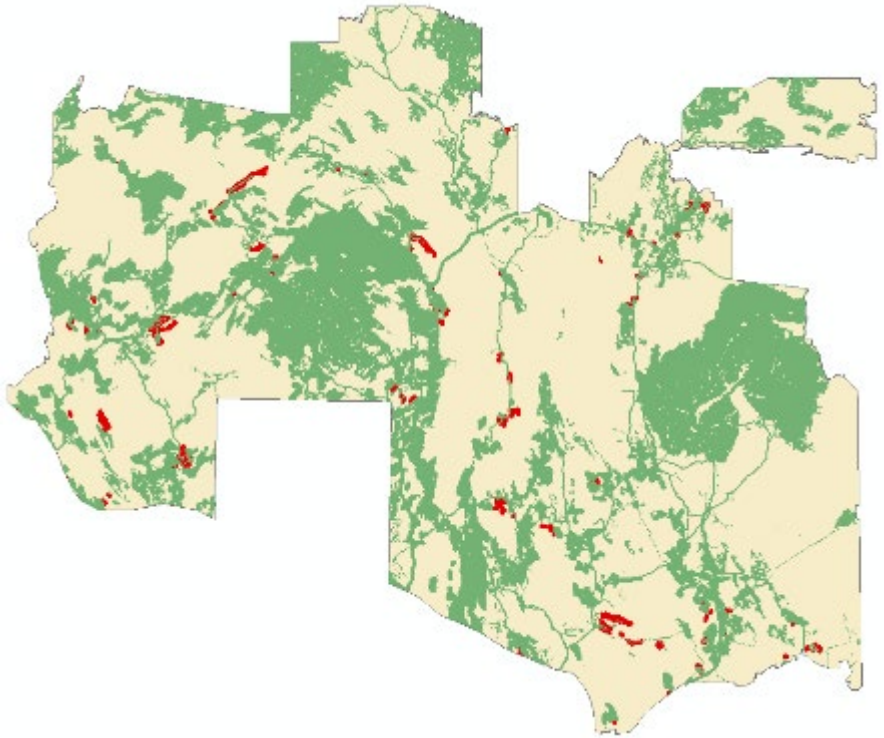
Harvest area disturbance on the range is largely at an equilibrium as harvest areas becoming older than 30 years offset new harvest areas added. This equilibrium is holding at about 3.8% to 3.9%.

In general, prioritizing harvesting in areas already disturbed will decrease buffer disturbance since there will be overlap with existing harvest, fire and road buffers.

Ind 7c Caribou Habitat

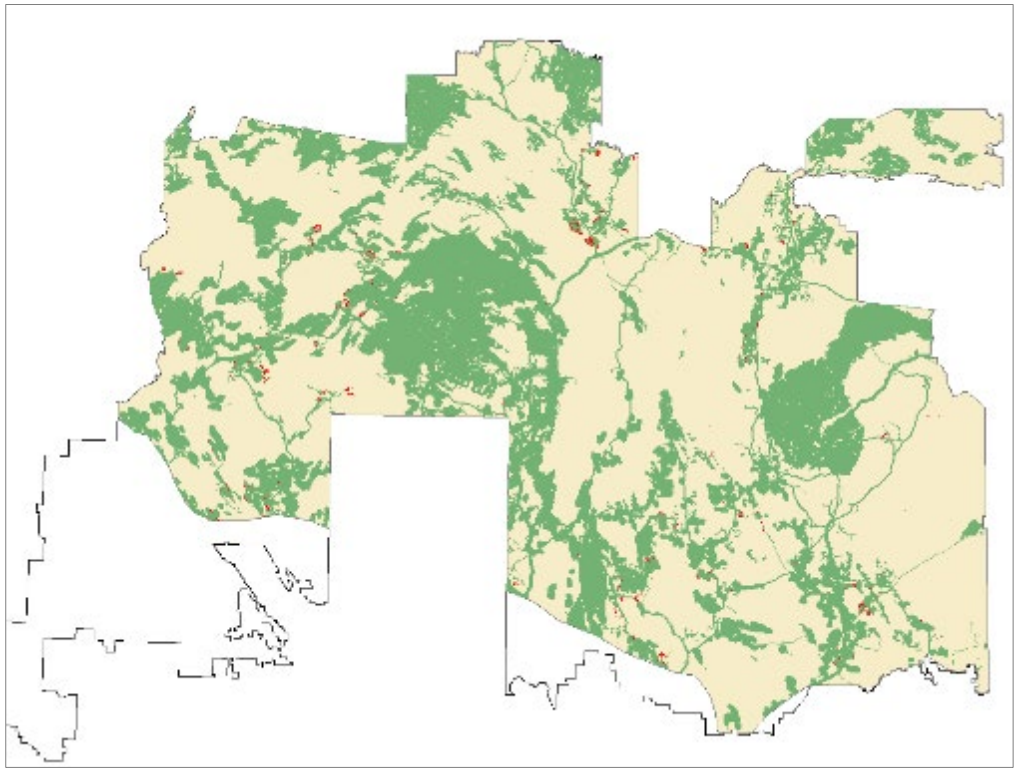


2018 Disturbance Changes - Subtractions

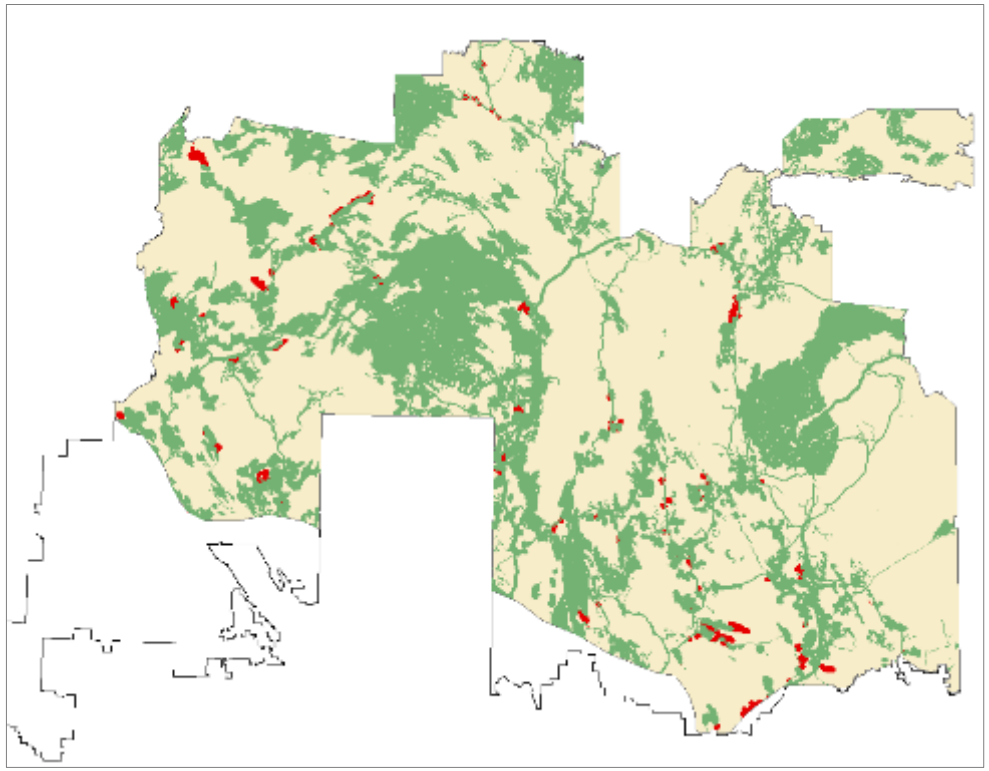


2018 Disturbance Changes - Additions

Ind 7c Caribou Habitat



2019 Disturbance Changes - Subtractions



2019 Disturbance Changes - Additions

Silviculture: Ind 8 Planted Seedlings from Wild or Improved Seedlots

Targets:

- no genetically modified seed sources
- use of improved seed is maximized but can range from 0 – 100%

No increased growth rates from using selected seed sources was incorporated into wood supply modeling.

Operating Year	Number of Seedlings Planted	Genetically Modified Seed	Improved Seed	Wild Seed
2018-19	3,110,765	0%	73%	27%
2019-20	2,307,531	0%	95%	5%

Silviculture: Ind 9 Harvested Areas that are Free-to-Grow in 14 Years

Target:

- 100% of harvest areas meet free-to-grow stocking and heights within 14 years
- up to 2% of the area / yr can exceed the 14 year timeframe

2019-20 harvest areas will have an establishment survey in 2026-27 (7 years after harvest), their status will be reported in the 2028 Annual Report.

Ind 10a Managed Forest Land Base – Subtractions

Target:

- <300 ha/yr converted to non-forest land uses by licensee – roads, landing strips/pads, gravel pits etc.
- 25% variance allowed on annual limit. 5% variance on 5-year cumulative totals

- permanent features have a lifespan > 5 years (Class 1 & 2 roads & ditches)
- not considered permanent: gravel pits >.1 ha, winter roads, Class 3 & 4 roads

- in 2019-20 Class 2 roads constructed were Lowther East IBR, Proudfoot Creek IBR, Spruce Point IWR and Swan Lake IBR. No other landbase was converted to other uses

Operating Year	Class 1 Roads (ha)	Class 2 Roads* (ha)	Gravel Pits, etc. (ha)	Total (ha)
2018-19	0	5.51	0	5.51
2019-20	0	25.45	0	25.45

Ind 10b Managed Forest Land Base – Additions

Target:

- ≥ 0 hectares/year of reclamation of permanent access structures or afforestation by the licensee

- in 2019-20 no area was added back into the managed landbase by Sakaw

Operating Year	Class 1 Roads (ha)	Class 2 Roads (ha)	Gravel Pits, Afforestation etc. (ha)	Total (ha)
2018-19	0	0	0	0
2019-20	0	0	0	0

Ind 11 Stand Replacing Natural Disturbances

- Portion of net landbase disturbed by stand replacing natural disturbance (fire, windthrow, flood)
- "Disturbed" = stand replacing event with loss or death of ≥50% of the volume in a stand.
- Minimum sizes >100 ha for wildfire, >2 ha for all other disturbances
- Once threshold of 10% (132,323 ha) is disturbed, triggers a recalculation of the HVS .

Table 16 Stand-Replacing Natural Disturbances

Operating Year	Stand Replacing Disturbances (ha)					Insects / Diseases	Salvage Harvested**	
	Fire	Windthrow	Flood	Total (ha)	% of Net Land Base		Area (ha)	%
2018-19*	416	4,046	390	4,852	0.4%	8,249	Not reported	Not reported
2019-20	0	1,520	1,220	2,740	0.2%	33,392	959	35%
2020-21								
.....								
2027-28								
Cumulative Area (ha of Net Land Base)	416	5,566	1,610	7,592	0.6%	41,641	959	13%

** Minimum sizes reported for 2018-19 was >10 ha. Dwarf mistletoe was the only insect/disease included*

*** There was not necessarily ≥50% mortality in these areas. Includes salvage of dwarf mistletoe infected stands.*

- *Could salvage harvest help offset stand replacing losses?*

Ind 12 Proportion of Salvage Harvest Left Unharvested

Targets:

- Leave ≥ 20% of a natural disturbance unharvested.
- Contiguous area, no roads/trails, representative of the forest impacted, if possible
- 9% retention, or which 4% is insular. (exception for mistletoe)

- 12 salvage areas in 2019-20, damaged by wind (blowdown) and dwarf mistletoe infection.
- None of those areas were largely contiguous, with >50% mortality, covering at >100 ha

Table 17 Salvage Harvest in Events

Operating Year	Nat. Disturbance Event Area	Type of Damage	Area Salvage Harvested	Insular Retention	Contiguous Area Left Unharvested	Meets ≥20% Unharvested
	(ha)	(fire, wind, insects...)	(ha)	(%)	(ha)	(Y/N)
2018-19	0	N/A	0	N/A	N/A	N/A
2019-20	0	N/A	0	N/A	N/A	N/A

Ind 13 Harvested vs Estimated (Yield Curve) Volumes

Target: Harvested volumes within 15% of the volumes estimated by FMP yield curves

- Harvested Vol: Softwood sawlogs, softwood pulp and hardwood delivered to multiple mills from blocks where harvesting was completed, all volumes were hauled (scaled) and reconciled.
  Pulp is under reported

- Estimated Vol: Estimated using the forest inventory strata and associated softwood sawlog, softwood pulp and hardwood yield curves.
- Yield curves used for a 10 cm top size (sawlogs), which was the utilization standard used that year.
- Mapped retention areas were excluded

Table 18 Harvested versus Estimated Volumes

Operating year	Actual harvest (m^3/ha)	Predicted harvest (m^3/ha)	% difference (actual / predicted)
2018-19	169	168	1%
2019-20	171	165	3%

Compliance: Ind 14 Utilization

Target: 95% of areas inspected will comply with approved Operating Plans over a 5-year period

Using MoE reports (for all Compliance Indicators)

- Utilization has expanded beyond top size. (e.g. sanitation of mistletoe, excess Hwd in slash piles…)
- "Actions Taken" added to table, unable to report percentages

Table 20 Adherence to Utilization Standards

Operating Year	# of Blocks Inspected for Utilization	# of Blocks or Roads in Non-Compliance?[2]	Actions Taken			
			No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin. Penalty
2018/19	87[1]	6				
2019/20	n/a	7		2	2 (2 remedied)	3
2020/21						
2021/22						
2022/23						
2018 to 2022	5 yr. average # of non-compliances					

Ind 15 Harvest within Tactical Plan Areas

Target:

- no more than 15% of mapped Sakâw shareholder harvest areas will fall outside of identified decade 1 or 2 tactical plan areas.

Exceptions:

- Salvage, incorrect inventory data and harvesting is following intent of the plan

Harvest Year	Total Harvest Area (ha)*	Harvest Area Within Tactical Plan Polygons (ha)	Harvest Area Outside Tactical Plan Polygons (ha)	Harvest Area Within Tactical Plan Polygons (%)
2018-19	10,433	10,398	34	99.7%
2019-20	11,729	11,167	562	95.2%

Compliance (Soil & Water): Ind 16 Soil Disturbance

Target:

- 100% of inspected harvest blocks comply with provincial standards related to soil disturbance.

  (rutting, area of roads and landings, construction and maintenance of in-block and inter-block roads, slash management environmental protection, trespass)

Table 22 Compliance with Standards for Soil Disturbance

Operating Year	# Blocks or Roads Inspected for Soil Disturbance	# Blocks or Roads in Non-Compliance[2]	Actions Taken			
			No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin. Penalty
2018/19	147[1]	33	6	5	7 (3 remedied)	15
2019/20	n/a	13	1	2	8 (4 remedied)	2
2020/21						

Compliance (Soil & Water): Ind 17 Road Reclamation

Target:

- 100% of inspected harvest blocks comply with provincial standards related to road reclamation (reclamation of in-block and inter-block roads, landings, borrow/gravel pits)

Table 23 Compliance with Standards for Road Reclamation

Operating Year	# Blocks or Roads Inspected for Road Reclamation	# Blocks or Roads in Non-Compliance[2]	Actions Taken			
			No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin. Penalty
2018/19	32[1]	6	1	1	3 (2 remedied)	1
2019/20	n/a	3			1 (1 remedied)	2

Compliance (Soil & Water): Ind 18 Watercourse Crossings

Target:

- 100% of inspected harvest blocks comply with provincial standards related to watercourse crossings (construction, maintenance, safety, removal and reclamation)

  - Provincial and federal acts and regulations

Table 24 Compliance with Standards for Watercourse Crossings

Operating Year	# Crossings Inspected	# Crossings in Non-Compliance [2]	Actions Taken			
			No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin Penalty
2018/19	23[1]	18	13	4	0	1
2019/20	n/a	8	3	3	2 (1 remedied)	

Compliance (Soil & Water): Ind 19 Riparian Management Standard

Target:

- 100% of inspected harvest blocks comply with provincial standards for riparian areas (tree retention, soil and water protection, riparian boundaries identified and maintained)

Table 25 Compliance with Standards for Riparian Areas

Operating Year	# Blocks Inspected for Riparian Areas	# Blocks in Non-Compliance[2]	Actions Taken			
			No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin Penalty
2018/19	16[1]	4	0	0	0	4
2019/20	n/a	3		1	1	1

Other Non-Compliances

Administrative, operational, and safety outages. Small amount having some environmental risk.

Issue	# of Non-Compliances	Actions taken			
		No Action Taken	Voluntary Compliance Opportunity	Notice of Violation	Admin Penalty
Data Submission, Notifications, Weekly Reporting	18	1	1	16 (7 remedied)	
Notifying of Camp Location	2			2	
Scaling (measuring) Wood – Tagging, Exceeding Tolerances	14	3	2	9	
Road Signage, Posting Radio Frequencies	3			3 (3 remedied)	
Planting Within 2 Years	3			1 (1 remedied)	2
Approval for Tree Planting	5	5			
Paying Dues or Fees in Time	2			2 (2 remedied)	
Failed VCO	1			1	
Data Submission, Trespass	5			1	4
Totals	**53**	**9**	**3**	**35** (13 remedied)	**6**

Ind 21 Harvested Volumes vs Approved HVS

Targets: average annual volumes harvested in a five-year period are:

- 1,265,000 m3/year of softwood sawlogs
- 600,000 m3/year of softwood pulpwood, and
- 1,126,000 m3/year of hardwood

Includes wood allocated to Shareholders, Third-Parties, and hardwood reserved for potential future use.

Operating Year	Softwood Sawlogs			Softwood Pulpwood			Hardwood			Total	
	HVS Target[1]	Harvested Volumes[2]	% HVS Used	HVS Target[1]	Harvested Volumes[2]	% HVS Used	HVS Target[1]	Harvested Volumes[2]	% HVS Used	Harvested Volumes[2]	% HVS Used
2018-19	1,265,000	785,353	62%	600,000	19,193	3%	1,126,000	754,294	67%	1,558,841	52%
2019-20	1,265,000	1,150,703	91%	600,000	17,818	3%	1,126,000	799,022	71%	1,967,542	66%

The increase in sawlog harvest was largely attributed to Carrier and NorSask and driven by a Covid-related increase in demand for lumber for home construction, renovations and DIY projects.

Engagement:
Ind 22 Stakeholder/Public Engagement in Forest Management Planning

Tracks engagement for operational and strategic planning

Targets:
- minimum of 2 PAG meetings/yr., one focused on FMP Annual Report.
- community open houses at 8 locations (Operating Plan development).

PAG: no meeting or annual report to review (fell short of target)
Open Houses: 10 plus 1 addition

Operating Year	# PAG Meetings	Open Houses Held in Targeted Communities
2018-19	1	Y
2019-20	0	Y

Ind 23 Non-Timber Resources and Forest Uses

Tracks maintenance of a spatial dataset for information needed to integrate forest management plans with non-timber resources and uses

- known legal cabins, visually sensitive areas, trails (ski, trappers, snowmobile, recreational), sensitive wildlife sites, community areas of interest, important areas of non-timber botanical forest products (such as berries and mushrooms), known sites of cultural significance to aboriginal peoples, etc.

The database now contains 91,893 records.

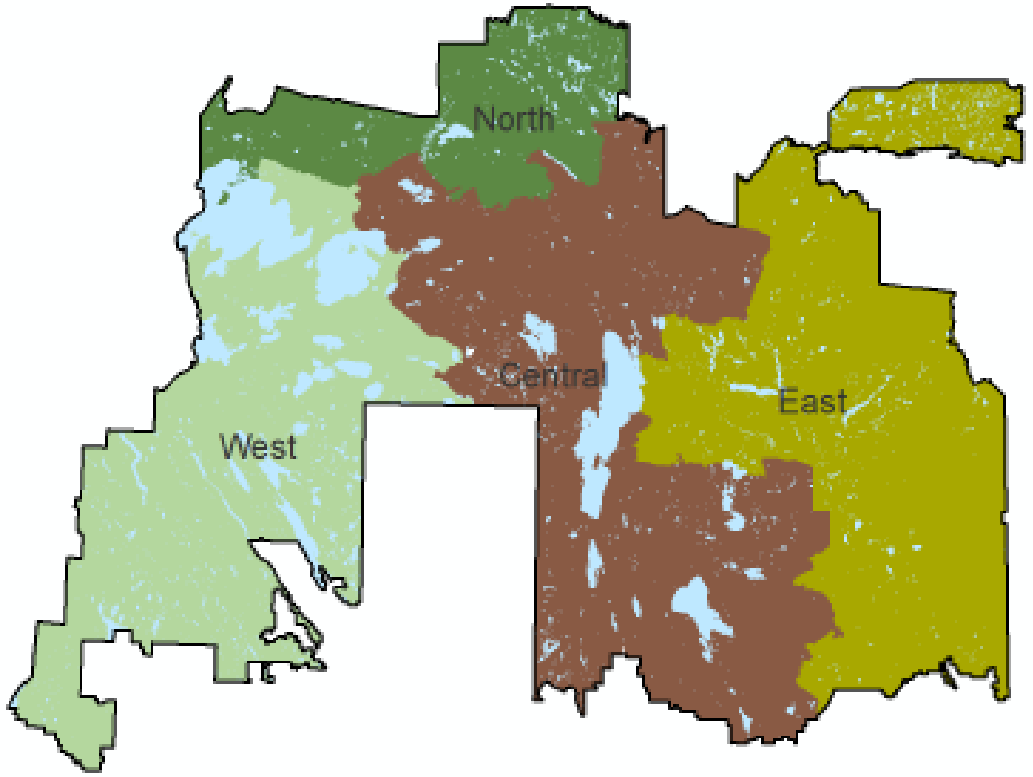
Operating Year	New Non-Timber Features Added to Dataset	Area-based Features	Linear Features	Point-based Features	Total # of Records
2018-19	605	89*	273	243	91,142
2019-20	766	126	481	159	91,893

Ind 24 Harvest Distribution by Planning Areas and Species Groupings

16 Targets: 4 Planning Areas, and 4 Species Groupings (S-WS & Other, S-BS or JP, SH, H & HS).

Tracked annually, assessed on a 5-year cycle.

Harvest area is well below the targets in all cases



	S-WS Or Other Leading	S-BS or JP Leading	SH	H & HS	Total
WEST					
2018-2019	465	712	402	3,648	5,228
2019-2020	332	1,050	649	3,508	5,539
2020-2021					
2021-2022					
2022-2023					
Cumulative Total	797	1,762	1,051	7,156	10,767
5 yr Target	2,000	10,800	2,000	23,200	38,000
Yrs. Harvested	2.0	0.8	2.6	1.5	1.4
CENTRAL					
2018-2019	272	1,767	295	1,220	3,553
2019-2020	94	133	45	257	529
2020-2021					
2021-2022					
2022-2023					
Cumulative Total	366	1,900	340	1,477	4,082
5 yr Target	1,000	21,200	1,200	8,400	31,800
Yrs. Harvested	1.8	0.4	1.4	0.9	0.6
NORTH					
2018-2019	4	81	1	3	89
2019-2020	25	1,364	83	138	1,610
2020-2021					
2021-2022					
2022-2023					
Cumulative Total	29	1,445	84	141	1,699
5 yr Target	200	6,700	300	2,000	9,200
Yrs. Harvested	0.72	1.08	1.40	0.35	1
EAST					
2018-2019	116	1,163	74	158	1,512
2019-2020	201	2,557	211	1,080	4,049
2020-2021					
2021-2022					
2022-2023					
Cumulative Total	317	3,720	285	1,238	5,561
5 yr Target	500	14,900	600	4,600	20,600
Yrs. Harvested	3.2	1.2	2.4	1.3	1.3
Cumulative Total	1,509	8,828	1,760	10,012	22,109
Total Target	3,700	53,600	4,100	38,200	99,600
Total Yrs.	2.0	0.8	2.1	1.3	1.1

Engagement:
Ind 25 Indigenous Communities Review of Operational/Strategic Plans

Purpose - help assess whether Indigenous and treaty rights are respected in planning and implementing forestry activities. (engagement assists with Duty to Consult)

Target - all Indigenous communities whose traditional territory is within the FMA area have an opportunity to review operational and strategic plans annually.

Description of various ways engagement with the 27 communities (as identified in 2019) occurred

Ind 26 Culturally Significant Indigenous Sites

Tracks that all known culturally significant Indigenous sites are mapped in Sakâw ’s GIS system and receive operational consideration while planning forest management activities.

Identification: heritage screening, Indigenous communities, Shareholder (upon discovery)

Examples provided of features identified and the adjustments made during planning in 2019-20 include:

- Old communities and graves. The general locations were identified, and no harvesting will be planned in these areas until the specific locations have been mapped
- A significant mushroom patch. A no harvest zone of approximately 20 ha was put over the area and access into the area was maintained.
- Traditional culture camp, trading post and location of the Treaty 6 Adhesion signing site. These sites were designated as “no harvest” areas.

Ind 27 Incorporating Traditional Knowledge into Planning Process

Indigenous traditional knowledge - taken to mean knowledge of local resources and the environment (sometimes also referred as traditional ecological knowledge), as opposed to traditional land uses - although the line between tradition knowledge and traditional land uses can sometimes be blurry.

Three instances of traditional knowledge made available, used when planning, and referenced in engagement records for 2019/20 were:

- Traditional plants and their uses were identified (Coltsfoot for burns, Labrador tea for stomach issues, mint for drinking, Chaga mushrooms, sage and brachi fungus for medicine).
- Three salt licks used by moose
- An explanation of the meaning of prayer ribbons and how to work with them.

Operating Year	# of Instances of Sharing Indigenous Traditional Knowledge	# of Instances of Incorporating Indigenous Traditional Knowledge into the Planning Process
2018-19	3	3
2019-20	3	3

Ind 28 Economic Contribution from Forest Industry

- Economic activity created by the forest industry in the PA FMA area is estimated under this indicator.
- The volume harvested in the year being reported on is multiplied by economic multipliers which represent the direct, indirect and induced economic activity associated with a cubic meter (m^3) of wood moving through the economy.
- Induced economic activity is the result of increased personal income caused by the direct and indirect effects. It is money recirculated through household spending patterns, causing further local economic activity.

Table 35 Economic Impact of Forestry

Economic Measure	Operating Year	Direct Impact	Indirect Impact	Induced Impact	Total Impact
GDP ($)	2018-19	$226,967,250	$197,006,326	$72,797,875	$496,771,450
	2019-20	$286,474,115	$248,657,958	$91,884,211	$627,016,285
Jobs (#FTE)	2018-19	1,169	912	304	2,385
	2019-20	1,476	1,151	384	3,010
Labor income ($)	2018-19	$102,774,387	$68,526,650	$21,465,241	$192,766,278
	2019-20	$129,720,044	$86,493,146	$27,093,053	$243,306,244
Tax ($)	2018-19	$59,953,025	$0	$4,286,813	$64,239,838
	2019-20	$75,671,665	$0	$5,410,741	$81,082,406

Engagement:

Ind 29 Engage & Inform Public, Stakeholders, Indigenous Peoples on FMP Implementation

Targets:

- engage public, stakeholder, Indigenous people on implementation of the FMP annually
- PAG is provided with FMP Annual Report

Description of:

- FMP discussions at public information sessions
- Letters, advertisements, websites spreading word about the information sessions
- Posters used at information sessions with FMP information
- The first annual report under the FMP was not available to present until September 2020

Ind 30 FMP and Operating Plan made Publicly Available

Target – FMP and Operating Plans will be posted to Sakaw's website

In 2019-20:

- Sakaw website linked to https://publications.saskatchewan.ca/#/categories/170 where key documents from projects reviewed under the Environmental Assessment Act are filed.

Ind 30 FMP and Operating Plan made Publicly Available

Operating Plan (April 1, 2019 to March 31, 2020) was also available from Home Page. Includes:

- Plan text, approvals & permits
- Interactive webmap of approved harvest areas available, for viewing years 1-5 of current Operating Plan