

A summary of the FSC Group certification  
administered by the Nova Scotia  
Association for Woodland Certification for  
the year 2018.

# Nova Scotia Association for woodland Certification (NSAWC) FSC® Program Public Summary

October, 2018

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## Introduction

The following document provides a summary of the FSC Group certification program administered by the Nova Scotia Association for Woodland Certification in Nova Scotia. The program is a voluntary program available to woodlot owners in Nova Scotia who are interested in managing their woodlots to high standards of environmental and social responsibility. The program has been in place and growing rapidly since 2006.

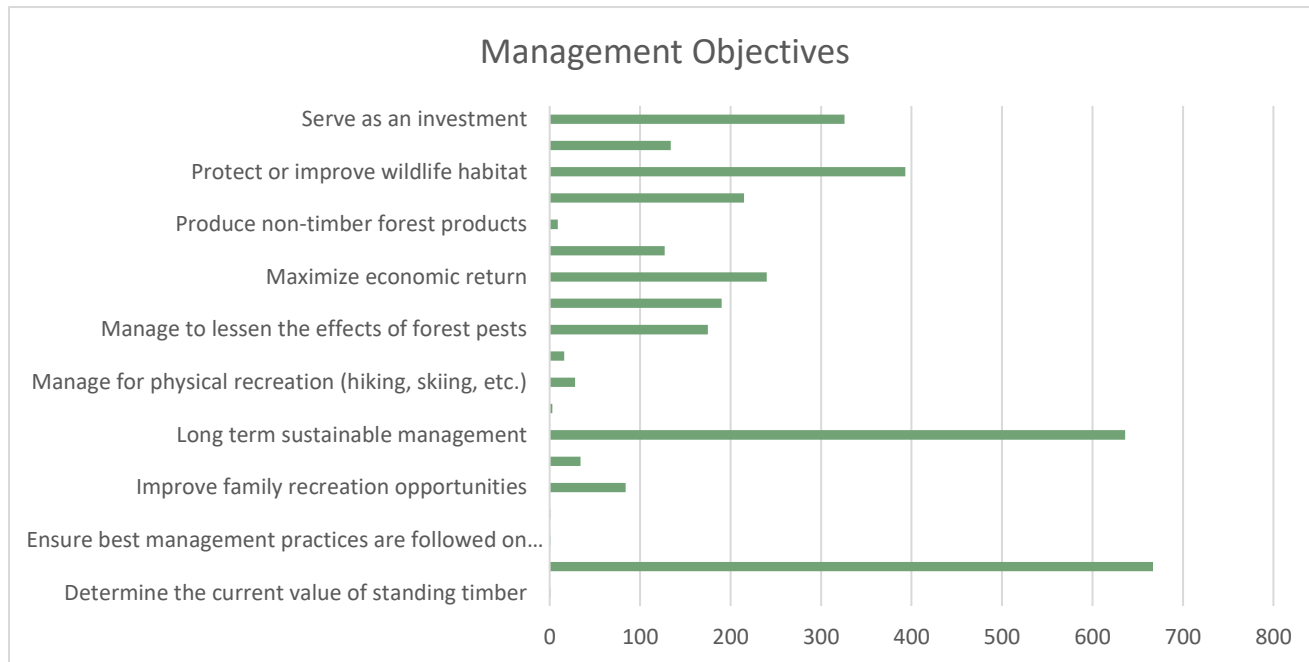


The overall program is administered by NSAWC, MTRI and FNSWO, however on Cape Breton extension work and inspections is provided through the new Cape Breton Privateland Partnership. Similarly, it is expected that a

similar arrangement will develop with the new Western Woodlot Services Coop in Western Nova Scotia.

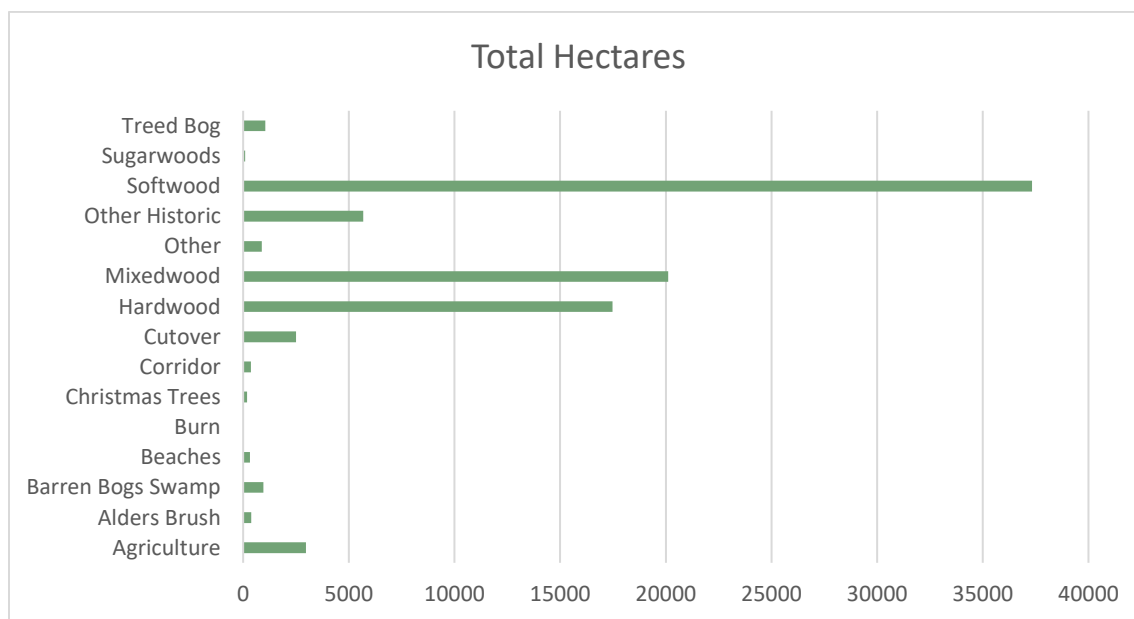
## Management Objectives

Woodlot owner objectives are developed for each woodlot in consultation with the woodlot owner. (A summary of the objectives by woodlot is presented below (each woodlot can have multiple objectives).

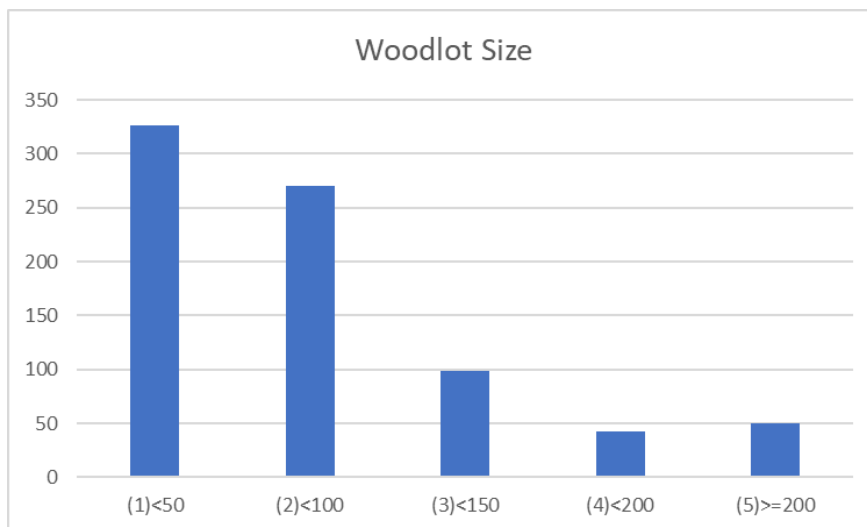


## Landbase Description

The program currently contains a total of 69,602 ha of FSC certified forest, composed of 918 individual woodlots. The program forest reflects the general forest characteristics of the area – largely softwood dominated, with a significant portion of mixedwood and hardwood forest.

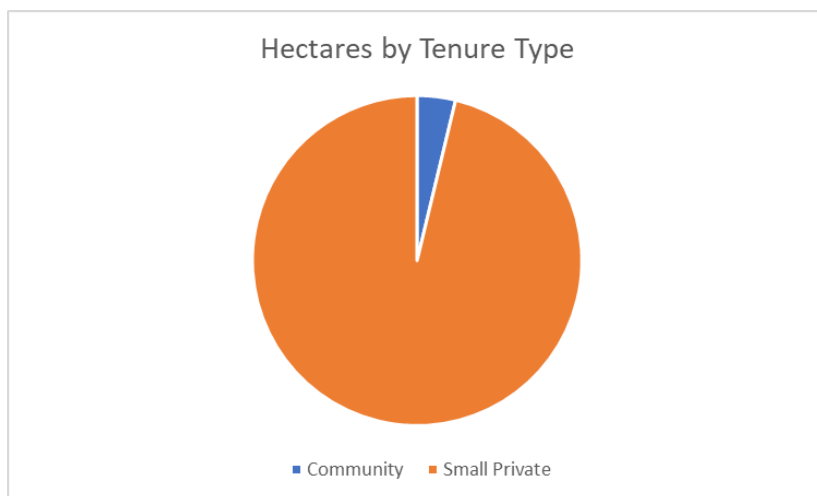


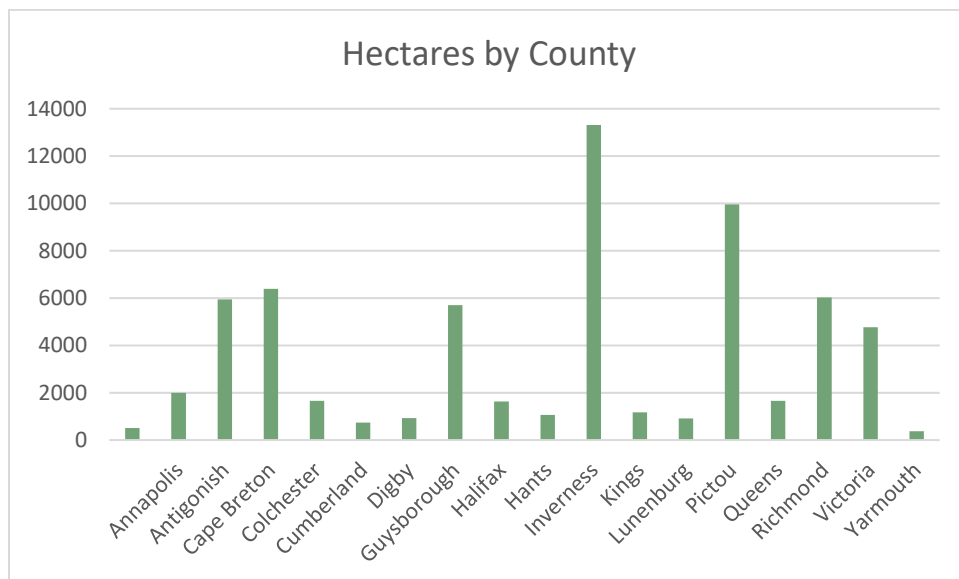
The majority of the woodlots in the program are relatively small in size, with an average of 82 ha. Most woodlot owners own and manage one woodlot, while a few of our members have several woodlots that they manage.



The program is made up primarily of individual woodlot owners,

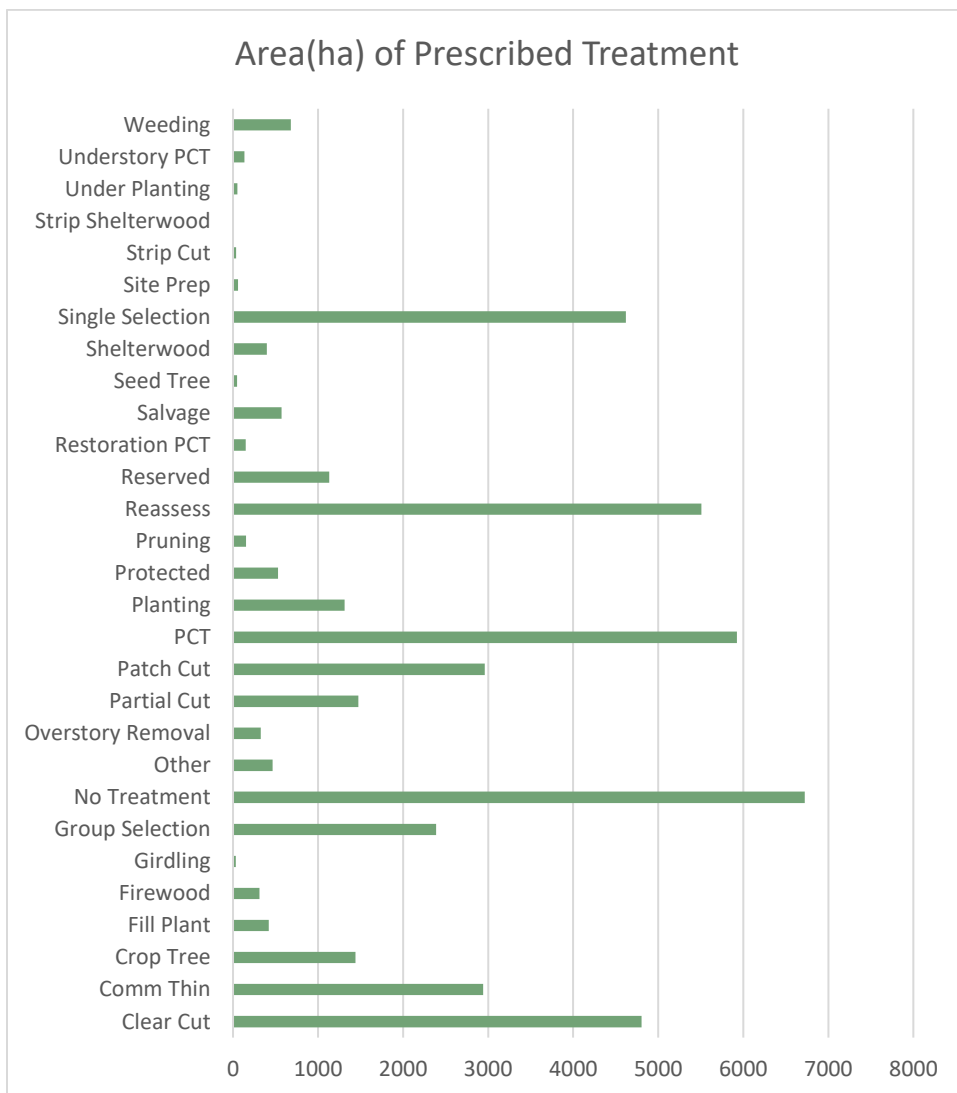
however there are two Community focused woodlots in the group (Pictou Landing First Nation and East Bay Area Community Council).





### Silviculture Systems

All silviculture prescriptions are based on restoration of the Acadian Forest, and meeting the individual woodlot owners objective for their forest. Management prescriptions are developed using the provincial Ecological Landscape Classification (ELC) system, and take into account the dominant Natural Disturbance Regime (NDR) for the site. A summary of prescribed treatments within the program is provided below.



### Rate of Annual Harvest Rationale

All harvesting treatments have been cruised to determine the expected volume that will be removed, based on:

- a) Volume present today
- b) Operational reductions
- c) Prescribed removal percentage
- d) Expected losses to insect and disease mortality

Since the management plans developed are for a period of 10 years, an average annual removal amount is calculated by dividing the total prescribed removal for the woodlot by 10. The program total prescribed removal amounts are provided below.

	<b>Softwood Cords</b>	<b>Hardwood Cords</b>
<b>Total Prescribed Harvest</b>	345420	178814
<b>Annual Allowable Cut</b>	34542	17881.4

### Monitoring Forest Growth and Dynamics

On a five year interval, NSAWC examines the growth, harvest rates, and standing volume of woodlots that are part of its FSC program. This information is examined in relation to changes over time, as well as compared to woodlots that are not part of the program to determine whether there are any trends that can be found.

Primarily, the provincial permanent sample plot (PSP) information will be used for this information. This is a system of randomly sampled, permanent plots that have been developed throughout the province. This system has been in place since 1965 and is very useful for examining long-term trends in tree growth.

This exercise was last completed in 2011, and no significant difference was found between growth and removal rates within the program compared to provincial averages. Since the program is very new relative to forest growth cycles, this result is not unexpected.

NSAWC is currently in the process of developing a wood supply model capable of calculating sustainable wood supply for all woodlots in the program. When completed this will be used to help ensure harvest levels at the program level are sustainable.

### Environmental Assessments and Safeguards

Prior to any field surveys being carried out, provincial surveys of any known species at risk habitat, significant eco-sites and other areas of ecological significance are examined. This information is verified during the field assessment, and the local DNR biologists is consulted to assist in the development of any treatment or protection recommendations

### NSAWC FSC High Conservation Value Forest Framework Evaluation Summary

In 2018 NSAWC completed an evaluation of the Forest Stewardship Council (FSC) High Conservation Value Forest (HCVF) Framework (FSC-STD-CAN-Maritimes-SLIMF-2008) for applying management



strategies and monitoring procedures to enhance or maintain regionally significant ecological values across the scope of the certificate region (Nova Scotia).

Using accessible data inventories of known values for the region, each value (or attribute) is linked to the closest corresponding HCVF framework criterion. Most of these attributes are associated with actual spatial (mapped) information. These attributes are intersected with each new applicant woodlot property boundaries and adjacent lands to identify any HCVF values with which to apply appropriate management strategies and monitor over time. Unmapped values and mapped values requiring additional confirmation of values are explored at the time of field cruise by trained field staff.

### HCVF Framework Evaluation Summary

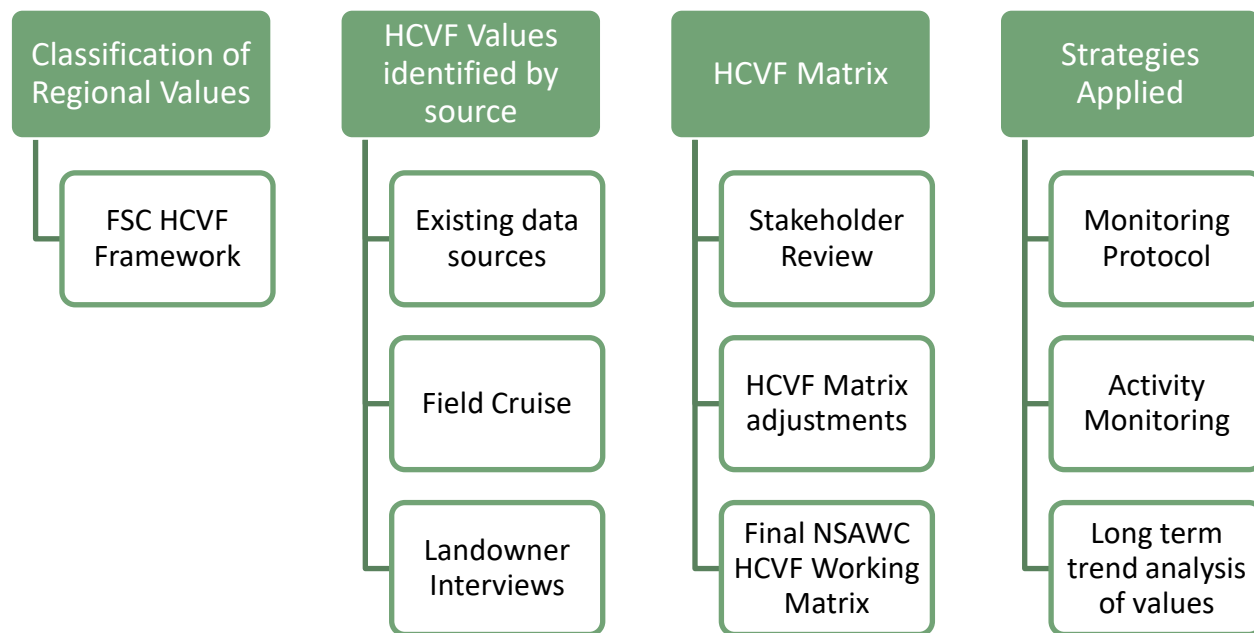
1. Reviewed available data sets which identify potential or actual ecological values.
  - a. Determined which FSC HCVF Framework value and criteria each attribute best fits.
  - b. Assigned HCVF = True to all attributes deemed to be hcvf
  - c. Assigned a strategy and monitoring procedure for each attribute. A 'comment' field is also included which is edited on a case by case basis.
  - d. GIS intersects of all demonstrated data sets are performed on each new applicant woodlot to identify hcvf and other significant ecological values and their associated attributes. Intersect results are linked to hcvf matrix strategies and monitoring procedures. Records are stored in a database for trend analysis, public summary reporting, long term monitoring and trend analysis.
  - e. Unmapped values are included in the HCVF Matrix as field cruise identification where the value can only be identified and verified through a field cruise (and landowner interviews).
2. Reviewed federal and provincial species at risk listings to determine if there are any values not currently identified through existing data inventories.
3. Stakeholder review. Evaluation was sent out to those representing authority on subject and / or primary stakeholder interest.
4. Training of field staff and management plan developers
5. Present evaluation results to membership and include in public summary.

*NSAWC HCVF Framework evaluation source data.*

Data Source	Description
<u>HCVF Matrix Definitions</u>	Definitions for main matrix fields.
<u>HCVF Matrix</u>	High Conservation Value Forest Assessment Framework Analysis, NSAWC September 15, 2014. Non -GIS identifiable values are listed here.

<u>HCVF GIS Master</u>	Final GIS intersect Table. Summary of all individual GIS matrix tables into one listing. Best place for summary of sigeco, sighab, rlul data sets.
<u>Unmapped Habitat Values</u>	Filtered from 'Flora and Fauna Matrix' representing Federal species with COSEWIC status which are not available on existing NSAWC GIS data sets.
<u>SigEco Matrix</u>	Significant Ecosites GIS attribute data (DNR download)
<u>Souf Matrix</u>	Significant Old or Unique Forests. Based on aerial photo analysis interpreted age class structure. Efficacy largely questioned by DNR staff but found to be effective as a potential flag for an area.
<u>SigHab SAR Matrix</u>	Significant Wildlife Habitat GIS attribute data (DNR download)
<u>RLUL Matrix</u>	Restricted and Limited Use Land Database. Land that is protected or limited in use for conservation, ecological, resource management or heritage purposes. (DNR download).
<u>NS_matrix_tier1</u>	Derived from the Matrix Forest Block GeoSpatial Data (Nature Conservancy download)
<u>Flora and Fauna Matrix</u>	Provincial and Federal SAR list comparison and sort. Purpose is to compare available GIS data used in NSAWC mgmt plan development system with provincial and federal lists to identify non-mapped, potentially influenced by forestry activities in Eastern Nova Scotia. (Federal SARA and COSEWIC listings)
<u>Matrix Forest Full</u>	Matrix Forest Block GeoSpatial Data (Nature Conservancy download)
<u>ACCDC Data</u>	

NSAWC HCVF Framework evaluation workflow.



*Summary of Results*

Source	PotentialValue	Comment	SumOfHectare s
Protected Areas	Areas under the Special Places Act	Adjancey to value identified by appying 30m mapping	0.8

		buffer to intersect private woodlot(s).	
SigEcosites	Beech forest	Pure stand unaffected by bark disease	
ACCDC	Black Ash	Threatened Species	
Wood Turtle Buffers	BufferZone200	Follow dnr guidelines	
Significant Ecosite	Calcareous forest	under represented in the protected areas system. Primarily found on privateland.	209.0
RLUL	Canadian Heritage River	Apply adequate buffer	32.4
SigHab	Deciduous bog	Part of the 'Black River Bog System. It is largely undisturbed and contains the largest treed deciduous bog in Nova Scotia. Recommend protection as HCVF strategy, including 20m buffer or slope banks around the area.	
RLUL	Designated Provincial Parks and Park Reserve	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	4.0
RLUL	Designated Water Supply Areas	Contact water supply manager when scheduling harvest over 10 ha.	811.6
SigHab	Eagle Nest	Significant Habitat IN185 (Bald Eagle nest active from at least 1998, last surveyed 2013)	
SigEcosites	Erosional seabluff	Apply adequate buffer	0.0
SigEcosites	Hemlock floodplain	Rare ecosystem.	11.3
SigEcosites	Hemlock forest	Not on slopes	31.2
Field Cruise	Hemlock forest	Uniform over / super story hemlock across the lot. Very diverse composition	
RLUL	Reserve Lands	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	0.7

IFL2007	Large Intact Forest	The property falls within a designated Large Intact Forest Zone. This is a landscape level conservation value targeted at maintaining forest connectivity.	7860.0
Significant Old or Unique Forest	Late successional forest	Follow a prescription of maintenance through selection	
Souf	Late successional forest	Late successional wA/sM Floodplain with dynamic structure and old growth stems	
Souf	Late successional forest	Stand 2 and portions of stand 1 have significant older growth sM,yB; Important to preserve legacy stems	
Field cruise	Late successional tolerant hardwood (TH1)	Pronounced stream draw with late successional TH1 (sugar maple, yellow birch, beech). Unmarked but good foot trail follows stream. Educational opportunities should be promoted.	
Significant Old or Unique Forest	Late successional tolerant hardwood component within vibrant stream zone. Steep slopes.	Stream draw with late successional tolerant hardwood attributes	
Significant Habitat	Lynx Buffer	Consider SMP relative to total area of buffer zone	4545.2
Field Cruise	Mid - late successional tolerant hw	Patch extends to sw property. Strong tolerant hw composition.	
SigHab	migratory bird	Apply adequate buffer by season.	63.0
Moose	Moose Pellet sightings	3 circles intersect over the eastern end of the northern parcel. This is the minimum overlay of the pellet / sighting data for which to apply potential habitat status. See attached SMPs. To be reviewed in the event of a planned harvest.	

RLUL	Municipal Water Supply Areas	When harvest is scheduled, automatically triggers site inspection.	
RLUL	National Parks and Adjuncts	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	
RLUL	National Wildlife Areas	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	
RLUL	Natural Watershed Municipal Surface Water Su	Contact water supply manager when scheduling harvest over 10 ha.	2316.6
RLUL	Nature Conservancy of Canada Lands	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	
SigHab	of concern	Follow dnr guidelines	14.5
Significant Habitat	of concern	Protect: Terns – Common or Arctic – feed in the area and likely nest here as well. This area should be protected. No harvesting in this area.	193.4
Field Cruise	Old growth, late successional forest representation	Late successional TH8 with old growth yB and scattered sM stems. Stands 3,4,21	
Significant Habitat	other habitat	Eagle's Nest. See SMP	7.2
RLUL	Provincial Wildlife Management Areas	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	0.7
SigEcosites	red oak forest	Pure Stand	
SigEcosites	Red pine forest	Natural (not planted)	0.7
SigHab	Sensitive, Of Concern	Sensitive Species/Species of Conservation Concern = 4 plants, 1 mammal = (Orange-fruited Tinker's Weed, Meadow Horsetail, Canada Wood Nettle, Smooth Sweet Cicely, Long-tailed Shrew)	
Field Cruise	Significant unique / rare forest	Stand 1 offers unique pure sM mountain stream draw.	
SigEcosites	sM floodplain	Floodplains can support particularly rich ecosystems, both in quantity and	174.4

		diversity. Significant for seasonal flooding and erosion control.	
Field Cruise	Small rS community (seedling - mature / overmature) mixed across western ridge and slope	Mature rS rare in Eastern NS but important historical and future component. Protect rS content, managing for seed producing stems (40yrs+)	
Field Cruise	Souf	Stand 1 is extension of mature / all aged hemlock zone on steep slope.	
SigHab	species at risk	Follow dnr guidelines	220.0
Field Cruise	Tolerant (hw or sw) late successional forest communities	Currently mid-late successional community with old growth attribute potential. Selection mgmt encouraged with great care to maintain or enhance value	
SigEcosites	Vernal pond	Apply adequate buffer.	1.3
SigHab	Vulnerable / Endangered and / or Species at risk habitat	Tributary stream within system identified as potential habitat for species at risk (Atlantic Salmon, Wood Turtle)	
RLUL	Wilderness Area	Adjancey to value identified by appying 30m mapping buffer to intersect private woodlot(s).	41.1

## Monitoring

The NSAWC implements active and post harvest, silviculture and road operations monitoring assessments to observe and ensure best forest management practices, health and safety practices and adherence to applicable regulations. Landowners are required to inform the group managers upon planned activity in order to schedule on-site monitoring assessments. Scheduling permitting, site visits are arranged for as many commercial harvesting operations as possible, with on-site inspections performed, including health and safety inspections when workers are on-site.

Each individual assessment is catalogued and tracked in the system database for identification of NCRs, observations and a summary of the group totals. When workers are found on-site, health and safety inspections are also performed and tracked in the system database.

Frequency of occurrences are tracked to identify potential common deficiencies or infractions at any level for future education and prevention.

Monitoring results for 2018 are presented in the tables below. Almost 2000 items were checked during this time period, with an overall compliance rate of 98%

Item Inspected	Acceptable	NCR Addressed	Non Conformance	Not Applicable	Observation	Total Inspections	Compliance Rate
<b>Harvest - Total</b>	<b>1100</b>	<b>5</b>	<b>2</b>	<b>403</b>	<b>21</b>	<b>1531</b>	<b>98%</b>
-3--worker-dnr-regs-	14			9	1	24	93%
-Ansul-pack-	2				1	3	67%
-Appropriate-training-	3					3	100%
-Back-up-alarm-	11			10		21	100%
-Blade-guard-	2			1		3	100%
-Boundaries-as-per-plan-	28	2				30	93%
-Brakes-	16			5		21	100%
-Chain-catcher-	3					3	100%
-Chainsaw-pants-	3					3	100%
-Complaints-addressed-	2			27		29	100%
-CSA-Boots-	3					3	100%
-Culverts-ok-	21			7		28	100%
-Cut-boundaries-as-per-mgmt-plan-	29					29	100%
Employee orientations complete				1		1	NA
-Env-impact-of-harvesting-	26				3	29	90%
-Escape-hatch-	17			7		24	100%
-Eye-protection-	3					3	100%
-Fall-protection-	16			4	1	21	94%
-Felling-procedures-	3					3	100%
-First-aid-kit-	20			4		24	100%
-First-aid-training-	19	1		3	1	24	90%
Fuel hose ok	14			12		26	100%
-Fuel-oil-approved-containers-	16			8		24	100%
-Garbage-removed-	29					29	100%
-Ground-disturbance-minimized-	27			1	1	29	96%

-Hardhats-	20			4		24	100%
Harvest (Manual and mechanical), and safety	1					1	100%
-Harvest-guidelines-followed-	29					29	100%
Hazard assessments complete				1		1	NA
-HCVF-Strategy-effective-	3			25		28	100%
-Hearing-protection-	3					3	100%
-Housekeeping-	25			3		28	100%
Incidents reported				1		1	NA
-Machine-guards-	17			4		21	100%
Management Plan Available and up to date	2			7		9	100%
-Merch-wood-utilized-	29					29	100%
-Neighbors-informed-	29					29	100%
-No-oil-spills-	29					29	100%
Not near watercouse	15			11		26	100%
-NSAWC-Informed-	28		2			30	93%
Operator Aware of FSC status	15			2	1	18	94%
-Pressure-bandage-	3					3	100%
-Previous-CARs-addressed-	3			26		29	100%
Properly secured	9			17		26	100%
-Protected-areas-not-disturbed-	5			24		29	100%
Pump nozzle ok	14			12		26	100%
-Raptor-Nests-not-disturbed-				29		29	NA
-Rec-trails-ok-	13			15		28	100%
-Regulations-followed-	28					28	100%
-Remote-location-plan-	19	1		4		24	95%
-Residual-trees-not-damaged-	23			4	1	28	96%
-Riparian-zones-ok-	20			7	1	28	95%
-Roads-ok-	26			2		28	100%
-Rollover-requirements-	17			4		21	100%
-Rutting-	23			1	3	27	88%
Rutting < 40cm avg over 100m	24			1	2	27	92%
-Safe-piling-	19			1		20	100%
Safety meetings held				1		1	NA
-Safety-chain-	3					3	100%
-Safety-harness-latch-	1			2		3	100%



-Safe-working-distance-	19			3	1	23	95%
-Safe-work-technique-	20			3		23	100%
-Seat-belts-	17			3		20	100%
-Shovels-	15			6	2	23	88%
-Spark-arrestor-	3					3	100%
-Species-at-risk-checked-	14			13		27	100%
Spill kit	19			7		26	100%
-Spill-Kit-	17			3		20	100%
-Stand-prescriptions-followed-	26				1	27	96%
-Steps-and-hand-holds-	17			3		20	100%
TDG Sticker clear and legible	14			12		26	100%
-Temp-stream-xings-ok-	7			13		20	100%
-Throttle-lock-out-	2					2	100%
-Visual-hazards-	17			3		20	100%
-Water-quality-maintained-	21			5		26	100%
WCB Status ok	24			2		26	100%
WHMIS Sticker clear and legible	12	1		12	1	26	86%
-Working-alone-procedure-	14			8		22	100%
<b>Silviculture Total</b>	<b>188</b>			<b>247</b>		<b>435</b>	<b>100%</b>
-3--worker-dnr-regs-	3			8		11	100%
-Ansul-pack-	2			9		11	100%
-Appropriate-training-	6			4		10	100%
-Blade-guard-	3			7		10	100%
-Boundaries-as-per-plan-	11					11	100%
-Chain-catcher-				10		10	NA
-Chainsaw-pants-	3			7		10	100%
-CSA-Boots-	3			7		10	100%
-Env-impact-of-silv-	10			1		11	100%
-Escape-hatch-				10		10	NA
-Eye-protection-	3			7		10	100%
-Felling-procedures-	3			7		10	100%
-First-aid-kit-	4			6		10	100%
-First-aid-training-	7			3		10	100%
-Fuel-oil-approved-containers-	3			7		10	100%
-Garbage-removed-	10			1		11	100%
-Ground-disturbance-minimized-	8			3		11	100%

-Hardhats-	3			7		10	100%
-HCVF-Strategy-effective-				11		11	NA
-Hearing-protection-	3			7		10	100%
-Housekeeping-	8			3		11	100%
-Natural-species-	9			2		11	100%
-NSAWC-Informed-	11					11	100%
Operator Aware of FSC status	6			2		8	100%
-Pressure-bandage-	3			7		10	100%
-Protected-areas-not-disturbed-				11		11	NA
-Raptor-Nests-not-disturbed-				11		11	NA
-Rec-trails-ok-	4			7		11	100%
-Regulations-followed-	10			1		11	100%
-Remote-location-plan-	3			7		10	100%
-Residual-trees-not-damaged-	4			7		11	100%
-Safety-chain-				10		10	NA
-Safety-harness-latch-	3			7		10	100%
-Safe-working-distance-	3			7		10	100%
-Safe-work-technique-	3			7		10	100%
-Shovels-	2			8		10	100%
-Silv-guidelines-followed-	10			1		11	100%
-Spark-arrestor-				10		10	NA
-Stand-prescriptions-followed-	11					11	100%
-Throttle-lock-out-	2			8		10	100%
WCB Status ok	10					10	100%
-Working-alone-procedure-	1			9		10	100%
<b>Grand Total</b>	<b>1288</b>	<b>5</b>	<b>2</b>	<b>650</b>	<b>21</b>	<b>1966</b>	<b>98%</b>

An internal review of all CARs issued in 2017/18 was carried out in September 2018. No trends were identified and all CARs appeared to be relatively minor and unrelated incidents.

An internal audit was carried out of the program in September 2018. No significant issues were found that required a change to the program.

Internal Audit Number of Inspections	Acceptable	NCR Addressed	Not Applicable	Observation	Grand Total
<b>FSC Internal</b>	<b>78</b>	<b>5</b>	<b>118</b>	<b>1</b>	<b>202</b>
Activity follows management plan	2	1	8		11
Activity Matches documentation	2	1	9		12
Activity meets fsc requirements	3		8		11
Activity on woodlot	5		9		14
Activity Reported	5	1	8		14
HCVF Identified			14		14
HCVF Strategy Followed			3		3
HCVF Strategy Effective			14		14
HCVF Strategy Followed			11		11
Landowner aware of FSC requirements	13	1			14
Management Plan Available and up to date	14				14
Management plan signed	14				14
NCR Issued		1	13		14
Other Followup Required	3		11		14
Recommended Improvements	3		10	1	14
Satisfaction with program	14				14
<b>Grand Total</b>	<b>78</b>	<b>5</b>	<b>118</b>	<b>1</b>	<b>202</b>

NSAWC FSC® Woodlots, September 2018

