CÁWAK ʔQIN
FORESTRY

SFM Plan
Appendix 1: Detailed Indicator & Results

April 22nd, 2024

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SFM Criteria, Values, Objectives, Indicators & Targets

This section of the SFM Plan describes Tsawak-qin Forestry's SFM Values, Objectives, Indicators and Targets. As appropriate, an Acceptable Variance is provided for the performance level of each Target and a forecasted future condition is provided for each Indicator. The section is organized according to the Criteria for Sustainable Forest Management, which was developed by the Canadian Council of Forest Ministers and adapted for the Canadian Standards Association's Sustainable Forest Management standard (CAN/CSA-Z809-16).

As further explanation of the organization of this section:

- The **Criteria** (e.g., below: 1.0 Conservation of Biological Diversity) and **Critical Elements** (e.g., 1.1 Ecosystem diversity) and their accompanying statements are derived from *Defining Sustainable Forest Management: A Canadian Approach to Criteria and Indicators* (Canadian Council of Forest Ministers, Ottawa, 1995).
- The subsidiary **Values**, **Objectives, Indicators, Targets**, **Acceptable Variances** and **Forecasts** were developed for this plan during discussions among TPAG members, Tsawak-qin Forestry staff and other Western Forest Products staff. Indicators with titles comprised of both numbers and letters (e.g. Indicator 1.4.2a) are formulated by TPAG members but are not core to the standard.

Tsawak-qin Forestry works closely with the TPAG to identify the local values, objectives, indicators, targets and acceptable variances that reflect the national criteria. These have been incorporated into this SFM planning and practice.

As used in this plan:

- **Values** are DFA characteristics, components, or qualities considered by an interested party to be important in relation to a CSA SFM element or other locally identified element.
- **Objectives** are broad statements describing a desired future state or condition of a value.
- **Indicators** are variables that measure or describe the state or condition of a value.
- **Targets** are specific statements describing a desired future state of condition of an indicator. Where possible, targets are clearly defined, time-limited and quantified.
- **Acceptable Variances** specify the range of performance results (+ and/or – relative to the Target) that is deemed to be an acceptable outcome. A result outside this range does not always indicate unacceptable performance. (For example, it could reflect: the impact of an uncontrollable event, such as a natural disaster; the fact that the Target was based on poor quality or inadequate data; or the effects of a responsible choice between two competing Objectives.) A result outside the Acceptable Variance range does, however, require review, assessment and, possibly, a revision of either the objective, target or management practices.
- **Forecasts** are explicit statements of the expected future condition of an indicator.
- **Legal References** are provided where they exist.

Performance Reporting

On an annual basis, the SFMP will be updated to include performance reporting information in order to facilitate review of the actual outcomes of each indicator (this will be reported within Appendix 2). Most indicators are reported on an annual basis from January 1 – December 31. The monitoring report is completed by Tsawak-qin Forestry's management and presented for review to TPAG in the spring of each year. Tsawak-qin Forestry maintains a matrix which assigns the responsibilities of each indicator to key staff.

Internal audits will also evaluate the quality, validity, and meaningfulness of the locally determined indicators and all of the targets.

Summary of Results

In 2023 TPAG met four times to discuss a range of topics (see Indicator 6.1.2)

Of the 43 indicators associated with the Plan, 41 were scheduled for a report in 2023. All reported indicators met their targets apart from:

Indicator 1.1.1: Ecosystem Area by Type (Target not met but the result is within the Variance)

Indicator 5.2.3: Level of Direct and Indirect Employment (Target not met but the result is within the Variance)

Indicator 6.1.3: Public Concerns (neither the Target nor the Variance was met)

These results are discussed in more detail for each individual indicator.

Summary of Changes

Changes to the SFMP in 2023 include:

- 5.1.2c Mushroom Habitat Access - removed
- 5.2.3 Level of Direct and Indirect Employment - updated

Indicator 1.1.1: Ecosystem Area by Type

Element: 1.1 Ecosystem Diversity *Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Older seral stages by ecosystem type on the DFA	Older seral stages by ecosystem type are maintained	Ecosystem area by type	All ecosystem types by biogeoclimatic variant have greater than 50% of the productive forest area in mid, mature, and old seral stages annually	- 5% by type for up to 10 years

History

Core Indicator under CSA Z809-08 no change for CSA Z809-16.

Basis for the Target

The biogeoclimatic variants in the DFA represent a wide geographic range, a diversity of climatic conditions, and significant differences in vegetation, soil, and ecosystem productivity. Historically, timber harvesting has focused in productive variants that yield quality forest products. The long history of timber harvesting in the DFA has generated a diversity of stand age classes across the variants. However, historic harvesting has generally progressed from productive variants close to communities to less productive variants in more remote areas of the DFA. The 50% level for ecosystem area by type and seral stage provides reasonable assurance that there is always adequate representation of older stage classes being maintained and replaced on the DFA.

The variance is to account for natural disturbances associated with insects, disease, windthrow, wildfire, land use decisions, and historic harvesting patterns that may have influenced variants 3

Current Status & Results

Year	BEC Zone/ Variant	Early (ha)	Mid (ha)	Mature (ha)	Old (ha)	Total Area Mid-Old (ha)	Total Productive Area of BEC Zone (ha)	% Rep. of Productive	Target Met (Y/N)	Variance Met (Y/N)
2023	CWHmm1	1,246	636	37	2,000	2,673	3,919	67	N	Y
	CWHmm2	1,544	553	280	4,067	4,900	6,444	76		
	CWHvh1	4.347	990	314	2,805	4,110	8,457	**49**		
	CWHvm1	25,835	20,425	2,969	17,708	41,102	66,937	61		
	CWHvm2	5,752	1,893	383	8,456	10,732	16,484	65		
	CWHxm	3,935	4,292	3,061	1,826	9,179	13,113	70		
	MHmm1	114	7	20	2,483	2,510	2,625	96		
2022	CWHmm1	1,301	569	36	2,016	2,585	3,922	67	N	Y
	CWHmm2	1,543	555	274	4,706	5,261	6,448	76		
	CWHvh1	4,333	969	333	2,829	3,798	8,464	48		
	CWHvm1	25,857	20,580	2,630	17,870	38,450	66,937	62		
	CWHvm2	5,777	1,818	377	8,516	10,334	16,487	65		
	CWHxm	3,984	4,788	2,506	1,842	6,630	13,120	69		
	MHmm1	115	7	20	2,483	2,490	2,625	96		

2021	CWHmm1	1,353	500	36	2,034	2,570	3,923	66	N	Y
	CWHmm2	1,594	501	266	4,088	4,855	6,449	75		
	CWHvh1	4,427	841	335	2,854	4,030	8,457	48		
	CWHvm1	26,344	20,202	2,462	1,7931	40,595	66,939	61		
	CWHvm2	5,800	1,766	368	8,554	10,688	16,488	65		
	CWHxm2	4,087	5,032	2,168	1,836	9,036	13,122	69		
	MHmm1	108	7	20	2490	2,517	2,626	96		
2020	CWHmm1	1,370	476	37	1817	2,329	3,699	63	N	Y
	CWHmm2	1,522	419	240	3,694	4,353	5,874	74		
	CWHvh1	4,338	837	367	2,923	4,126	8,464	**49**		
	CWHvm1	26,444	20,175	2,230	18,170	40,575	67,019	61		
	CWHvm2	5,808	1,692	401	8,572	10,665	16,473	64		
	CWHxm2	4,177	5,088	1,867	1,815	8,770	12,947	68		
	MHmm1	108	7	19	2,398	2,424	2,532	96		
2019	CWHmm1	1418	440	210	1549	2199	3617	61	N	Y
	CWHmm2	1582	477	378	3350	4205	5787	73		
	CWHvh1	4309	809	386	2868	4063	8372	**49**		
	CWHvm1	26872	19857	1954	18125	39936	66808	60		
	CWHvm2	5939	1504	439	8575	10519	16457	64		
	CWHxm2	4391	5172	1594	1744	8509	12900	66		
	MHmm1	118	143	27	2094	2264	2383	95		
2018	CWHmm1	1459	427	382	1837	2646	4105	64%	N	Y
	CWHmm2	1669	607	537	3851	4995	6665	75%		
	CWHvh1	4308	810	387	2914	4111	8419	**49**%		
	CWHvm1	27172	19663	1782	18454	39899	67071	59%		
	CWHvm2	5971	1426	438	8694	10558	16530	64%		
	CWHxm2	4626	5282	1475	1784	8541	13167	65%		
	MHmm1	120	173	137	2357	2667	2787	96%		

Mid, mature, and old seral stages describe stands greater than or equal to 40 years old.

Performance and Interpretation

2023: Similar to 2022, the target was met for 2023 except for the CWHvh1 as referenced in the forecast. The CWH vh1 increased back to 49%. As previously described harvest history in the DFA generally progressed away from established communities towards the outer west coast of the DFA and into this variant. This more recent timber harvesting has placed more area in the ***early*** seral stage.

Strategies & Implementation

Several initiatives and legal requirements have been set relating to protected areas that helps to contribute to ecosystem representation, including Parks and protected areas, Old Growth Management Areas, Wildlife Habitat Areas, Ungulate Winter Ranges, Wildlife Tree Patches and other stand level retention initiative such as the WFP Variable Retention Strategy, etc.

In addition, a fairly significant portion of the DFA in older seral stages exists in the non-contributing land-base (e.g., inoperable) and will not be harvested.

Forecasts

The current status shows representation of 50% and above for each BEC zone and represents a long history of harvesting. The Timber Supply Analysis also supports forecasting that the target will be met in the long term. The one exception is expected to be the CWHvh1 where the 2013 to 2024 forecast is likely to be between 45% and 50% because of historic harvesting patterns in the DFA.

Monitoring

The TFL Forester requests inventory information from corporate staff after year end harvesting has been updated in the Cengea database.

Indicator 1.1.2: Forest Area by Type or Species Composition

Element: 1.1 Ecosystem Diversity *Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The representation of commercial species on the DFA	Species conversion on the DFA is limited	Forest area by type or species composition	The three-year movement in the representation of each commercial tree species (as expressed by the forest area by species composition) in the inventory remains within 2% of the 2012 baseline level	+/- 1% by species. i.e. Douglas-fir at 20.6% could be as high as 23.6% or as low as 17.6% in 2018.

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The target is based on the natural occurrence of commercial species and their ability to adapt to the biogeoclimatic conditions in the DFA. Maintaining the current tree species diversity is a fundamental strategy for climate change and forest health. The variance is to account for the artificial regeneration (tree planting) that will occur to favour the more desirable commercial species and the potential changes in climatic conditions.

Current Status & Results

Given the DFA changed significantly with area removals in 2010 the new baseline will be 2012. The tree species representation was re-assessed for the 2018 report.

Species	Base-line % 2012	2018 %	% change 2012-18	2023	% change 2012-2023	Target Met	Variance Met
Douglas-fir	20.6	19.9	-0.7	19.8		Y	n/a
Pine	0.4	0.4	0	0.4			
Western Red Cedar	19.3	20.0	0.7	20.1			
Yellow Cedar	3.0	3.5	0.5	3.3			
Sitka Spruce	0.4	0.5	0.1	0.5			
Hemlock (western & mountain)	42.0	41.2	-0.8	41.4			
Amabilis Fir	12.5	12.7	0.2	12.6			
Deciduous (Alder and Maple)	1.9	1.8	-0.1	1.8			

Performance and Interpretation

2023: The tree species representation has remained quite consistent compared to the 2012 baseline.

Strategies & Implementation

Tsawak-qin Forestry conducts reforestation activities consistent with legally required and approved stocking standards in the Forest Stewardship Plan (FSP) that include the applicable tree species

permitted for each ecosystem type and site series. Regeneration and Free growing surveys and milestone obligations ensure cutblocks are regenerated in accordance with approved stocking standards.

Forecasts

The Timber Supply Analysis supports the forecast of no major changes in tree species over the long term.

The species representation is expected to change slightly over time due to climate change and adaptive management plans that include regeneration to more heat tolerant or commercially valuable species such as Douglas-fir and Western Red Cedar. Some Noble Fir (non-native species) may also be planted at higher elevations due to research data that supports higher health and vigour than some native species such as Amabilis Fir. As the factors associated with climate change become better understood the target may need to be adjusted.

Monitoring

The TFL Forester is responsible for coordinating GIS analysis (GIS Department), planting, and assessment programs. The report will be based on all species (area weighted) excluding NSR classified lands and miscellaneous species.

Indicator 1.1.3: Forest Area by Seral Stage or Age Class

Element: 1.1 Ecosystem Diversity *Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The older age stands on the DFA	Older age stands on the DFA are maintained	Forest area by seral stage or age class	81+ age stands are maintained to at least 35% of the productive forest area measured on a five-year *rolling average*	Down to 30% for up to 10 years

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The target balances the current allowable annual cut (AAC), the desire for species diversity, and the current age class distribution of the productive forest. For many species, if habitat requirements are present, populations will remain stable. Older age classes are often the most difficult to manage primarily because of the time required for their development. Forest stands at 81+ foster unique communities across the forest landscape. Maintaining at least 35% of the older age stand will ensure that these unique communities are preserved.

The variance is to account for natural disturbances associated with insects, disease, windthrow, wildfire, land use decisions, and historic harvesting patterns that exist or may develop.

Current Status & Results

Year	Total Productive Forest Area (ha)	Age (yrs)	Productive Area 81+ (ha)	% Productive Area Maintained at Age 81+	Target Met (Y/N)	Variance Met (Y/N)
5 yr. (2019-2023)	**118,138**	**81+**	**45,569**	**39**	**Y**	**n/a**
2023	118,190	81+	46,545	39		
2022	118,215	81+	45,944	39		
2021	118,216	81+	45,579	39		
2020	118,335	81+	45,481	38		
2019	117,736	81+	44,298	38		
2018	118,777	81+	45,130	38		

Performance and Interpretation

2023: The target was met for this indicator. The productive area 81+ continues to remain static

Strategies & Implementation

Several initiatives and legal requirements have been set relating to protected areas that helps to contribute to older age classes, including Parks and protected areas, Old Growth Management Areas, Wildlife Habitat Areas, Ungulate Winter Ranges, Wildlife Tree Patches, etc. In addition, a significant

portion of the DFA referred to as the non-contributing land-base (NCLB) is not operable for physical and economic reason and will therefore contribute to the protection of older age classes.

Over time, young stands in the NCLB will age and add to the current supply of older stands. Finally, the corporate strategy to use retention silviculture systems on the DFA provides additional stands of older age classes.

Forecasts

Although harvesting activities are currently concentrated within the older age stands, the latest TSR indicates that the proportion of harvesting in second growth will increase in the next 5-10 years. Second growth stands are typically harvested between the age of 60-80 years. Constrained second growth will begin to migrate into the 81+ age class.

Monitoring

The TFL Forester requests a GIS and inventory analysis after year end harvesting has been updated in the Cengea database.

Indicator 1.1.4: Within-stand Structural Retention

Element: 1.1 Ecosystem Diversity *Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The variety of structure at the stand level	Habitat for selected focal species, including species at risk. A portion of the existing stand structure is retained	Degree of within stand structural retention	The average within-stand long term retention level of all cutblocks harvested in the year is no less than 15% of the harvested area	-4%

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The target is based on a combination of a FRPA requirement for stand retention and the WFP corporate retention (VR) strategy which is guided by principles associated with the Vancouver Island Land Use Plan (VILUP). The retention strategy may be adjusted from time to time. The variance is to account for situations where the harvest may be directed towards Forest Stewardship zones where retention requirements are less (e.g. Enhanced Basic Zone).

Current Status & Results

Year	Average Cutblock Retention (% of Harvested Area)	Target Met (Y/N)	Variance Met (Y/N)
2023	22.0	Y	n/a
2022	15.0	Y	n/a
2021	15.2	Y	n/a
2020	17.0	Y	n/a
2019	13.0	N	N

Performance and Interpretation

2023: For 2023 the average within stand long term retention was 22%. Tsawak-qin has begun spatially identifying additional long-term retention associated with cutblocks above just minimum target levels.

Strategies & Implementation

Retention for each block is planned based on the required protection of different resources (e.g. riparian, wildlife, cultural). If the minimum level of retention is not yet met, additional area is retained to ensure the retention targets are met. Refer to the SFM Plan Management Strategies for details. Salvage harvesting opportunities may not adhere to the retention strategy and retention levels, but this is anticipated to represent a small portion of the harvested volume.

Forecasts

The average within-stand long term retention level is expected to be met in 2024.

Monitoring

The Silviculture Forester reports on this indicator using the Variable Retention Tracking Report from the Cengea database. This report uses cutblocks defined as *harvest started* in the reporting year.

Indicator 1.2.1: Habitat Protection for Selected Focal Species

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats and forest conditions for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Habitat for focal species, including species at risk existing in the DFA	Maintain or increase habitat for selected focal species, including species at risk	Degree of habitat protection for selected focal species, including species at risk	The amounts (in ha) of habitat protected for selected focal species remains the same or increases year after year	Decrease by 1%

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The target is based on legal requirements under FRPA and the government initiatives underway through Land Use Planning processes and strategies such as the Identified Wildlife Management Strategy. The variance is meant to help account for fluctuation due to spatial issues (e.g. map base or scale) and natural disturbance factors.

"Habitat, in terms of both quantity and quality, is a key component of the health of species and animal populations" (CSA Sustainable Forest Management, 2008). Forest management can have both positive and negative effects for wildlife and their habitat. It is important to ensure forest habitat necessary to the survival of species is available for use in the short-term and long-term. Habitat reserved for focal species also contributes to the habitat needs of many other wildlife species.

Ungulate winter ranges are areas identified as critical to the survival of local populations of ungulates during severe winters. On Vancouver Island, Black-tailed deer and Roosevelt elk need areas with suitable forest and topographical features that are able to provide shelter, forage and snow interception. Roosevelt elk are on the BC provincial blue-list and have a BC Conservation Framework Priority 2 (BC Species and Ecosystems Explorer, 2010) as well as having local and cultural importance. Black-tailed deer are not considered a species of concern but have local importance for food, economic opportunity and recreation.

Marbled Murrelets are small seabirds that nest inland with a majority of nests being found on large boughs high in old conifers up to 30 km inland. Much work has been done along the coast to identify and rank suitable nesting habitat for Marbled Murrelets. Marbled Murrelets are listed as threatened on Schedule 1 of the Federal Species at Risk Act (SARA), provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and considered Identified Wildlife, and have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems Explorer, 2010). Identified Wildlife are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (endangered, threatened, vulnerable or regionally important).

Northern Goshawks are a relatively large forest dwelling hawk. They need a closed canopy forest with an open understory for nesting and foraging. The coastal subspecies is listed as Threatened on SARA Schedule 1, provincially red-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and are considered Identified Wildlife, and have a Conservation Priority of 1.

The Northern Red-legged Frog is a moderate-sized frog occurring from southwestern BC to northwestern California. It generally inhabits moist, lower elevation forests and requires both aquatic breeding habitat and terrestrial foraging habitat. The Red-legged Frog is listed as Special Concern on SARA Schedule 1, provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and is considered Identified Wildlife, and has a Conservation Priority of 1.

Scouler's Corydalis is a 60 – 120 cm tall plant with rosy-pink, spurred flowers. It is limited in distribution to the Pacific Northwest and in BC is only found on southwestern Vancouver Island. Scouler's Corydalis is not listed by SARA, has been provincially down listed to yellow and has a Conservation Priority of 3. It is listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and is considered Identified Wildlife.

Current Status & Results

Year	Type of Habitat Protected/ Species	Area (ha)			Measure	Target Met (Y/N)	Variance Met (Y/N)
		Legal	Proposed	Voluntary			
2023	UWR	2,130			Spatially delineated ungulate winter range	Y	n/a
	MAMU	3,418.97	0.00	0.51	Moderate to very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA		
	Goshawk	782	400.2	276	Area reserved around known nests (WHA, other)		
	Red-legged Frog	54			Area reserved around known breeding ponds		
	Scouler's Corydalis	73.52	0.00	0.00	Area reserved around known locations of Scouler's Corydalis		
2022	UWR	2,130	0	0	Spatially delineated ungulate winter range	Y	N/A
	MAMU	3,153	1,607	0	Moderate to very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA		
	Goshawk	782	0	432	Area reserved around known nests (WHA, other)		
	Red-legged Frog	54	0	0	Area reserved around known breeding ponds		
	Scouler's Corydalis	74	0	0	Area reserved around known locations of Scouler's Corydalis		
2021	UWR	2,130	0.00	0.00	Spatially delineated ungulate winter range	N	N
	MAMU	3,153	1,604	0.00	Moderate to very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA		
	Goshawk	782	0.00	432	Area reserved around known nests (WHA, other)		
	Red-legged Frog	54	0.00	0	Area reserved around known breeding ponds		
	Scouler's Corydalis	74	0.00	0	Area reserved around known locations of Scouler's Corydalis		
2020	UWR	2,130	0	0	Spatially delineated ungulate winter range	Y	n/a
	MAMU	3,213	1,830	0	Moderate to very High ranked habitat from the low-level aerial		

					inventory in WHA, UWR, OGMA		
	Goshawk	782	0	432	Area reserved around known nests (WHA, other)		
	Red-legged Frog	54	0	0	Area reserved around known breeding ponds		
	Scouler's Corydalis	74	0	0	Area reserved around known locations of Scouler's Corydalis		
2019	UWR	2130	0	0	Spatially delineated ungulate winter range	Y	n/a
	MAMU	3169	1693	0	Moderate to very High ranked habitat from the low-level aerial inventory in WHA, UWR, OGMA		
	Goshawk	0	782	432	Area reserved around known nests (WHA, other)		
	Red-legged Frog	54	0	0	Area reserved around known breeding ponds		
	Scouler's Corydalis	74	0	0	Area reserved around known locations of Scouler's Corydalis		

Performance and Interpretation

2023: The Goshawk area increased overall, with voluntary area dropping and proposed area increasing. The Provincial government is advocating for additional Goshawk WHA locations, thus proposed area is increasing, through collaboration with Tsawak-qin.

Strategies & Implementation

In general, the management strategy for this indicator includes:

- To spatially designate and legally establish Wildlife Habitat Areas and Old Growth Habitat Areas. Tsawak-qin Forestry has a mix of legally established and proposed areas. The intent is to eventually move proposed areas through the process to become legally established.
- When it is necessary to build roads through or harvest adjacent to one of these reserves, Tsawak-qin Forestry attempts to minimize the impact and provides replacement habitat of similar quality, if necessary.
- Species at Risk training is delivered to the operations to aid staff in identifying and working around Species at Risk.
- Northern Goshawk Management Protocol has been developed to guide operations managing forest activities around nests.
- When other habitat is encountered that is actively used by a focal species including a species at risk, the site undergoes evaluation for potential candidacy as a permanent reserve.

Forecasts

As more reserves such as WHAs, UWRs and OGMAs become legally established, the habitat conserved for focal species is expected to increase over the short to medium term. In the long-term, it is anticipated that as BC government Implementation Plans come into effect for Northern Goshawk and Marbled Murrelet, the hectares attributed to WHAs will increase.

Monitoring

The Wildlife Biologist & GIS Technician provides updated information in relation to this indicator to support the indicator basis for the target, current results, strategies and implementation and monitoring methods, as required.

The TFL Forester is responsible for coordinating GIS Analysis (shape files are obtained from the government as protected areas are approved).

- Reserves are mapped spatially in a layer of the GIS. Changes in boundaries are tracked by Corporate Forestry biologists.
- All habitat supply will be monitored spatially relative to the target every year.
- Nests are documented when they are located, and appropriate management strategies are developed within site-level plans.
- Known nests will be monitored for activity when forest management activities are planned nearby.

Indicator 1.2.2: Suitable Habitat in the Long Term for Selected Focal Species

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats and forest conditions for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Availability of suitable habitat for selected focal species, including species at risk existing in the DFA	To ensure the long-term availability of habitat for selected focal species including species at risk	Degree of suitable habitat in the long term for selected focal species, including species at risk	The amount (in ha) of potentially suitable habitat available within WHA, UWR, OGMA and NCLB remains the same or increases over time (measured every five years)	UWR – decrease by 1% MAMU – decrease by 2%

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The target and variance are based on legal requirements under FRPA regarding established protection/ management areas for species at risk, ungulates, and old growth management. The variance is meant to help account for fluctuation due to spatial issues (e.g. map base or scale) and natural disturbance factors. For Marbled Murrelet the variance is also to account for the inaccuracies of the modelling and the inability to predict the quality of the habitat.

Some species need habitat that includes mature to old trees for their survival. Habitat currently unsuitable for species may develop the attributes necessary for the survival of the species as it ages. It is important to ensure critical habitat will be available in the long-term. Long-term is defined as twice the average life expectancy of the predominate trees in a DFA, up to a maximum of 300 years. Tree species within the DFA are long lived and the long-term is defined as the maximum of 300 years.

Ungulate winter ranges are areas identified as critical to the survival of local populations of ungulates during severe winters. On Vancouver Island, black-tailed deer and Roosevelt Elk need areas with suitable forest and topographical features able to provide shelter, forage, and snow interception. Roosevelt Elk are on the BC provincial blue-list and have a BC Conservation Framework Priority 2 (BC Species and Ecosystems Explorer, 2010) as well as having local and cultural importance. Black-tailed deer are not considered a species of concern but have local importance for food, economic opportunity and recreation.

Marbled Murrelets are small seabirds that nest inland with a majority of nests being found on large boughs high in old conifers up to 30 km inland. Much work has been done along the coast to identify and rank suitable nesting habitat for Marbled Murrelets. Marbled Murrelets are listed as Threatened on Schedule 1 of the Federal Species at Risk Act (SARA), provincially blue-listed, listed on the Forest and Range Practices Act (FRPA) Category of Species at Risk and considered Identified Wildlife, and have a BC Conservation Framework Priority of 1 (BC Species and Ecosystems Explorer, 2010). Identified Wildlife are considered to be sensitive to habitat alteration associated with forest and range practices and are considered to be at risk (endangered, threatened, vulnerable or regionally important).

Current Status & Results

Year	Type of Habitat Protected/ Species	Measure	Legal Reserves (ha)	NCLB[1] (ha)	Baseline (ha)	% change	Target Met (Y/N)	Variance Met (Y/N)
2023	UWR	Spatially delineated ungulate winter range	2,130	0	2,130	0	Y	n/a
	Potential MAMU Nesting Habitat	Potentially Suitable Habitat in WHA, UWR, OGMA and NCLB	7,597	28,969	36,566	+39%	Y	n/a
2018	UWR	Spatially delineated ungulate winter range	2,130	0	2,130	0	Y	n/a
	Potential MAMU Nesting Habitat	Potentially Suitable Habitat in WHA, UWR, OGMA and NCLB	6,997	15,406	22,403	+ 4%	Y	n/a
2013	UWR	Spatially delineated ungulate winter range	2,130	0	2,130			
	Potential MAMU Nesting Habitat	Potentially Suitable Habitat in WHA, UWR, OGMA and NCLB	5,116	16,389	21,505			
2009	Ungulate Winter Range	2130	0	2,130	Ungulate Winter Range			
	Potential MAMU Nesting Habitat	4878	23,046	27,924	Potential MAMU Nesting Habitat			

[1]Non-contributing land base as defined by TFL 44 Management Plan 6 for 2023.

Ungulate Winter Ranges have been legally established for all tenures within the DFA. A total of 2130 ha has been legally designated through one Order (for more details see above indicator). Ungulate Winter Range may also be available through other reserve areas (WHA, OGMA) but has not been spatially delineated as such. Established UWR should remain as such in the long-term because of the old-growth characteristics of the UWR and long intervals between natural disturbances in the ecosystems. The indicator is measured as the total area spatially delineated and conserved for ungulate winter range over the long-term and must meet or exceed the target of 2130 ha.

Marbled Murrelet nesting habitat has been delineated within the DFA. Potentially suitable habitat was modelled. Of the potentially suitable habitat within the DFA the areas within wildlife habitat areas, ungulate winter range and old growth management areas and found within the non-contributing land base (generally unharvestable) will be retained in the long-term. The potentially suitable habitat available in reserves was calculated using the current legal WHA, UWR and

OGMAs. The non-contributing land base was calculated using data from the TFL 44 Management Plan 5 (2010) dataset created for the timber supply analysis.

This indicator is a measure of the amount of potentially suitable nesting habitat retained within the DFA over the long-term. The amount should be consistent or increase from the current state and not be less than 21,505 *(16,389 + 5,116)* ha.

Performance and Interpretation

2023: The proposed MAMU habitat amount increased due to OGMA location being finalized within the Great Central Lake and Henderson operating areas**.**

Strategies & Implementation

The FSP contains results and strategies for management activities within or adjacent to established WHA, UWR, and OGMAs, including provisions for amendments where permitted within the specific Order establishing the habitat area. The general management strategy is as follows:

- To spatially designate and legally establish Wildlife Habitat Areas, Ungulate Winter Range and Old Growth Habitat Areas. Tsawak-qin Forestry has a mix of legally established and proposed areas. The intent is to move proposed areas through the process to become legally established. Proposed OGMAs and WHAs will be managed as if established.
- When it is necessary to build roads through or harvest adjacent to one of these reserves, Tsawak-qin Forestry attempts to minimize the impact and provides replacement habitat of similar quality, if necessary.
- As committed in Operational Plans, Tsawak-qin Forestry ensures areas of equivalent marbled murrelet habitat are available in the Timber Harvesting Land Base (THLB) if suitable habitat is harvested in the NCLB.
- Western's Forest Strategy around variable retention will leave a legacy of mature and old forest attributes.
- As reliable habitat modelling tools and parameters become available for different species, Tsawak-qin Forestry will apply them to its land base to guide the evolution of management prescriptions.

Forecasts

Ungulate Winter Range is expected to not change over time as winter range is based on topographical and forested characteristics that are not expected to change significantly from the natural disturbance processes. However, winter ranges are currently being evaluated in the Great Central Lake Area which may increase the total reserve area.

The quantity of potentially suitable habitat is forecast for Marbled Murrelet. This includes the current amount of potentially suitable habitat and future potentially suitable habitat (i.e. trees that are currently too young). This does not take into account habitat quality, as the characteristics, such as moss development, are not easily modelled. It is expected that within the amount forecast not all will be suitable.

To forecast suitable habitat into the future only modelling can be used as the inventory gives the current state. Potentially suitable habitat was modelled using parameters from the Marbled Murrelet Recovery Team and in two steps.

1) For forests greater than 250 years old there was an assumption that the old growth characteristics would not change significantly in the long term and the following parameters were used: Forested area > 250 years old and ≥ 28.5 m tall. These parameters are from the "Most Likely" category defined in Table 3 in the Marbled Murrelet Conservation Assessment 2003, Part B.

2) For forests younger than 250 years old there is a potential to develop the necessary attributes. It was assumed that trees with a moderate or better site index had the potential to develop the characteristics and the following parameters were used: Forested area ≤ 250 years old and ≥ 28.5 m tall or site index ≥18.

The table below shows the result of this modelling exercise. In essence, as current young stands grow, substantially more potentially suitable habitat is available in the long-term for the Marbled Murrelet.

Goshawk nesting habitat mapping is not available at this time. The Northern Goshawk Recovery Team is in the process of creating and testing a habitat model for Vancouver Island. Once this model is released it may be used to calculate the amount of habitat conserved within reserves.

Monitoring

The Wildlife Biologist & GIS Technician provide updated information in relation to this indicator to support the indicator basis for the target, current results, strategies and implementation and monitoring methods, as required. The general monitoring measures are as follows:

- Reserves are mapped spatially in a layer of the GIS. Changes in boundaries are tracked by Corporate Forestry biologists.
- Potential habitat supply will be monitored spatially relative to the target every 5 years.
- Non-contributing land base will be recalculated with new timber supply analysis

The TFL Forester coordinates GIS Analysis (shape files are maintained by government and are made available to licensees once areas are approved/ established).

Indicator 1.2.3 and 2.1.2: Regeneration Comprised of Native Species

Element: 1.2 Species Diversity *Conserve species diversity by ensuring that habitats and forest conditions for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Native tree species replacement on the DFA	Native tree species harvested on the DFA are replaced by native tree species	Proportion of regeneration comprised of native species	At a minimum 99% of the trees planted be native species based on a five-year rolling average	-2.0%

History

Core Indicator under CSA Z809-08 No change for CSA Z809-16.

Basis for the Target

The target is based on legal requirements under FRPA and the associated Chief Forester's Standards for Seed Use.

The variance is based on possible future regeneration that includes a small proportion of Noble Fir or other non-native species as climate change and browse resistance are more closely examined.

Noble fir is a desirable species to reforest on TFL 44 at elevations greater than 700 meters due to its tolerance to heavy snowpacks and its wood quality. At higher elevations where the planting of Douglas-fir is limited by snowpack, Noble fir becomes a good option. Young Noble Fir seedlings are very stiff and sturdy, possessing a large caliper at a young age and browse resistant. This allows these trees to be successful on areas with a high snowpack, on slopes with heavy snowfall, and areas of high ungulate use. Unlike other true firs, such as Amabilis Fir, Noble Fir produces a stronger more durable wood, with a very high strength-to-weight ratio.

Research completed by the Ministry of Forests in 1992 found Noble Fir grows well on sites in the warmer variants of the Dry and Moist Maritime Coastal Western Hemlock subzones, and the wetter variant of the moist Mountain Hemlocks subzone. This is consistent to the future planting strategy of Noble Fir on TFL 44.

Current Status & Results

Year	Planted	Native Species Planted	% Native Species (yr)	% Native Species *(5 yr rolling avg)*	Target Met (Y/N)	Variance Met (Y/N)
2023	581,500	581,500	100.0	99.6	Y	n/a
2022	972,480	972,480	100.0	99.3	Y	n/a
2021	414,430	412,120	99.4	99.5	Y	n/a
2020	612,431	605,186	98.8	99.3	Y	n/a
2019	871,078	867,478	99.6	99.3	Y	n/a

Performance and Interpretation

2023: For 2023, native species dominated the reforestation program. There were 0 Noble Fir trees planted on prescribed sites still allowing the target to be met. Occasionally, Tsawak-qin identifies very limited trial non-native species planting opportunities. These trials may prove beneficial as climate change conditions reveal themselves.

Strategies & Implementation

The FSP contains the approved stocking standards for regeneration, which includes specific species, densities and minimum heights for each ecosystem type found in the DFA.

Forecasts

It is anticipated that the target will be achieved as it is a legal requirement. The regeneration of non-native species is expected to be rare; however, their performance will be monitored to determine if site conditions, or seedling growth justify a target adjustment.

Monitoring

The Silviculture Forester is responsible to coordinate annual reports of planted species and associated quantities through the Plant Wizard and/ or Cengea database and/ or the SPAR database.

Indicator 1.3.1: Genetic Diversity

Element: 1.3 Genetic Diversity *Conserve genetic diversity by maintaining the variation of genes within species and ensuring that reforestation programs are free of genetically modified organisms.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Genetically modified organisms on the DFA	Genetically modified organisms are not introduced in the DFA	The percent of the trees planted annually that is genetically modified organisms	The percent of the trees planted annually that is genetically modified organisms is 0%	None

History

Core Element under CSA Z809-08.

Basis for the Target

The target aligns with the current legal status: no genetically modified organisms are currently allowed.

Current Status & Results

Year	% Genetically Modified Trees Planted	Target Met (Y/N)	Variance Met (Y/N)
2023	0	Y	n/a
2022	0	Y	n/a
2021	0	Y	n/a
2020	0	Y	n/a
2019	0	Y	n/a

Performance and Interpretation

2023: Only seedlings from registered seedlots are planted on the DFA. No genetically modified organisms were planted. The background information associated with Indicator 1.2.3 contains a detailed breakdown of registered seedlots that are used in the DFA.

Strategies & Implementation

The only strategy in place related to this indicator is to only use seedlings from seedlots duly registered for use in BC in reforestation programs. Alternatively, natural regeneration is also used to enhance restocking of cutblocks.

The seedlot number of all stock planted in the DFA is entered in silviculture records.

Forecasts

Currently, there is no expectation that genetically modified organisms would be allowed as restocking material.

Monitoring

The primary means to maintain the silviculture records is through the entry of activity information in Cengea by the Silviculture Forester. Planting specific data is also recorded within the Plant Wizard database and the provincial SPAR database for seeds and seedlings.

Indicator 1.4.1: Protection of Sites of Special Significance

Element: 1.4 Protected Areas & Sites of special biological, geological, heritage or cultural significance
Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special biological, geological, heritage or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.

Value	Objective	Indicator	Target	Variance
Identified sacred and culturally important sites on the DFA	Provide protection for identified sacred and culturally important sites on the DFA	Protection of sites of special significance	100% of identified sacred and culturally important sites (i.e., archaeological sites) are managed according to measures jointly developed by Tsawak-qin Forestry and First Nations	-10%

History

Core Indicator under CSA Z809-08 (previously Indicator 1.4.2). Indicator number and title updated for CSA Z809-16.

Basis for the Target

This indicator has historically focused on aboriginal archaeological sites because of their reoccurring presence on the DFA as discovered with the assistance of First Nation communities. A broader view of other significant sites continues to be captured in Indicator 1.4.2. There are legal requirements under Heritage Conservation Act, FRPA, and the results/strategies from the Forest Stewardship Plan for management of Cultural Heritage Resources.

The target and the variance reflect the requirement to mitigate or control potential effects on identified culturally important sites.

Current Status & Results

Year	# First Nations Special Sites Identified	Sites Managed (percent)	Target Met (Y/N)	Variance Met (Y/N)
2023	6	100%	Y	n/a
2022	7	100%	Y	n/a
2021	4	100%	Y	n/a
2020	3	100%	Y	n/a
2019	2	100%	Y	n/a
2018	3	100%	Y	n/a

Performance and Interpretation

2023: In 2023 there were 6 archaeological features identified during the course of cutblock development. All features were located outside of final harvest areas.

Strategies & Implementation

Based on Archaeological Overview Assessments (AOA), the DFA has been categorized into areas based upon archaeological site potential and the need for an archaeological impact assessment (AIA). Also, oral history, photographs and traditional use information may be available for identifying important sites. Important sacred and culturally important sites (i.e. archaeological sites) are usually identified by the First Nation through information sharing and cultural referral processes. It is recognized that First Nations may not be prepared to identify the nature of all sacred and culturally important sites and options for management strategies.

As required, AIAs are completed to identify and evaluate archaeological resources within the proposed development areas. AIAs identify and assess all impacts on archaeological resources that might result from the development and recommend alternatives for managing unavoidable adverse impacts.

One of the primary archaeological resources identified in the AIA process are Culturally Modified Trees (CMTs). A CMT is a tree that has been altered by indigenous people as part of their traditional use of the forest. Where archaeological resources may be affected by proposed timber harvesting activities, Tsawak-qin Forestry will apply to the Provincial Government for a Site Alteration Permit (SAP). Before issuing a SAP the government refers the application to First Nations.

In most cases, AIAs are conducted jointly with representatives from the applicable First Nation. In addition, copies of the AIA report are referred to the First Nation for review and comment. Tsawak-qin Forestry also maintains open communication with First Nations regarding harvesting and road construction activities (i.e. referral process, email communications etc.). Through this process, First Nations are provided with communication tools to respond/ approve the management options that are proposed within the AIA Report for management of identified features.

Forecasts

At this time, joint development of management options with First Nations is completed through participation in the AIA field work, referral of the AIA report, and the referral of the Site Alteration Permit application. Through these processes, it is anticipated that the target will be achieved.

In the event that a particular First Nation expresses any concerns with the existing process, alternatives may need to be developed.

Monitoring

The TFL Forester reports on the number of cultural/archaeological sites identified within cutblocks harvested during the year (Cengea, Forest Ops.). Effectiveness of management strategies (e.g. CMT buffering) is monitored during post harvest assessments.

Indicator 1.4.2: Identified Sites with Implemented Management Strategies

Element: 1.4 Protected areas & sites of special biological, geological, heritage or cultural significance *Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special biological, geological, heritage or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Sites of special geological, biological, or cultural significance in the DFA	Management of sites of special geological, biological, or cultural significance in the DFA	Proportion of identified sites with implemented management strategies	100% of identified sites have implemented management strategies	-1 site per year

History

Core Indicator under CSA Z809-08 (previously Indicator 1.4.1). Indicator number and title updated for CSA Z809-16.

Basis for the Target

Some sites (e.g. karst sites, eagle nests) are managed consistent with legal requirements. Sites without legal requirements will be managed where practical with input from willing interest groups. The variance addresses unanticipated categories of special sites without legal requirements and currently known management strategies.

Current Status & Results

Year	# of Sites Identified	# of Sites Implemented Management Strategies	% Managed	Target Met (Y/N)	Variance Met (Y/N)
2023	42	42	100	Y	n/a
2022	41	41	100	Y	n/a
2021	87	86	99	N	Y
2020	56	56	100	Y	n/a
2019	49	49	100	Y	n/a
2018	48	48	100	Y	n/a

Performance and Interpretation

2023: For this Indicator, 12 nest trees, 16 bear dens, 0 Karst, and 13 big trees were listed.

Strategies & Implementation

TPAG has identified a desire to ensure protection/conservation of special sites in the DFA such as historical/memorial sites (e.g., World War II plane crash sites, old railway grade, etc.), special habitat features (e.g. eagle nests, bear dens, big trees, tall trees), geological sites (e.g. karst), and other special sites of interest. Where applicable, sites will be added to the GIS layers for future tracking.

Where these sites are identified during planning activities, Tsawak-qin Forestry will develop management strategies, on a case-by-case basis. The EMS for Tsawak-qin Forestry ensures activities are carried out in accordance with protection measures (through Site Plans, Harvest and Road Instructions, EMS Pre-works and Inspections to assess implementation of plans and prescriptions. Identified sites are reported as they occur within or adjacent to harvest and road activities for the year of harvest completion.

Forecasts

Sites of specific significance typically involve bear dens, rare nests, karst, big trees, and historic sites. The presence of specific sites can be influenced by timber type (e.g. old growth and second growth). As harvest activities transition to second growth it is expected that the discovery of bear den sites and big trees will decrease, historic/memorial sites will increase, and that nest and karst sites will remain relatively constant if the total AAC is harvested annually. The Big Tree Policy for TFL 44 has recently been amended such that tall trees >70m are reserved from harvesting.

Monitoring

The GIS Analyst reviews the wildlife, nest, big tree, and karst data layers to identify special sites encountered in a given year. The TPAG Facilitator reports on any additional sites identified by TPAG to be added to this indicator for future tracking and reporting.

Indicator 1.4.2a: Sensitive Ecosystem Training

Element: 1.4 Protected areas & sites of special biological geological, heritage or cultural significance
Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special biological, geological, heritage or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.

Value	Objective	Indicator	Target	Variance
Sensitive ecosystems in the DFA	Sensitive ecosystems are identified, and their important qualities protected	% of Planners trained in the Sensitive Ecosystem Inventory in the previous 24 months	75%	-10%

History

This indicator is carried forward from the 2016 SFM Plan (Indicator 1.4.a). Title updated for CSA Z809-16.

Basis for the Target

To identify and protect sensitive ecosystems the training of field planners in recognition and management options is important. Multiple planners visit an area during road and cutblock development; therefore, if at least 75% of the planners receive training the area will be adequately assessed. Training on a 24-month cycle is reasonable given that the status of sensitive ecosystems is relatively static. The variance accounts for planners who are new to the DFA or who may work on a casual basis.

Current Status & Results

Year	# of Planners Trained	% Trained	Target Met (Y/N)	Variance Met (Y/N)
2023/2022	18/21	86	Y	Y
2022	18/21	86	Y	Y
2021	0	0	N	N
2020	40/40	100	Y	n/a
2019	27/33	82	Y	n/a

Performance and Interpretation

2023: 18 out of 21 planners were trained on March 23, 2022. The 3 who weren't trained ended up going to a crew outside of TFL 44 later in the year. There will be another session held in 2024 once the fielding crews are sorted.

Strategies & Implementation

Sensitive Ecosystems are defined as those Biogeoclimatic Ecosystem Classification variants and site associations that have been identified through government processes as "sensitive" and typically include rare and endangered plant communities.

Sensitive ecosystems are tracked in the GIS Layers and are reviewed during planning activities (the sites are identified based on high level overview ecosystem mapping). During planning activities, the areas are reviewed in the field to confirm presence and/or adjust mapping boundaries to match the actual field information. General management strategies include focusing stand level retention on areas identified as sensitive ecosystems.

Training in the identification of sensitive ecosystems (in addition to species at risk, invasive plants etc.) is required to ensure that field confirmation/identification of these sites is completed accurately. Staff planners and principles of planning contractors/consultants will be captured in this training.

Forecasts

Tsawak-qin Forestry has an internal program to ensure planners receive training in sensitive ecosystems on a 24-month cycle. This indicator may be adjusted in the future to capture the concept of "Quality Occurrences" as introduced by John Deal in the May 23, 2019, presentation ***Western Stewardship & Conservation Plan Update***.

Monitoring

TFL Forester, with assistance from administrative staff generates training reports to summarize the number of Planners requiring training, and the number completed within the previous 24 months.

Indicator 2.1.1: Reforestation Success

Element: 2. 1 Forest ecosystem condition and productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The timely establishment of regeneration on the DFA	Harvested areas on the DFA are regenerated promptly	Reforestation Success	Hectares of forest land missing its milestone obligation annually is zero	None

History

Core Indicator under CSA Z809-08 (2.1.1a). Element description updated for CSA Z809-16.

Basis for the Target

The target and variance are tied to future yield assumptions in the Timber Supply Review associated with the DFA. Prompt reforestation with ecologically suitable species is linked to the Long-Term Harvest Level (LTHL) of the DFA.

Current Status & Results

Year	Regen (RG) or Free Growing (FG)	Hectares with RG or Late FG Date	Hectares meeting late RG or FG Date	Hectares missing RG or Late FG Date	Target Met (Y/N)	Variance Met (Y/N)
2023	Regen	450.6	450.6	0	Y	n/a
	Free Growing	946.1	946.1	0	Y	n/a
2022	Regen	239.0	239.0	0	Y	n/a
	Free Growing	576.0	576.0	0	Y	n/a
2021	Regen	1164.3	1164.3	0	Y	n/a
	Free Growing	466.0	466.0	0	Y	n/a
2020	Regen	828.0	828.0	0	Y	n/a
	Free Growing	551.1	551.1	0	Y	n/a
2019	Regen	881.8	881.8	0	Y	n/a
	Free Growing	812.6	800.0	12.6	N	N
2018	Regen	3453.2	3453.2	0	Y	n/a
	Free Growing	2036.3	2036.3	0	Y	n/a

Performance and Interpretation

2023: Out of 1,396.7 hectares included in the scope of the target, all achieved their regeneration delay or free growing milestones.

Strategies & Implementation

Milestone obligations are regeneration delay and free growing dates that are established within the Forest Stewardship Plan (approved stocking standards) based on ecosystem types. Timelines are set in motion upon harvest start dates.

Timely planting with appropriate species and brush control are the primary management tools that ensure reforestation and free growing commitments are met. Government and TFL 44 Limited Partnership databases are compared to ensure that SUs approaching their time limit for regeneration are given planting priority. The Forestry department conducts surveys to ensure the success of reforestation.

Forecasts

It is anticipated that the target will be met, as it is a legal requirement.

Monitoring

Plantations are regularly assessed in the field to ensure milestone obligations are met and reported to government. The Operations Forester generates reports from Cengea and the government's *RESULTS* database to summarize compliance with milestone obligations.

Indicator 2.1.2 and 1.2.3: Regeneration Comprised of Native Species

See Indicator 1.2.3 for indicator & data

Indicator 2.1.3: Additions and Deletions to the Forest Area

Element 2.1 Forest ecosystem condition and productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Retention of forest land for growing trees	Avoid excessive conversion of forest lands into other uses	Additions and deletions to the forest area	The net percent of the DFA forest land that is annually converted to other uses by the licensee (Special Use Permits [SUP] etc.) is less than 0.001%	+0.0005%

History

Core Indicator under CSA Z809-08 (Indicator 2.2.1b). Indicator number, title and element description updated for CSA Z809-16.

Basis for the Target

Given the long history of timber harvesting in the DFA and the existing infrastructure, only very small amounts of forest land are likely to be converted to other uses. Some losses are required for capacity expansion such as Dryland Sorts, landfills etc. Similarly, the reclaiming of previously converted lands is very site specific and usually associated with small areas in the DFA. Areas most commonly reclaimed are decommissioned roads.

Current Status & Results

Year	Forest Area Including Road Area (ha)	Net Conversion (%)	Target Met (Y/N)	Variance Met (Y/N)
2023	122,115	0.0	Y	n/a
2022	122,115	0.0	Y	n/a
2021	122,115	Very slight increase	Y	n/a
2020	122,115	Very slight decrease	Y	n/a
2019	122,115	0.0	Y	n/a

Performance and Interpretation

2023: In 2023 there was no known forest area converted to other permanent uses (other than roads) that would prohibit the growing of trees.

Strategies & Implementation

All Crown land in a tree farm license is designated as “Provincial Forest” land. This designation limits the ability of the company to convert the land to other uses. The *Land Act* establishes that land can be converted for easements or rights-of-way, or for other purposes, if the Chief Forester deems those uses to be compatible with uses described in the *Forest and Range Practices Act (Provincial Forest Use Regulation).* There are also circumstances where areas (e.g. roads having surfacing removed) are reclaimed through rehabilitation and reforestation.

Forecasts

It is anticipated that the net area converted to other uses will be very low given the existing infrastructure that is in place. There is the potential to reforest some reclaimed road in 2022.

Monitoring

The TFL Forester coordinates the receipt of information from corporate staff in the Properties and Permits Department for losses of forest land and compares it to areas that are reclaimed.

Indicator 2.1.4: Sustainable Harvest Level

Element: 2. 1 Forest ecosystem condition and productivity *Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The production of timber on the DFA	To maintain the production of timber at the level defined by the Long-Term Harvest Level (LTHL)	Proportion of the calculated long-term sustainable harvest level that is actually harvested	The harvest level is 98 to 103% of the Long-Term Harvest Level (LTHL) by cut control period.	+7% -3%

History

Core Indicator under CSA Z809-08 (Indicator 2.2.2). Indicator number, title and element description updated for CSA Z809-16. On May 5th, 2011 the Chief Forester of B.C. approved Management Plan (MP) #5 and determined the Allowable Annual Cut (AAC) for TFL 44 to be 800,000 m^3/year. The Base Case harvest schedule submitted as part of MP #5 indicated an initial harvest level of approximately 837,000 m^3/year and a LTHL of 806,600 m^3/year. Since the AAC was set below the LTHL of the Base Case, the current AAC of 782,482m^3 is the most suitable estimate of the LTHL.

Basis for the Target

Customer demand and government legislation are the basis for pursuing 100% of the Long Term Harvest Level (LTHL) or Allowable Annual Cut in a given cut control period. Legislation is written to encourage harvesting the LTHL in a cut control period to maintain economic stability. Cut control periods are typically five years but can be re-set to a lesser period by a licensee upon notification to government.

The variance is for fluctuations in customer demand. The upper variance is guided by government legislation which levies financial penalties when the harvest level is greater than 110%.

Current Status & Results

Year	Annual Harvest Level (m^3)	LTHL (m^3)	Annual Harvest as % of LTHL	Target Met (Y/N)	Variance Met (Y/N)
5 Year Period 2021-2025					
2023	353,457	704,397	50%		
2022	322,269	782,482	41%		
2021	365,611	782,482	52%		
5 Year Period 2016-2020	2,448,173	782,482	63%	N	N
2020	617,893	782,482	79%		
2019	462,820	782,482	60%		
2018	650,241	782,482	83%		
2017	331,065	782,482	42%		
2016	386,152	782,482	49%		

Performance and Interpretation

2023: The next reporting period ends in 2025.

Strategies & Implementation

Tsawak-qin Forestry's broad strategy is to meet customer demands by supplying and developing good quality products that will allow the annual harvest to be 100% of the LTHL. The cut control period may be re-set periodically from its five-year term to account for market fluctuations. There is potential for government to award unharvested volumes of the AAC to third parties.

The LTHL is calculated by Corporate Forestry by evaluating the rate of growth. The Province's Chief Forester takes this number into consideration when the AAC for the Licence is determined. LTHL is dependent on area, the productivity of the forestland, level of silviculture (e.g. numbers of trees established per ha, control of competing vegetation, fertilization etc.) and harvest constraints (e.g. restrictions on the rate of harvest). These factors are defined in the strategic analysis.

Forecasts

This indicator was considered for a re-write in 2023 to account for an Allowable Annual Cut (AAC) Partition effective December 8, 2020. In short, two AAC partitions have been established to better ensure that harvesting is aligned with the timber profile of the economically operable land base and that the harvest of second-growth stands is at a sustainable level. Work on the partition is still on-going. Also, given the current IRMP work, AAC levels may be affected going forward.

Monitoring

The TFL Forester is responsible for coordinating harvest volume data using the Cut Control Statements provided by the Ministry of Forests. These official statements are received in the second quarter of the year following the reporting year. The Harvest Billing System scale reports and billed/unbilled waste volumes are used to estimate the harvested volume in the reporting year.

Indicator 3.1.1: Level of Soil Disturbance

Element: 3.1 Soil Quality and Quantity *Conserve soil resources by maintaining soil quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The quality of forest soils in the DFA	Harvesting operations do not excessively disturb forest soils	Level of soil disturbance	The number of cutblocks harvested annually in which soil disturbance exceeds 5% of the net area to reforest is zero	None

History

Core Indicator under CSA Z809-08 Title updated for CSA Z809-16.

Basis for the Target

The target and variance are based on the desire to maintain soil productivity to grow successive timber crops that align with timber supply assumptions. Specific numbers are tied to legal requirements established in FRPA for sensitive soils. Non-sensitive soils have a limit of 10% soil disturbance and roadside areas have a limit of 25%.

Current Status & Results

Year	# Cutblocks Exceeding 5% Soil Disturbance	Target Met (Y/N)	Variance Met (Y/N)
2023	0	Y	n/a
2022	0	Y	n/a
2021	0	Y	n/a
2020	0	Y	n/a
2019	0	Y	n/a

Performance and Interpretation

2023: Of the 22 cutblocks that were assessed in 2023, 0 were determined to have soil disturbance exceeding 5%. With tether harvesting opportunities now presenting themselves on TFL 44, Tsawak-qin will be monitoring these non-traditional activities to ensure they meet or exceed soil disturbance targets.

Strategies & Implementation

The strategy to not exceed 5% of the Net Area to be Reforested is identified in Standard Operating Procedures (SOPs) as to:

- identify sensitive soils in the planning stages through field work (limits are recorded in Site Plans),
- assign the appropriate harvest method (ground based, cable, aerial) for the soil conditions,
- assign the appropriate equipment to the soil conditions (hoe-chuck vs. skidder),
- use woody debris to insulate soil disturbance,
- curtail operations during wet weather.

Soil disturbance is assessed during cutblock inspections and post harvest inspections. SOPs are updated with new information for minimizing soil disturbance as required. Cutblocks may exceed 5% for non-sensitive soils and roadside work areas as permitted under FRPA.

Forecasts

The historical performance indicates that the current Standard Operating Procedures and feedback strategies will ensure that cutblock soil disturbance is maintained at or below 5%.

Monitoring

The Silviculture Forester reviews the postharvest assessment reports for cutblocks harvested within the year and reports the number of cutblocks that are recorded as exceeding the 5% soil disturbance limit.

Indicator 3.1.2: Level of Downed Woody Debris

Element: 3.1 Soil Quality and Quantity *Conserve soil resources by maintaining soil quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Wood debris available for soil processes on the DFA	Maintain sufficient amounts of wood debris for soil processes	Level of downed woody material	> 40 m^3 per hectare (annually)	-5.0 m^3 per hectare

History

Core Indicator under CSA Z809-08. Title and indicator description updated for CSA Z809-16.

Basis for the Target

The target and variance are guided by company and government research that shows levels of woody debris by biogeoclimatic subzone. Generally, high levels of downed wood debris are preferred. Moreover, there is a FRPA requirement to retain about 10 m^3 per hectare.

Current Status & Results

Year	Downed Woody Debris (m^3) per hectare	Target Met (Y/N)	Variance Met (Y/N)
2023	127	Y	n/a
2022	97	Y	n/a
2021	136	Y	n/a
2020	123	Y	n/a
2019	125	Y	n/a

Performance and Interpretation

2023: Downed woody debris levels increased for 2023 and met the target. While the 2023 result increased from 2022, the result is more in line with historic results. As TFL 44 begins the transition to a greater proportion of second growth harvesting, the levels can be expected to decreases.

Strategies & Implementation

Coastal stands often have significant levels of downed and dead standing woody debris at various levels of decomposition. Harvesting operations may remove some dead woody debris but more often add to these levels by leaving non-merchantable and decaying wood on site. Yarding activities attempt to leave non-merchantable wood dispersed on site rather than create unnecessary road-side accumulations. Broadcast burning of woody debris has been virtually eliminated as a site preparation tool. Finally, the corporate retention strategy leaves standing timber that will serve as sources for downed woody debris in the future.

Forecasts

The level of downed woody debris is affected by the degree of old growth vs. second growth harvesting, the amount of conventional vs. helicopter yarding and the timber values. Old growth harvesting particularly helicopter logging has the highest levels of residue downed woody debris. Old growth waste levels are about double the levels in second growth because of more decay and breakage.

Monitoring

The level of downed woody debris will be measured through information uploaded to the government Waste system. The Operations Forester reviews the results of waste data submitted to government in a calendar year and divides the total submitted waste volume by the harvested area of the associated cutblocks.

Indicator 3.1.2a: Limit Herbicides

Element: 3.1 Soil Quality and Quantity *Conserve soil resources by maintaining soil quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The natural chemistry of forest soils in the DFA	The natural chemistry of forest soils is maintained	The percent of the DFA area where herbicides are applied	< 0.1% (annually)	+0.05%

History

This indicator is carried forward from the 2016 SFMP (Indicator 3.1.a). Indicator number updated for CSA Z809-16.

Basis for the Target

The DFA has remote locations of competing vegetation most responsive to herbicide treatments. These remote locations are the most cost effective for treatment in areas of greater than 80 hectares. The variance is based on seasonal (weather) and public consultation constraints that may delay treatments in a given year.

Current Status & Results

Year	Total DFA (ha)	Area Treated (ha)	Percent Treated (%)	Target Met (Y/N)	Variance Met (Y/N)
2023	137,618	23.4	0.02	Y	n/a
2022	137,618	25.6	0.02	Y	n/a
2021	136,960	74.3	0.05	Y	n/a
2020	136,960	0.0	0.0	Y	n/a
2019	136,960	15.5	0.01	Y	n/a

Performance and Interpretation

2023: Five blocks had herbicide applied using the basal spray technique in the Great Central Lake and Coleman region of the DFA in 2023. Target species were Big Leaf Maple and Red Alder. Herbicides may only be applied after the approval of a Pest Management Plan (PMP). The renewed PMP for the DFA was approved in 2021 for a five-year period.

Strategies & Implementation

The primary strategy is to minimize the use of herbicides to treat competitive vegetation species. This is done by ensuring harvested areas are reforested promptly so that planted seedlings may thrive amidst competing vegetation. Where effective, manual treatments are available for competing vegetation (e.g. red alder), herbicides are avoided. Only herbicides deemed slightly toxic (e.g. glyphosate and Triclopyr) are used.

Pre-harvest planning, during Site Plan field work, includes a review of vegetation levels and potential challenges that could occur during reforestation. Post-Harvest silviculture surveys also review vegetation levels. Treatments are prescribed within the Cengea database as forward planning activities, where required to meet regeneration milestones (regeneration and free growing). Pesticide Free Zones associated with streams are established according to the specifications of the Pest Management Plan for the DFA. These Zones assist to ensure water quality is maintained for treatments areas.

Forecasts

It is anticipated that the percent treated will typically be less than 0.1%, based on the historical average.

Monitoring

The Silviculture Forester generates reports of areas treated from the Cengea database.

Indicator 3.2.1: Proportion of Watershed with Stand-Replacing Disturbance

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality and quantity	Management operations do not endanger water quality and quantity	Proportion of watershed or water management areas with recent stand-replacing disturbance	The annual number of watersheds greater than 3000 hectares in size that have more than 30% of their area in the 0-20 years age class is 2 or less	+1 Watershed

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

In general terms, watershed health is related to the amount of forest area that exists in a non-hydrological recovered state (younger stands). The value of 30% by area and age class reflects a science-based approach to hydrological recovery. The variance reflects the potential for increased harvest in watersheds for product demands or damaged timber salvage and adjustments for recent changes in the DFA.

Current Status & Results

Year	Watersheds with area > 3,000 hectares	Total Productive Area (ha)	Total area harvested in last 20 years (ha)	Percent of Total Productive Forest in Watershed	Target Met (Y/N)	Variance Met (Y/N)
2023	Caycuse River	5,300.4	742.9	14.0%	Y	n/a
	Coleman Creek	8,086.9	1,413.3	17.5%		
	Franklin River	5,364.6	1,304.7	24.3%		
	Great Central Lake	17,518.0	1,824.5	10.4%		
	Henderson Lake	7,744.4	897.3	11.6%		
	Klanawa River	22,536.7	5,871.0	26.1%		
	Nitinat River	18,134.7	2,272.0	12.5%		
	Sarita River	5,111.1	691.5	13.5%		
	Walbran Creek	4,713.0	1,088.8	23.1%		
2022	Caycuse River	5,300.4	750.1	14.2%	Y	n/a
	Coleman Creek	8,088.3	1,510.2	18.7%		
	Franklin River	5,366.2	1,550.4	28.9%		
	Great Central Lake	17,520.5	1,901.5	10.9%		
	Henderson Lake	7,746.3	1,008.6	13.0%		
	Klanawa River	22,538.1	5,933.1	26.3%		
	Nitinat River	18,136.3	2,233.5	12.3%		
	Sarita River	5,109.4	684.8	13.4%		
	Walbran Creek	4,713.5	1,115.8	23.7%		
2021	Caycuse River	5,300.4	810.5	15.3%	Y	n/a

	Coleman Creek	8,088.7	1,510.6	18.7%		
	Franklin River	5,366.4	1,621.9	30.2%		
	Great Central Lake	17,525.9	1,940.3	11.1%		
	Henderson Lake	7,746.8	984.0	12.7%		
	Klanawa River	22,531.0	6,042.7	26.8%		
	Nitinat River	18,136.5	2,337.1	12.9%		
	Sarita River	5,109.4	690.6	13.5%		
	Walbran Creek	4,713.5	1,166.9	24.8%		
2020	Caycuse River	5,302	827	15.6%	Y	n/a
	Coleman Creek	8,095	1,520	18.8%		
	Franklin River	5,375	1,598	29.7%		
	Great Central Lake	17,526	1,964	11.2%		
	Henderson Lake	7,748	1,035	13.4%		
	Klanawa River	22,553	6,234	27.6%		
	Nitinat River	18,145	2,226	12.3%		
	Sarita River	5,110	646	12.6%		
	Walbran Creek	4714	1167	24.8%		
2019	Caycuse River	5300.1	876.0	16.5%	Y	n/a
	Coleman Creek	8090.4	1422.0	17.6%		
	Franklin River	5385.6	1584.3	29.4%		
	Great Central Lake	17369.0	2008.0	11.6%		
	Henderson Lake	7662.4	1011.5	13.2%		
	Klanawa River	22541.6	6262.7	27.8%		
	Nitinat River	18148.2	2287.2	12.6%		
	Sarita River	5106.2	651.1	12.8%		
	Walbran Creek	4714.3	1151.3	24.4%		
2018	Caycuse River	5308.5	904.7	17.0%	Y	n/a
	Coleman Creek	8105.9	1403.2	17.3%		
	Franklin River	5369.2	1612.8	30.0%		
	Great Central Lake	18116.7	1995.9	11.0%		
	Henderson Lake	7641.7	1027.0	13.4%		
	Klanawa River	22607.5	6365.0	28.2%		
	Nitinat River	18166.4	2204.2	12.1%		
	Sarita River	5124.6	688.4	13.4%		
	Walbran Creek	4723.9	1132.3	24.0%		

Performance and Interpretation

2023: Regenerating forests are now becoming over 20 years old and are starting to reduce the percentage in each watershed. The Franklin watershed dropped below the 30% threshold in 2022 and reduced further in 2023.

Strategies & Implementation

The harvest level strategies are documented within the Timber Supply Analysis and the TFL 44 Management Plan (#5). The broad strategy is to distribute the harvest across the DFA considering the objectives of landscape level zonation (Special, General, and Enhanced), and the rates of cut associated with Fisheries Sensitive Watersheds and steep terrain.

Forecasts

It is anticipated that while there may be some fluctuations, there should be no significant changes or trends across the watersheds if harvesting is not concentrated within specific watersheds over an extended period of time.

Monitoring

The TFL Forester coordinates a corporate GIS Analysis that updates the inventory age and the harvested areas for the previous year.

Indicator 3.2.2: Forest Management Activities Consistent with Prescriptions to Protect Identified Water Features

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality and quantity	Timber harvesting activities do not endanger water quality and quantity	Proportion of forest management activities, consistent with prescriptions to protect identified water features	100% of cutblocks harvested annually will have stand level retention associated with a riparian area of an identified water feature within the Total Area Under Prescription (TAUP)	No Variance

History

New Core Indicator under CSA Z809-16

Basis for the Target

This target aligns with Section 4.3 of the Forest Stewardship Plan (FSP) for the Defined Forest Area. Specifically, the government objective in the Forest Planning and Practices Regulation (FPPR) is to conserve at the landscape level values within riparian areas. The FSP commits that at the conclusion of harvesting a portion of the stand level retention requirement will be located in a riparian management zone of a stream associated with the cutblock.

Current Status & Results

Year	Total # Cutblocks Harvested	# Cutblocks with Riparian Retention	Percent of Cutblocks with Riparian Retention	Target Met (Y/N)	Variance Met (Y/N)
2023	37	37	100%	Y	n/a
2022	38	38	100%	Y	n/a
2021	63	63	100%	Y	n/a
2020	83	83	100 %	Y	n/a
2019	58	58	100 %	Y	n/a

Performance and Interpretation

2023: For 2023 all cutblocks with an identified water feature within the Total Area Under Prescription (TAUP) had stand level retention associated with the feature.

Strategies & Implementation

Strategies to conserve water quality are also planned and implemented at the cutblock level. Strategies include falling and yarding timber away from streams, stream cleaning, and retaining vegetation (understory and overstory). Retaining overstory vegetation in riparian areas ensures that timber harvesting activities are directed away from streams.

Forecasts

It is expected that the target will be met because of the commitment in the Forest Stewardship Plan.

Monitoring

Stand level retention is prescribed and located in the planning phase of proposed cutblocks. Inspections and post harvest assessments ensure that retention levels and locations are met and not damaged. The Operations Forester will query post harvest assessments the SNAP database to ensure that riparian retention was respected and achieved.

Indicator 3.2.2a:Watershed Condition

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The hydrological condition of sensitive forested watersheds in the DFA	The hydrological condition of sensitive watersheds is improved	The average number of landslides originating from harvested areas in the high landslide frequency zone of Alberni Inlet East	The average number of landslides per year is 5.6 or less per 100 net hectares harvested from areas in the high landslide frequency zone (based on a ten-year rolling average measured every 3 years)	+1.0 Landslide

History

This indicator is carried forward from the 2016 SFMP (Indicator 3.2.A). Indicator number updated for CSA Z809-16.

Basis for the Target

Landslides have the potential to accelerate the delivery of sediments and bedload material to sensitive streams in the DFA, possibly affecting the hydrologic condition of forested watersheds. The DFA has two Fisheries Sensitive Watersheds in the high landslide frequency zone. The target is based on historic landslide data dating back to 1995 and a reduction in landslide frequency since 2007. The reduction in landslide frequency is expected to improve the long-term hydrologic condition of the sensitive watersheds. The landslide inventory of the DFA is updated every three to five years by a qualified professional specializing in terrain evaluation, slope stability assessments, watershed assessments, road deactivation, railway grade and road construction, and road maintenance and reconstruction. The variance accounts for the potential for catastrophic events or the uncertain impacts of climate change.

Current Status & Results

Year Harvested	10 Year Landslide Frequency	Target Met (Y/N)	Variance Met (Y/N)
2023	Next scheduled update 2024	n/a	n/a
2022	Next scheduled update 2024	n/a	n/a
2022	2.52	Y	n/a
2021	Next scheduled update 2022	n/a	n/a
2020	Next scheduled update 2022	n/a	n/a
2019	1.3	Y	n/a
2018	Next scheduled update 2019	n/a	n/a
2017	Next scheduled update 2019	n/a	n/a
2016	2.0 (1.1 pre-Lidar)	Y	n/a
2015	Next scheduled update 2016	n/a	n/a
2014	Next scheduled update 2016	n/a	n/a

Performance and Interpretation

2023: Next update is in 2024

Strategies & Implementation

Western Forest Products maintains a *Terrain Risk Management Strategy (TRMS)* to guide its forest professionals in choosing appropriate risk management strategies when planning forest roads and cutblocks. The *TRMS* was developed and is supported with research findings and input from respected terrain and forest professionals. When planning forest roads and cutblocks, forest professionals use the *TRMS* to consider the potential for landslide occurrence, sediment delivery to streams, and values at risk. They will also consult terrain specialists to guide their management decisions. To assist with the reduction in landslide frequency Tsawak-qin Forestry ensures that roads are properly inspected, maintained or deactivated. Additional strategies related to this indicator can be found in the SFM Plan *Management Strategies*.

Forecasts

The landslide frequency remained below the target for several consecutive periods. The watershed management strategies completed in 2021 included risk control measures that limit harvest within the defined high sensitivity zones of the two Fisheries Sensitive Watersheds. Harvesting within these zones is now limited to areas that will not contribute coarse sediment to any fish streams regardless of the risk of a landslide. When considering the connectivity to fish streams within these watersheds, it is predicted that there will be a significant reduction of harvest within the high sensitivity zones, and therefore a reduction in the number of landslides within this zone.

Monitoring

The TFL Forester ensures the landslide inventory is updated every three years. The TFL Forester consults the most current version of the landslide inventory and determines the number of landslides by harvest year and relates the information to the total harvest by year in the high landslide frequency zone.

Indicator 3.2.2b: Community Watersheds

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Water quality in community watersheds in the DFA	Water quality in community watersheds is maintained	The number of water-related non-compliances or non-conformances in community watersheds	Zero	None

History

This indicator is carried forward from the 2016 SFMP (Indicator 3.2.B). Indicator number updated for CSA Z809-16.

Basis for the Target

The target and variance are based on legal requirements under FRPA and the TFL 44 Limited Partnership's EMS.

Current Status & Results

Year	# of non-Conformance	# of non-Compliance	Target Met (Y/N)	Variance Met (Y/N)
2023	1	0	N	n/a
2022	1	0	N	N
2021	0	0	Y	n/a
2020	0	0	Y	n/a
2019	0	0	Y	n/a
2018	0	0	Y	n/a

Performance and Interpretation

2023: 1 block harvested within community watersheds in 2023 (China Creek, Cutblock 181304). A post harvest inspection determined that road culvert crossings were not adequately capped with clean shot rock to reduce sedimentation as per Tsawak-qin's Community Watershed SOP.

Strategies & Implementation

Standard Operating procedures (SOPs) govern and limit any negative impacts to water quality. Moreover, the current FSP has strategies for sediment control in community watersheds specific to ditch cleaning, culvert replacement, road surfacing and road maintenance.

Forecasts

It is anticipated that the target and variance will be met, as the target is related to a legal requirement. No harvesting is planned within Community Watersheds in 2024.

Monitoring

The TFL Forester reviews the central file for external and internal audits, inspections and/or investigations and the Cengea database Incident Tracking System for reports of non-conformance or non-compliance. Compliance and conformance to the SOP's is monitored through cutblock, road and post-harvest inspections.

Indicator 3.2.2c:S4 Streams

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
S4 fish streams in the DFA	Maintain or increase the level of protection for S4 fish streams	The percent of stream area of S4 fish streams that are buffered with stand level retention	Measured annually, the percent area that is buffered within a 15-meter corridor associated with S4 fish streams is 80% or greater	-5%

History

This indicator is carried forward from the 2016 SFMP (Indicator 3.2.C). Indicator number updated for CSA Z809-16.

Basis for the Target

The target is based on maintaining habitat to support TPAG input on riparian habitat and fish and an objective under FRPA. Historically, a TPAG subcommittee established the targets after discussion and field measurements of actual achievements. S4 streams are fish bearing and less than 1.5 meters in width.

Current Status & Results

Year	# Cutblocks	Total Area 15m Stream Buffer (ha)	Logged Area of 15m Stream Buffer (ha)	Amount of 15m Stream Buffer Intact (%)	Target Met (Y/N)	Variance Met (Y/N)
2023	7	6.8	2.2	68%	N	N
2022	6	7.0	1.0	86%	Y	n/a
2021	7	11.9	3.6	70%	N	N
2020	14	11.5	1.75	85	Y	n/a
2019	11	8.0	2.8	65	N	N
2018	12	7.1	1.6	77	N	Y

Performance and Interpretation

2023: Incorrect model output. Non-fish streams in a Community watershed were classified as fish due to S6 streams being considered as S4 within Community watersheds.

Strategies & Implementation

Planners utilize riparian areas when considering the best location for the placement of retention. Retention along streams is determined at cutblock design. Riparian values are often used to determine the location of VR patches. Yarding systems and windthrow hazard are other factors that require consideration. Strategies related to this indicator can also be found in the SFM Plan Management Strategies (Riparian Management).

Forecasts

There is a new riparian standard which prescribes buffers. This should greatly assist the indicator being met from now on.

Monitoring

The TFL Forester coordinates review of the cutblocks deemed harvest complete and reports the required data/results. Streams are measured by GIS methodologies. The post harvest assessment process monitors the effectiveness of the stream buffers.

Indicator 3.2.2d:S5 Streams

Element: 3.2 Water Quality and Quantity *Conserve water resources by maintaining water quality and quantity.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
S5 streams in the DFA	Maintain or increase the level of protection for S5 streams	The percent of stream length of S5 streams that are buffered with stand level retention	Measured annually, the percent area that is buffered within a 15-meter corridor associated with S5 streams is 60% or greater	-5%

History

This indicator is carried forward from the 2016 SFMP (Indicator 3.2.D). Indicator number updated for CSA Z809-16.

Basis for the Target

The target is based on maintaining habitat to support WIWAG input on riparian habitat and down-stream fish values and an objective under FRPA. S5 streams are non-fish bearing and greater than 3 meters in width.

Current Status & Results

Year	# Cutblocks	Total Area of 15m Stream Buffer (ha)	Logged Area of 15m Stream Buffer (ha)	Amount of 15m Stream Buffer Intact (%)	Target Met (Y/N)	Variance Met (Y/N)
2023	25	41.8	7.7	82	Y	n/a
2022	13	19.9	3	85	Y	n/a
2021	20	23.1	5.4	77	Y	n/a
2020	46	50.7	8.9	82	Y	n/a
2019	29	32.8	4.2	87	Y	n/a
2018	33	36.6	7.0	81	Y	n/a

Performance and Interpretation

2023: The target for this indicator was achieved. S5 streams remain a primary target for retention as they are often subject to gullied terrain which is less accessible to timber harvesting activities.

Strategies & Implementation

Planners utilize riparian areas when considering the best location for the placement of retention. Retention along streams is determined at cutblock design. Riparian values are often used to determine the location of VR patches. Yarding systems and windthrow hazard are other factors that require consideration. Strategies related to this indicator can also be found in the SFM Plan Management Strategies (Riparian Management).

Forecasts

The target is expected to be achieved for 2024 but should remain in the 80 percent range.

Monitoring

The TFL Forester coordinates review of the cutblocks deemed harvest complete and reports the required data/results. Streams are measured by GIS methodologies. The post harvest assessment process monitors the effectiveness of the stream buffers.

Indicator 4.1.1: Net Carbon Uptake

Element: 4.1 Carbon Uptake and Storage *Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The uptake of carbon	The net rate of carbon uptake by the forest is positive over time	Net carbon uptake	The net annual carbon uptake on the DFA is positive	1 year negative

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16.

Basis for the Target

The basic premise of a sustainable forest management organization is that it should be at least carbon neutral from the onset. In this context, carbon neutrality is a demonstration that harvest levels are sustainable. Forest management should be shown to be a positive contributing activity for global ecological cycles over time.

The variance is meant to help account for fluctuation in yearly cut levels due to market conditions and license obligations under provincial legislation.

Current Status & Results

The net carbon uptake on the DFA is simply defined as the difference between the total carbon uptake on the DFA by its growing stock, minus the net carbon removed from the DFA through harvest operations and the total carbon emitted through fuel consumption during forest management operations.

Year	Description	CO2e (tonnes)	Target Met (Y/N)	Variance Met (Y/N)
2023	Carbon uptake (from growing stock TFL 44)	599,580	Y	n/a
	Carbon removed (to short-lived products1)	-136,775		
	Fuel Consumed (harvest & transport)	-3,608		
	Debris burned (debris disposal/operational fires)	-68,748		
	NET Carbon Uptake	**390,468**		
2022	Carbon uptake (from growing stock TFL 44)	626,151	Y	n/a
	Carbon removed (to short-lived products1)	-146,435		
	Fuel Consumed (harvest & transport)	-3,902		
	Debris burned (debris disposal/operational fires)	-90,743		
	NET Carbon Uptake	**385,071**		
2021	Carbon uptake (from growing stock TFL 44)	628,378	Y	n/a
	Carbon removed (to short-lived products1)	-165,125		
	Fuel Consumed (harvest & transport)	-5,886		
	Debris burned (debris disposal/operational fires)	-95,463		
	NET Carbon Uptake	**361,904**		
2020	Carbon uptake (from growing stock TFL 44)	613,020	Y	n/a
	Carbon removed (to short-lived products1)	-215,364		
	Fuel Consumed (harvest & transport)	-7,794		
	Debris burned (debris disposal/operational fires)	-84,866		
	NET Carbon Uptake	**304,997**		
2019	Carbon uptake (from growing stock TFL 44)	608,773	Y	n/a
	Carbon removed (to short-lived products1)	-188,917		

	Fuel Consumed (harvest & transport)	-6,796		
	Debris burned (debris disposal/operational fires)	-70,283		
	NET Carbon Uptake	**342,777**		
2018	Carbon uptake (from growing stock TFL 44)	611,768	Y	n/a
	Carbon removed (to short-lived products1)	-248,791		
	Fuel Consumed (harvest & transport)	-8,928		
	Debris burned (debris disposal/operational fires)	-54,634		
	NET Carbon Uptake	**299,415**		

[1] Short lived products refers to paper, cardboard, and firewood.

Performance and Interpretation

2023: The Net Carbon Uptake remained positive. All variables are within established ranges experienced in the last five years.

Strategies & Implementation

The primary strategy for ensuring a consistent net rate of carbon uptake on the DFA overtime is prompt and effective reforestation or regeneration of harvested areas that aims to establish free growing stands of healthy trees of mixed species in sufficient numbers and within set time frames. This is primarily achieved through a combination of natural regeneration and the planting of seedlings shortly after harvest is completed.

In certain circumstances, additional treatments/strategies may be required in support of this core strategy to achieve its goal including:

- site preparation such as spot or broadcast burns or mechanical debris scattering or removal to ensure a good distribution of the regeneration throughout the harvested area.
- fertilization at the time of planting to help initial seedling growth and establishment ahead of competing brush.
- the use of improved seed for planted seedlings that have improved growth performance and/or insect or disease resistance.
- brushing treatments to relieve young trees from competing vegetation.
- broadcast fertilization of stands to stimulate growth when funding is available.
- forest fire preparedness & response that aim at the prevention of fires and the prompt control and extinguishment of those that occur.
- modernizing or upgrading of equipment that result in improved fuel efficiencies.

Forecasts

Modelling different harvest levels indicates that the annual net carbon uptake should remain positive for the DFA at the AAC level of harvest but could turn negative in a year where substantially more than the AAC is harvested. For 2021, results are expected to be lower than 2020 because of an anticipated increase in harvest levels over 2020. The calculations for determining net carbon uptake may be subject to a review in 2021-2022. This indicator is proposed for an update effective the 2021 reporting year. Advice from WIWAG will be requested in 2020.

Monitoring

The TFL Forester coordinates calculation of the Net Carbon Uptake using Cengea and the GIS database (assistance may be provided by corporate personnel).

To monitor and calculate performance on this indicator, a number of parameters must be monitored or maintained for the DFA;

- growing stock inventory over time (adjusted for age and for annual harvested area),
- volume harvested annually,

- species profile of the harvested volume,
- age (i.e. old growth vs. 2nd growth) profile of the harvested volume,
- total annual fuel consumption (gasoline, diesel fuel, aircraft fuel), based on a factor applied to the annual harvest in cubic meters (M^3). See description of process below.
- annual area burnt in operationally caused forest fires,
- annual area burnt in broadcast silviculture fires,
- total number of debris piles burned annually for silviculture or fire abatement reasons and their average size.

The parameters listed above are entered in a spreadsheet built to calculate the carbon values emitted. It includes conversion factors extracted from recognized and credible international research literature. These factors include carbon density (CO_2e) of wood by species in tonnes/m^3, carbon density of various fuel types in tonnes/L and proportion (%) of wood harvested that is stored in short-lived products.

Fuel consumption is calculated based on a factor derived from an average of all WFP's CSA DFA's from data gathered for the 2012 – 2016 reporting periods. The factor is applied to the annual M^3 of harvest as reported for the CSA reporting period. This includes diesel, gasoline and avgas consumption. This factor will be reviewed and revised every 5 years to account for changes in harvest types, technology and equipment. The current factor is 16.67 kg of carbon per M^3 of harvest. The rationale for using a factor is that fuel accounts for a relatively low portion of the carbon produced; already uses factors for contractors as they do not report fuel consumption; and has not seen significant fluctuations over the time it has been calculated (2009 – 2016).

Indicator 4.1.2: Reforestation Success

Element 4.1 Carbon Uptake and Storage *Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The uptake and storage of carbon on the DFA	The uptake and storage of carbon is enhanced	Reforestation success	Equivalent years of Not Sufficiently Reforested (NSR) expressed against the five-year rolling average of annual area harvested is less than two years	+0.75 years

History

Core Indicator under CSA Z809-08 (Indicator 2.1.1b). Indicator number updated for CSA Z809-16.

Basis for the Target

The target is based on legal requirements under FRPA for regeneration delay. The variance allows for minor discrepancies related to the challenges surrounding forecasting seed and seedling requirements one to two years ahead based on estimated harvest levels/ plans.

Current Status & Results

Year	NSR Area (Productive ha)	Area Harvested (ha)	Area Harvested, 5 Year Average (ha)	NSR Equivalency (years)	Target Met (Y/N)	Variance Met (Y/N)
2023	387.9	445.7	515.6	0.75	Y	n/a
2022	368.6	387.2	535.6	0.69	Y	n/a
2021	729.9	432.6	526.9	1.39	Y	n/a
2020	565.7	834.5	548.5	1.03	Y	n/a
2019	475.2	477.8	599.4	0.79	Y	n/a

Performance and Interpretation

2023: Prompt reforestation is occurring throughout the DFA.

Strategies & Implementation

Planting with appropriate species and brush control are the primary management tools that ensure reforestation and free growing commitments are met on time.

Natural regeneration is unpredictable on the DFA. Artificial regeneration through timely tree planting is the favored method for successful tree occupancy of harvested areas.

Plantations are regularly assessed in the field to ensure milestone obligations are met and reported to government. New plantations are established in the spring and the fall of each year and assessed for survival the year following tree planting.

Forecasts

NSR Equivalency is expected to remain low for 2023. An adequate number of seedlings was ordered for the spring and summer 2023 planting.

Monitoring

The Silviculture Forester generates reports from the Cengea Database detailing the total NSR hectares and the area harvested for cutblocks completed at the end of a calendar year. NSR equivalency (years) equals the NSR area (ha) divided by the 5-year rolling average of annual area harvested.

Indicator 4.2.1: Forest land conversion

Element: 4.2 Forest land conversion *Protect forest lands from deforestation. Encourage afforestation where ecologically appropriate.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
The productivity of the DFA	The productivity of the DFA is maintained over time	Additions and deletions to the forest area	The net percent of forest area harvested each year in the DFA that is converted to permanent access structure (PAS) does not exceed 7%	+ 1%

History

Core Indicator under CSA Z809-08 (Indicator 2.2.1a). Indicator number, title and element description updated for CSA Z809-16.

Basis for the Target

The target and variance are based on legal requirements under FRPA. PAS is permitted to exceed 7% in specific situations for variables such as safety considerations and terrain constraints, etc. provided appropriate rationale is documented.

Current Status & Results

Year	TAUP (ha)	Permanent Access(ha)	Access as % of TAUP	Target Met (Y/N)	Variance Met (Y/N)
2023	575.6	37.2	6.0	Y	n/a
2022	480.0	34.5	7.2	N	Y
2021	560.9	41.6	7.4	N	Y
2020	726.7	45.9	6.3	Y	n/a
2019	677.8	46.0	6.8	Y	n/a

Performance and Interpretation

2023: The permanent access (roads) as a function of the Total Area Under Prescription (TAUP) decreased to 6%.

Strategies & Implementation

To minimize permanent access structures, appropriate yarding systems are applied to minimize roads constructed and roads are debuilt and reforested (net percent) where necessary or appropriate. The 7% target is applied during planning to each block. Strategies that related to this indicator can also be found in the SFM Plan Management Strategies (Site Restoration).

Forecasts

Based on historical data, it appears that the average PAS has been slightly increasing since 2016. As cutblocks get smaller and logging chance is reduced additional roads are required. Deconstruction and reforesting of roads are a planned mitigation to offset.

Monitoring

The Operations Forester reports on the annual Total Area Under Prescription (TAUP), PAS hectares and PAS % for the cutblocks harvested each year using the Cengea database.

Indicator 5.1.1: Diversity of Timber and Non-timber Resources Produced in the DFA

Element: 5.1 Timber and non-timber benefits *Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Timber and non-timber benefits	Timber and non-timber benefits are evaluated	Documentation of the diversity of timber and non-timber resources, including products and services produced in the DFA	Report on the corporate EBITDA, stumpage payments to the Provincial Government, payments to employees and contractors and local purchases.	None

History

Core Indicator under CSA Z809-08. Title and indicator description updated for CSA Z809-16.

Basis for the Target

Tsawak-qin Forestry is a significant contributor to the corporate EBITDA. The corporate EBITDA is a benchmark of the net effect of all activities relating to the quantity and quality of timber and non-timber benefits, products and services produced. WFP produces quality products from fibre purchased from Tsawak-qin Forestry, while Tsawak-qin Forestry makes payments to the provincial government, employees and contractors for goods and services from timber harvested.

Current Status & Results

Year	Corporate EBITDA	Stumpage	Employees & Contractors	Local Purchases	Target Met (Y/N)	Variance Met (Y/N)
2023	$-29.9 million	$4,993,187.25	$23,672,533	$302,968	Y	n/a
2022	$136.9 million	$12,218,502	$28,202,908	$116,167	Y	n/a
2021	$302.1 million	$11,854,357	$24,544,649	$133,013	Y	n/a
2020	$116.9 million	$6,513,239	$29,565,301	$229,538	Y	n/a
2019	-$1.5 million	$7,656,393	$28,430,621	$101,198	Y	n/a
2018	$143.5 million	$9,944,362	$39,225,823	$209,057	Y	n/a

Performance and Interpretation

2023: Harvest levels and log and commodity prices are the main drivers for this indicator. Suppressed markets continued through 2023, with reduced EBITDA and stumpage as a result. Stumpage is directly related to the current values of logs on the open market .

Strategies & Implementation

The forest provides a wide range of benefits, products and services to the local community and the province. The general types of timber and non-timber benefits from the forest include: outdoor activities and recreation opportunities (e.g. hiking, boating, camping), sustainable harvest of timber and non-timber resources (e.g. mushroom harvesting, salal harvesting), hunting, fishing, and trapping activities, opportunities for ecotourism (e.g. bird-watching, wildlife viewing), cultural and heritage resources, and ecological goods and services.

"EBITDA stands for "Earnings Before Interest, Taxes, Depreciation, and Amortization", a definition is provided in the SFMP Glossary. Since EBITDA provides a basic measure of the operating cash being generated from a business unit, it is an important indicator of financial performance. Positive

operating cash flow allows an operating unit to pay off interest, debt, taxes, fund working capital, and reinvest in the business" (source: Western Matters Newsletter Fall 2010).

Several other indicators provide supporting evidence to the quality and quantity of timber and non-timber benefits, including but not limited to 3.2.2a-d, 5.1.2a-c and 5.2.1.

Forecasts

It is expected that the EBITDA will maintain in 2024 if the current market trend continues. Based on historical results, the EBITDA will likely fluctuate. Similarly, payments to the provincial government, employees, and contractors for goods and services will fluctuate with harvest levels in the DFA. For these elements, total payments should be similar in 2024. The corporate WFP EBITDA data point could be removed and replaced with a Tsawak-qin EBITDA data point.

Monitoring

The TFL Forester coordinates reporting of the current EBITDA from annual corporate reports and stumpage/employee/contractor payments from accounting reports. Stumpage values includes fees associated with residue billings. Local purchases are derived from payments made to businesses that support local forest management activities (e.g. materials, vehicle repairs).

Indicator 5.1.2: Respectful Communications with Forest Dependent Businesses, Forest Users and Local Communities to Integrate Non-timber Resources

Element: 5.1 Timber and non-timber benefits *Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Support for communities, forest businesses and forest users	To integrate non-timber resources into forest management planning	Evidence of open and respectful communications with forest dependent businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resolution are documented.	Target evidence will be an example of communications with a forest business, forest user, or local community and an example of efforts towards resolution to significant disagreements if they occur.	None

History

New Core Indicator under CSA Z809-16

Basis for the Target

The target and variance are tied to legal requirements under the Forest and Range Practices Act (FRPA) to refer and consider comments on some Plans (e.g. the Forest Stewardship Plan) from groups and individuals influenced by forest practices. Moreover, non-regulated communications occur with forest businesses, forest users, and communities frequently. Records of important communications are maintained by the Company.

Current Status & Results

Year	Example of Communications	Target Met (Y/N)	Variance Met (Y/N?
2023	IRMP collaboration	Y	n/a
2022	Three roadside stops were conducted by Tsawak-qin at the start of the Bamfield Main. The purpose of the roadside stops is to bring awareness to all road users in regard to safe driving conditions, road hazards and current conditions and industrial traffic.	Y	n/a
2021	Cooperation with adjacent tenure holder re: Goshawk nest management	Y	n/a
2020	Discussion with Property Owners adjacent to Timber harvesting Activities	Y	n/a
2019	Discussion with a Forest User on an aerial Fertilization Program	Y	n/a
2018	Discussion with Forest User on Smoke Management	Y	n/a

Performance and Interpretation

2023: The development of Integrated Resource Management Plans (IRMPS) continued through 2023. Some are near completion while others are still in their infancy. Multiple non-timber values are being built into the IRMPs. Indigenous communities and other Licensees are directly involved in the development of the IRMPs.

Strategies & Implementation

Engagement with forest businesses, forest users, and communities will continue in public venues like Fall Fairs, National Forest Week, Career Fairs, Woods tours, and public forums/committees. In addition, engagement will occur when Forest Management Plans, Forest Stewardship Plans, and Pest Management Plans are referred to the public. Communications will be stored in telephone logs, electronic messaging, and meeting notes. Confidential information will not form part of the target evidence. In cases where disagreement occurs, target evidence will be documented but stakeholder names will not be made public.

Forecasts

For 2024, engagement is not expected to decrease.

Monitoring

The TFL Forester reviews central files to obtain records related to referrals and other correspondence.

Indicator 5.1.2a: Park Perimeter

Element: 5.1 Timber and non-timber benefits *Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Park and ecological reserve perimeters in the DFA	Operations in the DFA are planned to minimize risk to park and ecological reserve perimeters	The percent of park and ecological reserve perimeters where harvesting has occurred	The percent of the area within 100 meters of park and ecological reserve perimeters harvested over the previous five- year period is 4% or less	+ 1%

History

This indicator is carried forward from the 2016 SFMP (Indicator 5.1.A). Indicator number updated for CSA Z809-16.

Basis for the Target

The target is based on the current Timber Supply Analysis and AAC, which do not exclude harvest volumes from the productive forest area, LTHL and AAC calculations (i.e. forested areas along park perimeters are included in the productive forest area and are used to calculate future harvest levels). The buffered area of 1301.5 ha represents about 1% of the DFA. Therefore, it is estimated that 4% of the buffer could be harvested in a five-year period. The variance is to account for the need to respect logical timber harvesting boundaries in the planning process.

Current Status & Results

Year	Park/Reserve Perimeter (km)	Area within 100 meters of Perimeter (ha)	Harvesting in Previous 5 years (ha)	% of Area Harvested in Previous 5 yrs.	Target Met (Y/N)	Variance Met (Y/N)
2023	130.9	1,273.3	18.0	1.4	Y	n/a
2022	130.9	1303.2	20.5	1.6	Y	n/a
2021	130.9	1303.0	20.5	1.6	Y	n/a
2020	130.7	1301.5	32.8	2.5	Y	n/a
2019	130.7	1300.9	43.3	3.3	Y	n/a
2018	137.8	1460.4	47.1	3.2	Y	n/a

Performance and Interpretation

2023: For 2023 the indicator was met because of declining harvest adjacent to parks and other protected areas. Areas captured in this indicator include: Carmanah Walbran Park; Hitchie Creek Park; Klanawa Ecological Reserve; Nitinat Lake Ecological Reserve; Nitinat River Park; Strathcona Park; T'iitsk"in Paawats; Pacific Rim National Reserve.

Strategies & Implementation

Historical results show that application of existing management strategies for items like wildlife, riparian, culture, windthrow etc., constrain the harvest areas sufficiently in order to achieve this indicator. The general strategy when harvesting adjacent to these areas is to deactivate roads to discourage vehicle traffic, conduct operations to minimize windthrow, verify boundaries to avoid trespass, and to retain coarse woody debris that may be introduced to boundary areas as a result of felling danger trees.

Forecasts

It is anticipated that the percentage of park/ecological reserve perimeter harvested in the five-year period will be below 4% for 2024. There are currently no cutblocks adjacent to any Parks scheduled for 2024.

Monitoring

The TFL Forester coordinates GIS analysis of harvested area within 100 meters of parks and ecological reserves on an annual basis. The DFA line in relation to the park boundary will form the basis of the analysis. The annual GIS queries of government databases will monitor the status of park and ecological reserve perimeters.

Indicator 5.1.2b: Recreation Access

Element: 5.1 Timber and non-timber benefits *Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Access to recreation areas in the DFA	To maintain public access to the identified recreation areas	The level of public access to the recreation areas outlined in the recreation access inventory	The number of roads identified in the recreation access inventory that are accessible is 10 or more (inventory includes class of road by 2-wheel, 4-wheel and foot access)	None

History

This indicator is carried forward from the 2016 SFM Plan (Indicator 5.1.B). Indicator number updated for CSA Z809-16.

Basis for the Target

The target of ten or more accessible sites is based on the evaluation of the existing recreational opportunities in the DFA considering features accessed and the amount of use. Public use is estimated as low for most of the identified sites.

Current Status & Results

Year	# Identified Roads	# Identified Roads with Access	Identified Roads with Access (%)	Target Met (Y/N)	Variance Met (Y/N)
2023	11	11	100	Y	n/a
2022	11	11	100	Y	n/a
2021	12	12	100	Y	n/a
2020	14	14	100	Y	n/a
2019	14	14	100	Y	n/a
2018	13	13	100	Y	n/a

Performance and Interpretation

2023: This indicator was met for 2023.

Strategies & Implementation

Many of the identified roads are main roads that most likely will not be deactivated. When deactivation plans are being developed, the Recreation Access Inventory is reviewed to ensure the target is met.

Forecasts

It is anticipated that the identified roads with access will remain at 100% based on future plans on TFL 44. This indicator requires input to identify recreation areas that are deemed important by the current TPAG members.

Monitoring

The TFL Forester reviews the Recreation Inventory on an annual basis and compares with Deactivation Plans.

Indicator 5.2.1: Participation and Support that Contribute to Community Sustainability

Element: 5.2 Communities and sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Other forest users	Support other forest users	Level of participation and support in initiatives that contribute to community sustainability	Annual target evidences will come from two or more of (but not be limited to): (1) volume production of shake and shingle, (2) hectares released for hogging, (3) areas released for firewood cutting (4) amount spent on road grading, (5) trail construction/rehabilitation (6) log sales to local purchasers (7) the annual level of donations (dollar and in-kind) to the community	None

History

Core Indicator under CSA Z809-08 (Indicator 6.3.1). Indicator number, title, description & target updated for CSA Z809-16. Tracking the level of donations was carried forward from Indicator 5.2.1 under CSA Z809-98.

Basis for the Target

Tsawak-qin Forestry encourages and co-operates both directly and indirectly with other forest-dependent businesses in the community through agreements, contracts and other spin-off opportunities (e.g. access available from road construction and maintenance). Evidences are drawn from existing or potential opportunities for economic diversity within the community that are reportable from in-house information systems. The shake and shingle business is important to small operators and their milling customers, hogging supports local power generation, road grading provides easier access for casual forest users and trail rehabilitation provides recreation in support of the local economy.

Current Status & Results

Year	Support Items	Totals	Target Met (Y/N)	Variance Met (Y/N)
2023	Road Grading/Maintenance: $ $1,325,355.48 Shake and Shingle Production 779 m3 Local Purchases $ $302,968.16 Log sales to local purchasers: 6669.4 m3 Firewood areas made available: multiple	$1,628324 7,448	Y	n/a
2022	Road Grading/Maintenance: $1,417,929 Shake and Shingle Production: 411m3 Local Purchases $116,167 Log sales to local purchasers: 70,811 m3 Firewood areas made available: multiple	$1,534,096 71,222m3	Y	n/a

2021	Road Grading/Maintenance: $1,256,473 Shake and Shingle Production: 704 m3 Log sales to local purchasers: 82,421 m3 Canoe log donation and delivery $9,029 Totem Pole Installation $5,648 Vancouver Island Economic Alliance $2,500 Firewood areas made available: multiple	$1,273,650 83,125 m3	Y	n/a
2020	Road Grading/Maintenance: $1,249,847 Shake and Shingle Production: 1,193 m3 Cash and In-kind Donations: $151,850 Log sales to local purchasers: 25,271 m3 Firewood areas made available: 11 cutblocks	$1,401,697 26,464 m3	Y	n/a
2019	Road Grading/Maintenance: $1,018,260 Shake and Shingle Production: 387 m3 Cash and In-kind Donations: $33,435 Log sales to local purchasers: 6,476 m3	$1,051,695 6,863 m3	Y	n/a
2018	Road Grading / Maintenance $1,343,616 Shake and Shingle Production: 942 m3 Cash and In-Kind donations: $23,585 Log sales to local purchasers: 85,307 m3	$1,367,201 86,249 m^3	Y	n/a

Performance and Interpretation

2023: Local log purchasers included San Industries, Franklin Forest Products, Paper Excellence, Coleman Road Shingle and Pacheedaht Forestry Ltd. The company also made firewood cutting opportunities available from all harvested areas through Free Use Permits from the Ministry of Forests. WFP is experiencing log shortages at several of the sawmills. As a result, fibre from the Operations is targeted to these sawmills rather than 3rd party opportunities. While the recently chip-sealed Bamfield Main will reduce grading costs, funds will still be allocated to fund increased snow removal and sanding efforts, in addition to non-grading maintenance activities.

Strategies & Implementation

Tsawak-qin Forestry engages in many activities that support/ strengthen the local economy and foster a cooperative relationship with the community and local business owners, including minor forest products (firewood, shake and shingle, salvage), log sales, donations, hogging, salal picking, mushroom picking, trail rehabilitation, visual quality management, road access for recreation activities and protection/management of historical sites.

Forecasts

Tsawak-qin Forestry has a recent history of cooperation with local business owners and the community, including relationship building, capacity development, support of minor forest products and non-timber forest products.

It is anticipated that Tsawak-qin Forestry will be able to provide multiple examples of support to enhance community stability. However, during periods of economic downturns in the industry, support may be limited or even non-existent for short durations.

Monitoring

The TFL Forester reviews LIMS, the Cengea database and central file (may include accounting records or AAC records) and reports on the efforts to engage and support the local economy and relationship building through the level of support for each category. The road and grading and maintenance values are net of government contributions.

Indicator 5.2.2: Level of Participation and Support in Training & Skills Development

Element: 5.2 Communities and sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Employee skills	Develop employee skills	Level of participation and support in training and skills development	Annual level of investment in training and skills development for forest planning staff and associated contractor principles averages 5 person-days per year	-0.5 person-days

History

Core Indicator under CSA Z809-08. Title, element, and indicator descriptions updated for CSA Z809-16.

Basis for the Target

The target addresses the need for forest planning staff and associated contractor principles to be competent in the results-based era of the Forest and Range Practices Act and the Forest Professionals of BC continuing competency/ education requirements. Moreover, the financial need of the business requires technological training of key workers to remain competitive. The variance is to account for training being reduced during times of market downturns.

Current Status & Results

Year	Average Person Days of Professional Training	Target Met (Y/N)	Variance Met (Y/N)
2023	5.8	Y	n/a
2022	6.4	Y	n/a
2021	5.4	Y	n/a
2020	5.4	Y	n/a
2019	9.8	Y	n/a

Performance and Interpretation

2023: This indicator was met for 2023 and is also higher than 2022. Planning staff and contractor principles participated in a wide range of training including Corporate Resource Management Standards (Big/Tall Tree, Bear Dens, Riparian, etc.). Staff Forest Professionals also report on a minimum annual target (30hrs) of Continuous Professional Development to the FPBC. This result is a conservative estimate of training as not all information is entered into the training database.

Strategies & Implementation

Tsawak-qin Forestry provides numerous training and skill development opportunities for employees and contractors under the existing Environmental Management System, Safety System and the Sustainable Forest Management Plan. In addition, there are some training courses that are legally required such as Transportation of Dangerous Goods, Blasting, Crew Boat Operator, First Aid, etc.

This target is intended to measure the average number of person days of completed training per year in the category of skill/professional development. Skill/professional development training include but is not limited to workshops such as the Coastal Silviculture Committee, Association of BC Forest Professionals (ABCFP), soil conservation, stream management, variable retention etc.).

Employee training records are maintained in the Tsawak-qin Forestry Training Database.

Forecasts

It is anticipated that the target will generally be met as the profession continues to become more demanding technically, environmentally, and with improved safety initiatives that require enhanced levels of training. Tsawak-qin employees are fully engaged with WFP training.

Monitoring

The TFL Forester coordinates a report from the Training Database for total training hours by skill/professional development category.

Indicator 5.2.3: Level of Direct and Indirect Employment

Element: 5.2 Communities and sustainability *Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Employment	Provide employment	Level of direct and indirect employment	350,000 Safety Exposure Hours	-20% No max

History

Core Indicator under CSA Z809-08. Title updated for CSA Z809-16. Target methodology updated in 2023

Basis for the Target

The target is based on data from 2020-2022 comparing safety exposure hours and harvest levels. This limited historical data indicates a ratio of 0.6 hrs/m3. Based on this, full AAC harvest (less Omoah) of 585,208m3 equates to ~350,000 exposure hours. The variance is to account for adjustments in harvest levels from year to year attributed to market conditions, weather, and disputes as well as harvest method differences from year to year. Omoah Bill 13 harvest is not considered as exposure hours are not tracked. Due to the limited historical data used to derive the target, the ratio should be examined annually and adjustments to the target considered.

Current Status & Results

Year	Exposure Hours	Harvest Volume	Hrs/m3	Target Met (Y/N)	Variance Met (Y/N)
2023	292,323	353,457	0.82	N	Y
2020-2022	813,860	1,363,145	0.60	N/A	N/A

Performance and Interpretation

2023: Indicator target methodology was updated in 2023. Variance is 280,000 exposure hours. This was based on historic data relating exposure hour to harvest level. Indicator result is still driven by an annual harvest volume relative to the AAC. The Hrs/m3 likely increased due to greater capture of exposure hours from contractors. There is no maximum to the variance, but the 5 year AAC cut control period must still be considered

Strategies & Implementation

It is currently Western's strategy to set a harvest level that aligns as much as possible with market demand within the AAC limits set by legal agreements and regulation. Also, employment is guided by agreements with the union and contractor rights.

Forecasts

It is expected that the actual employment levels will fluctuate due to the cyclical nature of the forest industry. Other external forces that can affect employment include extended weather extremes, productivity gains due to technological advancements and unforeseen land base reductions.

Monitoring

The TFL Forester is responsible to collect this information using cut control statements and annual safety exposure hours reporting.

Indicator 6.1.1: Participant Satisfaction with Public Process

Element: 6.1 Fair and Effective Decision Making *Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
SFM Public participation process	SFM Public participation process works well	Level of participant satisfaction with the public participation process	The level of participant satisfaction as reported annually by the satisfaction survey is 3 or less.	A maximum of one consecutive survey with a satisfaction level of greater than 3.

History

Core Indicator under CSA Z809-08 (Indicator 6.4.1). Indicator number and title updated for CSA Z809-16.

Basis for the Target

A satisfaction survey of WIWAG gives direct feedback to the participation process. A score of three or less provides evidence of a positive process. The variance is to account for controversial issues considered by participants or unforeseen circumstances (e.g. a shortage of financial resources to accommodate normal participation process during economic downturns).

Current Status & Results

Year	Satisfaction Survey Completed (Y/N)	Satisfaction Level	Target Met (Y/N)	Variance Met (Y/N)
2023	Yes	1.45	Y	N
2022	Yes	1.49	Y	n/a
2021	Yes	1.6	Y	n/a
2020	Yes	1.6	Y	n/a
2019	Yes	1.5	Y	n/a
2018	Yes	1.6	Y	n/a

Performance and Interpretation

2023: Of the 13 TPAG members, 10 completed the annual evaluation form, a 77% response rate. This is a similar response rate to previous years.

Members answered positively to questions related to their overall satisfaction with the TPAG group process, code of conduct, communication between meetings, responses to members, facilitator organization and neutrality and consensus decision making, presentation, meals, timing of meetings, and length of meetings.

Consider reminding staff that are presenting to utilize layman terms, rather than acronyms to help with member understanding of complicated topics.

Strategies & Implementation

A Satisfaction Survey is typically completed with the TPAG annually. The survey form was revised and moved to a digital format in 2021.

Feedback relating to specific presentations will be gathered following each presentation to help with the accuracy of survey results.

Forecasts

It is anticipated that the target will be met based on historical results that show a general level of satisfaction with the progress and communication between Tsawak-qin Forestry and TPAG. Tsawak-qin Forestry strives to maintain or improve the score of satisfaction over time.

Monitoring

The TPAG Facilitator reports on the results of the Satisfaction Survey.

Indicator 6.1.2: Capacity Development and Meaningful Participation

Element: 6.1 Fair and Effective Decision Making *Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Public participation capacity	Develop/improve public participation capacity over time	Evidence of efforts to promote capacity development and meaningful participation in general	Target evidence will be the listing of educational opportunities provided to the advisory group annually	None

History

Core Indicator under CSA Z809-08 (Indicator 6.4.2). Indicator number and title updated for CSA Z809-16.

Basis for the Target

The Advisory Group (TPAG) has historically responded positively to educational opportunities provided by technical experts. These opportunities have enabled members to provide valuable advice through the participation process.

Current Status & Results

Year	# Educational Sessions	Description of Session	Target Met (Y/N)	Variance Met (Y/N)
2023	6	Four TPAG meetings were held in 2023. Meetings included operational updates, and presentations Feb 9th, 2023 • Huu-ay-aht Integrated Resource Mgmt Plan (HIRMP) – Marina Rayner April 13th, 2023 • WFP Species at Risk and Wildlife Standards – Sarah Germain • HIRMP Conservation Network – John Deal Jun 8, 2023 • 2022 CSA Indicator Results – Dave Poilievre Nov 9, 2023 • HIRMP Update – Marina Rayner • WFP Management of Riparian Forest	Y	n/a
2022	10	Four TPAG meetings were held in 2022. Meeting included operational updates, and presentations Feb 17th, 2022 • Updated Watershed Management Strategies – Glynnis Horel April 21st , 2022	Y	n/a

		• Anacla Old Growth Summit – Dave Poilievre • TFL 44 Old Growth Study – Dave Poilievre • Hisuk Ma Cawak Manufacturing initiative- Dave Poilievre • Cheewaht Restoration Project – Marissa Hallaway • Tsawak-qin Drone Deployment – Jesse Hayre • Tsawak-qin Tall Tree Protection – Dave Poilievre June 16th, 2022 • Old Growth Forest in TFL 44 – Joel Mortyn Nov 11th, 2022 • CSA Standard Update – Will Sloan • Timber Supply Review – Ye Huang		
2021	8	Four WIWAG meeting were held in 2021. Meetings included operational updates, and presentations. Feb 11, 2021: • LiDAR and its Innovative Uses – Brad Bayley • Logging Waste and its Relationship to Downed Woody Debris – Francois Warren • Net Carbon Update: The Influence of Fire and Debris Burning – Erin Badesso April 8, 2021: • Dedicated to sharing the Detailed 2020 Indicator Results by Erin Badesso June 10, 2021 • Partitions and Cut Control – Mike Davis • TFL 44 Management Plan #6 Timber Supply Information Overview – Ye Huang Nov 18, 2021: • Huu-ay-aht Integrated Resource Management Plan – Marina Rayner & Duane Nookemus • CSA Carbon Indicator – Marie-Eve Leclerc	Y	n/a
2020	4	Four WIWAG meeting were held in 2020. Meetings included operational updates, and presentations. The January 9, 2020 meeting focused on the amount of oldgrowth in coastal British Columbia, WFP tenures, and the Defined Forest Area (TFL 44) as presented by WFP staff Shannon Janzen, John Deal, and Erin Badesso. The results of an External Audit to the Standard were also shared. The May 28, 2020 meeting was dedicated to sharing the Detailed Indicator Results by Erin Badesso The September 15, 2020 was convened with all Public Advisory Groups (PAGs) across WFP. Dr. John Innes, Dean of UBC's	Y	n/a

		Faculty of Forest, shared key messages from a report he co-authored titled: *The State of British Columbia's Forests: A Global Comparison*. The November 12, 2020 meeting had presentations by four WFP staff members. John Deal gave an update on oldgrowth management including information on the Oldgrowth Management Review (Merkel and Gorley), and the Special Tree Protection Regulation. Marie-Eve Leclerc presented on carbon and forestry. Marissa Hallaway gave an overview of the proposed Pest Management Plan for the DFA. Brian Marcus presented proposed adjustments to the Within Stand Retention Indicator to reflect changes to the WFP Retention Silviculture System Standard.		
2019	3	Three WIWAG meetings were held in 2019. Meetings included operational updates, presentations and question/answer periods. February 2019, a meeting convened to introduce the creation of the TFL 44 Limited Partnership. This is a business relationship involving Western Forest Products Inc. and the Huu-ay-aht First Nations (HFN). HFN purchased a 7% interest in the business and management of Tree Farm Licence (TFL) 44. Seanna McConnell from WFP and Robert Dennis, Derek Peters, and Trevor Cootes from HFN convened a panel to share information and to answer questions about the venture. Confirmed in the meeting that CSA certification will continue under the Partnership. April 2019, the meeting focused on the Detailed Indicator Results by Erin Badesso, WFP May 2019, Brian Marcus WFP, shared concepts associated with a draft Eagle Nest and Bear Den Standard. John Deal, WFP introduced the Western Stewardship and Conservation Plan and also provided an update on the Marbled Murrelet and Northern Goshawk files. Moreover, auditors Jeff Koch and Shawn Ellsworth from PricewaterhouseCoopers were able to meet independently with WIWAG members as part of the periodic third-party audit of the Company's conformance to the CSA Z809 requirements.	Y	n/a
2018	6	Four WIWAG meetings were held in 2018. Meetings included operational updates, presentations, and question/answer periods. February 2018 Will Sloan, WFP Certification Coordinator shared a presentation which compared and contrasted **CSA and SFI Certification.** Erin Badesso also shared material on the **WFP Big Tree Policy** and statistics on **Old growth** in the DFA. April 2018 Annual review of **Detailed Indicator Results** by Erin Badesso June 2018 Mary Toews, Ecosystems Biologist, South Island Natural Resource District, presents on **Marbled Murrelet and Goshawk Implementation Plans**. Marissa Hallway, WFP Field Planner provides an update on **Rare Ecosystems and WFP's Forest Strategy** November 2018 Molly Hudson, TimberWest, Manager of Stewardship and Engagement presents on the **Ecology and Management of Goshawks.** John Deal, Senior Biologist, WFP presents on **Goshawk/Marbled Murrelet Management and Policy**	Y	n/a

Performance and Interpretation

2023: TPAG and attending guests received educational opportunities on timely topics that support various indicators. Six educational topics were presented in 2023.

Strategies & Implementation

Annual planned education opportunities are defined by TPAG and included in the SFM Plan Communications Plan. Guest Speakers and presentations are scheduled as opportunity and discussions arise during meetings.

Forecasts

It is anticipated that educational opportunities will be provided on an annual basis, provided sufficient capacity and funding exists. Topics can be focused on timely topics or member's interests

Monitoring

The TFL Forester (with assistance from the TPAG Facilitator) reviews the central files, TPAG minutes and Website and reports on educational opportunities provided to the TPAG.

Indicator 6.1.3: Public Concerns

Element: 6.1 Fair and Effective Decision Making *Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Relevant information	Relevant information is provided	Availability of summary information on issues of concern to the public	Summary information on issues of concern to the public are posted annually on the TPAG website	None

History

Core Indicator under CSA Z809-08 (Indicator 6.5.2). Indicator number updated for CSA Z809-16.

Basis for the Target

The TPAG website has been established and recognized as a transparent means of communicating issues to the public and then working towards their resolution.

Current Status & Results

Year	# Meeting Minutes Posted	# Presentations Posted	# Press Releases Posted	# Articles Posted	Target Met (Y/N)	Variance Met (Y/N)
2023	4 (email)	All (email)	0	0	N	N
2022	4 (email)	All (email)	0	0	Y	n/a
2021	2	5	0	0	Y	n/a
2020	4	4	0	0	Y	n/a
2019	3	1	0	0	Y	n/a
2018	4	2	0	0	Y	n/a
2017	4	2	0	0	Y	n/a

Performance and Interpretation

2023: This indicator cannot be considered met in 2023. The TPAG website is the intended platform for providing TPAG information and is still not functional.

Public concerns are expressed at TPAG meetings, in-person and various social media outlets. The Field Operations Map (FOM) process is a new avenue for providing public comments. FOM postings and their results should be considered as a measure for this Indicator.

Most of the topics raised are themes associated with the current Indicators. Moreover, forest road conditions are posted on https://www.facebook.com/WFPRoadInfo . These subjects become discussion points that are periodically captured in meeting minutes.

Strategies & Implementation

In general, the concerns raised by the public are addressed through indicator development, TPAG meeting discussions, workshops, and meeting presentations (open to the public). Public concerns are also heard and answered annually at booths set up at the local Fall Fair, National Forestry Week celebrations, career fairs, school and community events, social media, satisfaction surveys, and through woods tours. The TPAG website is the main vehicle for communication with the public. In addition, Tsawak-qin and/or TPAG may periodically issue press releases and newspaper articles.

Forecasts

It is anticipated that the target will be achieved based on an informative TPAG website and through the Satisfaction Survey process. A new Tsawak-qin/TPAG website is currently under development and is expected to be operational in 2024. Information that has not been posted while the website is being developed will be once the website is operational.

Monitoring

The TFL Forester, with assistance from the TPAG facilitator, reviews the Website and ensures information is posted in the TPAG minutes.

Indicator 6.2.1: Improve Safety Standards

Element: 6.2 Safety *Demonstrate that the organization is providing and promoting safe working conditions for its employees and contractors*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Worker safety	Existence of an active worker safety program	Evidence of co-operation with DFA-related workers to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities	Annual target evidences will come from two or more of (but not be limited to): (1) the Medical Incident Rate report, (2) hazard alert report (3) general contractor training sessions (4) safety focus topics	None

History

Core Indicator under CSA Z809-08 (Indicator 6.3.2). Indicator number and element description updated to CSA Z809-16.

Basis for the Target

Safety Programs are required under the WorkSafe BC legislation and the Occupational Health and Safety Regulation. The Medical Incident Rate (MIR) is a broad measure that captures the effectiveness of safety programs. The Hazard Alert reports document safety incidences and the learnings and suggestions to avoid future occurrences. General contractor training sessions provide opportunities to review and improve safety performance. Safety focus topics provide a program to heighten awareness around specific categories of injuries (e.g. hand injuries). Target evidences are readily available and require participation from workers to formulate safety reports, achieve safety results or to provide safety training. Hazard alerts are distributed to contractors and employees as incidents/hazards occur and are posted on the Company's intranet. If incident investigations are required under the Safety or EMS, they are completed in collaboration with contractors/union reps where applicable.

Current Status & Results

Year	MIR Report	Hazard Alert Report	# of General Safety Training Sessions	Key Safety Focus Topics	Target Met (Y/N)	Variance Met (Y/N)
2023	1.58	7	3	4	Y	n/a
2022	6.30	4	5	9	Y	n/a
2021	6.64	4	12	3	Y	n/a
2020	5.46	3	4	6	Y	n/a
2019	3.46	1	6	6	Y	n/a
2018	4.00	4	10	9	Y	n/a

Performance and Interpretation

2023: The Medical Incident Rate (MIR) decreased in 2023 for Tsawak-qin Forestry. Road safety checkpoints were held at the start of Bamfield Main to raise awareness of driving safety to all road users.

Strategies & Implementation

Safety performance is a key measurable for Tsawak-qin Forestry. Improvements in Safety are supported by the EH&S Team, corporate polices, standards, hazard reports, work procedures etc. Locally Tsawak-qin Forestry manages safety utilizing an OHS Program, emergency response procedures and by maintaining a "Safe" company status with the BC Forestry Safety Council. Continual Improvement is a key component of the Company's Safety System, WorkSafe BC requirements and the Forest Safety Council SAFE Company certification requirements. Tsawak-qin Forestry also conducts periodic meetings with Contractors to review and discuss safety topics and implement annual safety improvement plans.

MIR (Medical Incidence Rate) is defined in the SFM Plan Glossary and will be reported for all contractors and employees in PAFO. The rate is calculated using the following formula:

$$\frac{\text{(Medical Treatment + Restricted Work +Lost Time cases) x 200,000}}{\text{Exposure Hours (Total hours worked by all hourly and salary employees by operation)}}$$

Forecasts

It is anticipated that the target will be met as it is a legal requirement to maintain a safety program and a corporate/operational goal to demonstrate continuous improvements in safety. In addition, the Company also maintains voluntary SAFE certification under the BC Forest Safety Council.

For 2024 safety improvements will focus on: Hazard identification, proactive hazard and near miss reporting, formal reviews of hazards and near misses and monthly safety inspections of contractors. The road safety checkpoints will continue in 2024.

Monitoring

The TFL Forester reviews safety files and the corporate safety tracking system/stats to document supporting evidence.

Indicator 6.2.2: Worker Safety Program

Element: 6.2 Safety *Demonstrate that the organization is providing and promoting safe working conditions for its employees and contractors*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Worker safety	Worker safety improves over time	Evidence that a worker safety program has been implemented and is periodically reviewed and improved	SAFE Company Certification is maintained annually by Tsawak-qin Forestry and its large contractors.	2 contractors registered with BC Forest Safety Council to become SAFE Certified

History

Core Indicator under CSA Z809-08 (Indicator 6.3.3). The indicator number was updated for CSA Z809-16. This indicator was updated in 2011 to reflect maintaining a SAFE Company Certification for TFL 44 Limited Partnership and its large contractors. **A large contractor is defined as having greater than 10,000 person hours per year.**

Basis for the Target

Company corporate directive. The variance indicates contractors may be registered with the BC Forest Safety Council and in the process of becoming SAFE certified.

Current Status & Results

Year	SAFE Company Certification Maintained	Target Met (Y/N)	Variance Met (Y/N)
2023	7/7	Y	n/a
2022	7/7	Y	n/a
2021	7/7	Y	n/a
2020	6/6	Y	n/a
2019	7/7	Y	n/a
2018	10/10	Y	n/a

Performance and Interpretation

2023: All seven of the large contractors were Safe Certified indicating their commitment to safety through formal programs. Safe Certification of contractors is a key element to improving safety on the DFA and is considered a mandatory requirement for Tsawak-qin contractors.

Strategies & Implementation

SAFE company audits are mandated annually by the BC Forest Safety Council. Successful audits maintain a company's SAFE Certification and provide evidence that a worker safety program has been implemented and is periodically reviewed and improved. The Safe Certification status of companies is located at: http://www.bcforestsafe.org/safe_companies/whos_safe.html\

Tsawak-qin Forestry is responsible for implementing its safety program and continuing to meet the requirements of SAFE Company certification. All staff are responsible to assist the operation in maintaining, implementing and improving the safety program.

Tsawak-qin Forestry's contractors implement and maintain their own safety programs to meet the requirements of the SAFE Company certification. Prior to commencing work for, a review is completed to ensure contractors are currently SAFE Company certified or registered.

Forecasts

The Company has made a business decision to maintain SAFE certification. Provided the program is maintained, Company and its contractors will continue to maintain SAFE certification.

Monitoring

The TFL Forester reviews the status of SAFE certification and reports on the results from the BC Forest Safety Council website.

Indicator 7.1.1: Understanding the Nature of Aboriginal Title and Rights

Element: 7.1 Aboriginal and Treaty Rights *Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal title and rights	Aboriginal title and rights are understood	Evidence of a good understanding of the nature of Aboriginal title and rights	Target evidence will be an update to annual employee training and awareness of Aboriginal title and rights	No more than one consecutive year without formal training

History

Core Indicator under CSA Z809-08 (Indicator 6.1.1). Indicator number and title updated for CSA Z809-16.

Basis for the Target

Forest professionals working with aboriginal peoples have a responsibility to understand how forest practices influence aboriginal title and rights. Aboriginal case law relating to title and rights is increasing. With the enactment of the Maa-nulth Final Agreement employee awareness is necessary to understand the treaty title and rights flowing from the Agreement. Recognizing title and rights is also a component of WFP's corporate *Sustainable Forest Management Statement* for Timberlands.

Current Status & Results

Year	Summary of Annual Training/ Employees Trained	Target Met (Y/N)	Variance Met (Y/N)
2023	FPBC Conference / Western Learning	Y	N/A
2022	ABCFP Conference, Kiixin Tour	Y	N/A
2021	HFN training, Tsawak-qin Forest Professionals received ABCFP Webinar training	Y	N/A
2020	No Formal Training Update in 2020	N	Y
2019	Planning staff received cultural training associated with the formation of the *Huu-ay-aht First Nations and TFL44 Limited Partnership*. Also, Geoff Plant was a guest speaker on the topic of *Indigenous Relationships in the Current Legal Context*.	Y	n/a
2018	Planning staff received broad training from the company's Director of Indigenous Relationships on the United Nations Declaration on Rights of Indigenous Peoples (UNDRIP)	Y	n/a
2017	Training reviewed the Tsilquot'in Decision; Updates to the Replacement FSP and how it relates to Cedar Side Agreements in the Maa-nulth Treaty. Training specific to Planning Staff in the Port Alberni Forest Operation	Y	n/a

Performance and Interpretation

2023: Tsawak-qin Forest Professionals attended (virtually) FPBC Annual conference which contained several Indigenous specific topics. The Western Learning platform offers several awareness courses available to Tsawak-qin staff.

Strategies & Implementation

Several staff members are specifically focused on working with aboriginal peoples in the DFA. These staff members liaise with aboriginal peoples and government agencies to understand the nature of aboriginal rights and title. They also participate in formal training and communicate key ichlearnings to other staff members to assist in preparing information for sharing.

Tsawak-qin Forestry will report on training that has been completed in relation to Aboriginal rights and title (in the form of workshops, presentations, on-line courses/ webinars etc.).

Training records are tracked in the Tsawak-qin Forestry Training Database.

Forecasts

Three First Nations associated with the DFA are in Treaty effective April 1, 2011, other treaties continue to be negotiated. Business relationships with First Nations continue to evolve including the formation of Tsawak-qin Forestry which will bring unique training opportunities. This indicator will be met in 2024 as Planning Staff typically receive First Nations training in some capacity annually.

Monitoring

The TFL Forester generates a report from the Tsawak-qin Forestry Training Database and reports on the number of planning personnel that received training related to Aboriginal title and treaty rights.

Indicator 7.1.2: Respectful Communications with Aboriginal Communities to Foster Meaningful Engagement

Element: 7.1 Aboriginal and Treaty Rights *Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights and treaty rights.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal understanding of plans	Aboriginal understanding of plans is increased over time	Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights throughout this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution.	Target evidence will be an annual example of correspondence with Aboriginal communities to foster meaningful engagement and an example of efforts towards resolution to significant disagreements if they occur.	Not every year may have a new Plan available to refer.

History

Core Indicator under CSA Z809-08 (Indicator 6.1.2). Indicator number, title and description updated for CSA Z809-16.

Basis for the Target

The target and variance are tied to legal requirements under the Forest Act and FRPA related to First Nation information sharing. Although there are legal obligations to consult with First Nations, there are expectations for First Nations to participate in the information sharing process relating to understanding the plans.

Current Status & Results

Year	First Nation Information Sharing Summary	Target Met (Y/N)	Variance Met (Y/N)
2023	In September, Tsawak-qin (Dave Poilievre) met with Tseshaht First Nations (Referral Manager (Len Watts) and Forestry Manager (Dwayne Hearn). The purpose of the meeting was to present Tsawak-qin's upcoming planned harvest cutblocks so that Tseshaht's concerns could be heard and alleviated and potential accommodation measures could be identified	Y	Y
2022	The 2021 CSA Indicator report was provided to First Nations The TFL 44 TSR AAC Recommendation to the Chief Forester was referred to First Nations.	Y	n/a
2021	TFL 44 Management Plan #6 Timber Supply Information Overview and Pest Management Plan were referred to First Nations.	Y	n/a
2020	No New Plans were referred to First Nations in 2020	N	Y

2019	The Sustainable Forest Management Plan was referred to First Nations.	Y	n/a
2018	The Sustainable Forest Management Plan was referred to First Nations. No other plans were prepared in 2018.	Y	n/a
2017	**All First Nations associated with the DFA:** In January 2017 all First Nations who have traditional territory or Maa-nulth First Nation Areas associated with the DFA were provided opportunity to comment on the Replacement Forest Stewardship Plan (FSP). Government also consulted with selected First Nation communities. A record of comments received by WFP was also forwarded to government as part of their FSP approval process.	Y	n/a

Performance and Interpretation

2023: Initial discussions began on Tsawak-qin / First Nation collaboration on IRMP developments. In 2024, several Nations have signed formal agreements with Tsawak-qin to jointly develop IRMPs specici to each Nations territory.

Strategies & Implementation

Management Plan (MP) referrals include TFL Management Plan, Forest Stewardship Plans (FSP), Pest Management Plans (PMP), and the Sustainable Forest Management Plan.

For the TFL Management Plan, FSP and PMP, referrals occur as required under legislation. These Plans are typically referred at intervals of five years or greater.

The Sustainable Forest Management Plan is referred to all First Nations in the DFA when the plan is periodically revised and updated. The annual report is also available on the WIWAG web site. For privacy purposes, neither confidential information nor First Nation names will form part of the target evidence.

Forecasts

Plan referrals for TFL MPs, FSPs, and PMPs are legally required. In addition, the legislation requires documentation and records of comments received, as well as records of changes to the plans to address the concerns/comments.

Monitoring

The TFL Forester reviews central files to review information sharing/referrals and records as applicable evidence for one First Nation each year (ensuring that where possible, different First Nations are represented in the annual reporting). Given that most Plans are referred at intervals greater than five years, there is the possibility that no target evidence will be available in some years.

Indicator 7.2.1: Promoting Capacity Development and Meaningful Participation for Aboriginal Individuals, Communities and Forest-based Companies

Element: 7.2 Respect for Aboriginal forest values, knowledge, and uses *Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal forest economy	Maintain the aboriginal forest economy	Evidence of efforts to promote capacity, development and meaningful participation for Aboriginal individuals, communities and forest-based companies.	Eight contractual arrangements or training opportunities with aboriginal communities annually	-4 contracts

History

Core Indicator under CSA Z809-08 (Indicator 5.2.4). Indicator number, title, description and target updated for CSA Z809-16.

Basis for the Target

Tsawak-qin Forestry and First Nation communities have a history of contractual arrangements in timber harvesting activities, stream restoration, and assessment work The DFA has been reduced significantly in recent years to enhance, in part, First Nation economies through forest tenure and private land interests including treaty. First Nation communities have since contracted with TFL 44 Limited Partnership to provide services for their forest tenure and private land opportunities. The target reflects contractual arrangements that flow in both directions. Moreover, Tsawak-qin Forestry Limited Partnership has opportunities for First Nation community members to participate in formal on the job training. The variance addresses any temporary gaps that could develop between parties for services and training from their respective businesses.

Current Status & Results

Year	Contractual and Training Arrangements	Target Met (Y/N)	Variance Met (Y/N)
2023	8		
2022	10	Y	n/a
2021	10	Y	n/a
2020	11	Y	n/a
2019	10	Y	n/a
2018	10	Y	n/a

Performance and Interpretation

2022: In 2023 contractual arrangements involving First Nations members, communities and forestry related companies included Cultural assessments (HFN), Tsawak-qin staff employment (1-DFN, 2 - HFN), Cedar salvage (DFN, HFN), Cutblock development (TFN). Tsawak-qin also assisted the HFN Nuu-chah-nulth Warrior Program, which is a Indigenous youth training program

Strategies & Implementation

The target is intended to measure contractual and training arrangements between both parties that have the potential for mutual benefits for TFL 44 Limited Partnership and the aboriginal community. Tsawak-qin Forestry will continue to explore mutually beneficial and economically viable business and training opportunities with willing participants.

Forecasts

The importance and scale of business and training arrangements should be maintained as aboriginal communities and the Company explore mutually beneficial business and training opportunities pre and post treaty. This indicator may be updated in 2024 as the Company partnership with First Nations evolves.

Monitoring

The TFL Forester reports on the number contractual and training arrangements on an annual basis.

Indicator 7.2.2: Using Aboriginal Knowledge to Manage Culturally Important Resources and Values

Element: 7.2 Respect for Aboriginal forest values, knowledge, and uses *Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Aboriginal knowledge	Aboriginal knowledge provided is used and respected	Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values	Target evidence will be an example of information shared, or comments received by, or management of a culturally important resource or value for one Aboriginal community annually	None

History

Core Indicator under CSA Z809-08 (Indicator 6.2.1). Indicator number and title updated to CSA Z809-16.

Basis for the Target

The target and variance are based on legal requirements under FRPA.

Current Status & Results

Year	Information Sharing	Target Met (Y/N)	Variance Met (Y/N)
2023	In September, Tsawak-qin (Dave Poilievre) met with Tseshaht First Nations (Referral Manager (Len Watts) and Forestry Manager (Dwayne Hearn). The purpose of the meeting was to present Tsawak-qin's upcoming planned harvest cutblocks so that Tseshaht's concerns could be heard and alleviated and potential accommodation measures could be identified		
2022	**Sample First Nation**: On November 3, 2022 Tsawak-qin Forestry shared with the First Nation a series of map sheets and a matrix of site information identifying the approximate location of planned cutblocks and roads for timber harvesting activities proposed for the future. The maps and other information (e.g. cedar content, old growth vs. second growth, leading species, archaeological potential) was shared to assist the First Nations determine how proposed activities may potentially affect cultural heritage resources.	Y	n/a
2021	**Sample First Nation**: On February 2, 2021 Tsawak-qin Forestry shared with the First Nation a series of map sheets and a matrix of site information identifying the approximate location of planned cutblocks and roads for timber harvesting activities proposed for the future. The maps and other information (e.g. cedar content, old growth vs. second growth, leading species, archaeological potential) was shared to assist the First Nations determine how proposed activities may potentially affect cultural heritage resources.	Y	n/a

2020	**Sample First Nation**: On January 7, 2020 TFL 44 LP shared with the First Nation a series of map sheets and a matrix of site information identifying the approximate location of planned cutblocks and roads for timber harvesting activities proposed for the future. The maps and other information (e.g. cedar content, old growth vs. second growth, leading species, archaeological potential) was shared to assist the First Nations determine how proposed activities may potentially affect cultural heritage resources. The First Nation provided comments requesting that an AIA be conducted for a specific cutblock to investigate the presence of cultural heritage resources.	Y	n/a
2019	**Sample First Nation**: On January 22, 2019 WFP shared with the First Nation a series of map sheets and a matrix of site information identifying the approximate location of planned cutblocks and roads for timber harvesting activities proposed for the future. The maps and other information (e.g. cedar content, old growth vs. second growth, leading species, archaeological potential) was shared to assist the First Nations determine how proposed activities may potentially affect cultural heritage resources. The First Nation provided comments related to the availability of western redcedar for cultural use. They requested and received a product that illustrated cedar associated with OGMAs, WHAs, and UWR.	Y	n/a
2018	**Sample First Nation**: On January 16, 2018 WFP shared with the First Nation a series of map sheets and a matrix of site information identifying the approximate location of planned cutblocks and roads for timber harvesting activities proposed for the future. The maps and other information (e.g. cedar content, old growth vs. second growth, leading species, archaeological potential) was shared to assist the First Nations determine how proposed activities may potentially affect cultural heritage resources. The First Nation met with WFP and requested additional information for one proposed cutblock which was provided.	Y	n/a

Performance and Interpretation

2023: Standard information sharing was not conducted with First Nations in 2023 due to a low number of potential blocks to share. Information sharing is scheduled for 2024

Strategies & Implementation

Tsawak-qin Forestry shares information annually with First Nations on proposed cutblocks and roads in the DFA. In addition, under special circumstances the Provincial government may engage in formal consultation. Refer to Indicator 7.1.2 for further information on the management strategies for other information sharing processes.

Forecasts

As the target and variance are tied to a legal requirement, it is anticipated that the target will be achieved annually.

Monitoring

The TFL Forester reviews the central file catalogue/records of information sharing completed and summarizes results for one First Nation within the SFMP report.

Indicator 7.2.3: Management and/or Protection of Culturally Important Practices and Activities

Element: 7.2 Respect for Aboriginal forest values, knowledge, and uses *Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.*				
Value	**Objective**	**Indicator**	**Target**	**Variance**
Areas where culturally important practices and activities occur	Areas where culturally important practices and activities occur are managed for or protected	Level of management and/or protection of areas where culturally important practices and activities occur	Identified areas where culturally important practices and activities occur are managed and/or protected 100% of the time unless the First Nation or Provincial governments decide otherwise	None

History

Core Indicator under CSA Z809-08 (Indicator 6.1.3). Indicator number, title and element description updated for CSA Z809-16.

Basis for the Target

The target and variance are based on legal requirements under FRPA and the Heritage Conservation Act.

Current Status & Results

Year	Identified Areas	Sites Managed (percent)	Target Met (Y/N)	Variance Met (Y/N)
2023	1	100%	Y	n/a
2022	1	100%	Y	n/a
2021	0	n/a	Y	n/a
2020	1	100%	Y	n/a
2019	2	100%	Y	n/a
2018	1	100%	Y	n/a
2017	1	100%	Y	n/a

Performance and Interpretation

2023: In 2023, The Makasap Conservation Network was developed as part of the Hu-ay-aht IRMP. The network creation provides additional certainty to the ability to practice culturally import practices.

Strategies & Implementation

Important areas are usually identified by the First Nation through information sharing and cultural referral processes. Once areas are identified (e.g. fishing sites) there will be discussions with First Nations about how to manage the sites. Discussions will include tailoring measures to manage or protect on a site by site basis, as previous history shows that a blanket protection prescription is not always the most effective way to manage a site. Information sharing meetings occur on a regular basis where management strategies can be discussed.

Forecasts

It is anticipated that all identified sites will be managed and/or protected, unless agreements worked out directly with the First Nation or the government decides otherwise (through the approval of Cutting Permits and Road Permits).

Monitoring

The TFL Forester reviews GIS information, Site Plans, Harvest and Road Instructions and EMS Inspection results, and comments returned from First Nations on proposed activities. The number of special sites that are identified and managed/protected are reported once from either pre-harvest, during harvest, or post-harvest activities.