



At Risk Ecological Communities (AREC) Awareness Training

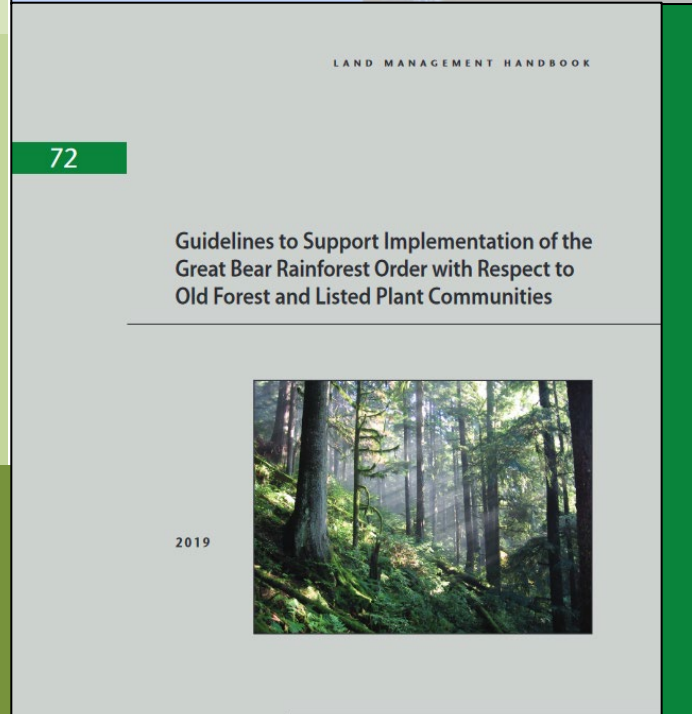
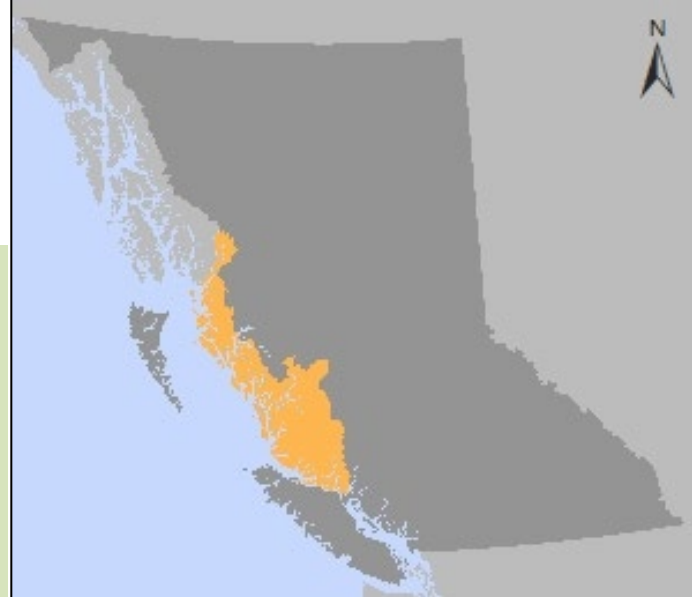
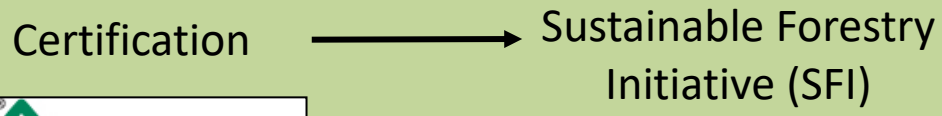
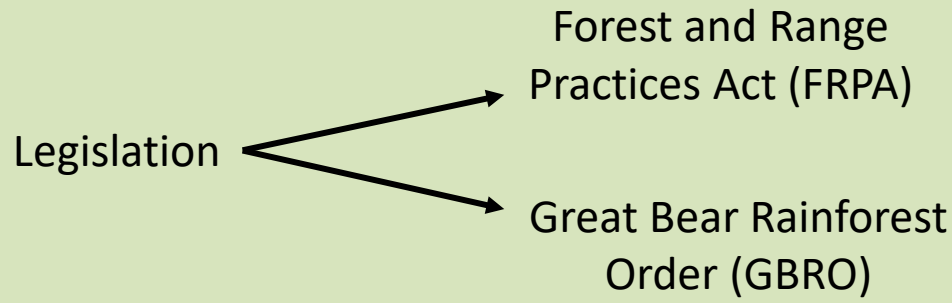
Strait of Georgia Business Area



Overview

- Introduction
- Legislation, definitions, and certification
- Potential ecological communities in TSG operating areas
- Management and documentation
- Questions and Discussion

At Risk Ecological Communities (AREC) in BC



ARECs in BC

Ecological Community:

Refers to:

- the plant associations from the vegetation classification of the BEC system
- other natural plant communities including both forested and non-forested ecosystems (BC CDC 2023).

Can be used to reference the same attributes as 'plant community' when the area **is not** under the GBRO (LMH72 - Banner et al. 2019).

Listed Community:

A Red-Listed or Blue-Listed ecological community identified by the BC Conservation Data Centre.





ARECs under GBRO

Plant Community:

- Plant species composition and relative abundances of plant species that are characteristic of a site unit
- Specific in the context of the GBRO.
- Similar but not the same as 'ecological community' (LMH72 - Banner et al. 2019).

Sufficiently Established:

- Red- or Blue-Listed Plant Communities associated with late mature or Old Forest stand characteristics;
- Includes floodplains that are not mature or old; and
- Red- or Blue-Listed Plant Community not defined as Old Forest with:
 - a complex, open stand structure and developed understory
 - a good or better viability rank (LMH72 - Banner et al. 2019).

Provincial Ranking



The British Columbia Conservation Data Centre (BC CDC)

Species and ecosystems are ranked by the BC CDC as:

- *red-listed*: extirpated, endangered or threatened in BC
- *blue-listed*: special concern in BC
- *yellow-listed*: not at risk in BC

Why Protect At-Risk Ecological Communities?

Ecosystems provide the foundation that supports all life forms as they exist today (BC CDC 2023)

It is the law. BCTS is bound by federal and provincial legal requirements to protect At Risk Ecological Communities

Professional due diligence and Code of Ethics

Due diligence under SFI Certification and Environmental Management System (EMS)



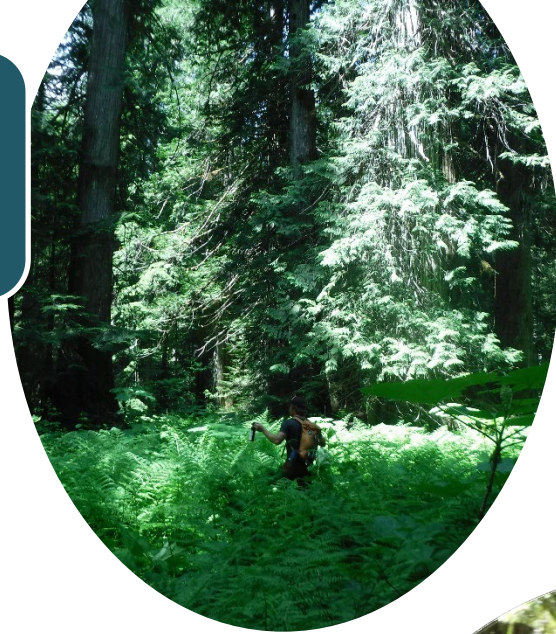
Certification: Sustainable Forestry Initiative (SFI)

- One of the SFI Principles is *The Protection of Biological Diversity*
- Addressing AREC within BCTS operating areas is a requirement of SFI Certification
- Contractors working within SFI certification must have Basic Training in “Species at Risk Awareness”



What is AREC Awareness?

- ✓ Familiarity with the legislation and designations
- ✓ Knowing which AREC have potential to occur in your area
- ✓ Knowing where to find resources to recognize and document AREC
- ✓ Ability to spot indicator plants that help identify AREC
- ✓ Knowing how to document observations of AREC



At Risk Ecological Communities (AREC) SOP



BCTS
BC Timber Sales

WHAT:

A stand level approach to protect biodiversity

WHY:

To meet our SFI commitments “to manage for threatened and endangered species and Forests with Exceptional Conservation Value”

WHERE:

Applies to all operating areas located within the Strait of Georgia Business Area (TSG)

- With the exception of applicable areas under the GBRO, the Clayoquot Sound Land Use Plan Order and any areas that may be excluded from SFI Certification

HOW:

Protecting At Risk Ecological Communities (AREC)



Management Focus

BCTS SOP focuses on G1/G2 and S1/S2 communities where:

G1 or S1= Critically imperiled. This defined as, “at a very high risk of extinction to extreme rarity (often 5 or fewer populations/documentated occurrences).

G2 or S2= Imperiled. This is defined as, “at high risk of extinction due to very restricted range, few populations (often 20 or fewer)”.



At Risk Ecological Communities



Strait of Georgia Business Area

SOG Plant Communities Focus List

- A '**Focus List**' of plant communities that meet the SFI criteria and could potentially be impacted by harvest or road development activities has been created by a Professional Biologist
- **Only plant communities on the TSG Plant Communities Focus List will be managed for under this SOP.**
- **Always check the TSG Plant Communities Focus List against the area of interest prior to any field work**

Focal AREC

At Risk Ecological Community Name	Biogeoclimatic Unit	Global Rank	Provincial Rank	Changes to AREC list Since 2022 Update
Coastal Western Hemlock, Dry Maritime (CWHdm) – Mainland Coast Only				
Douglas-fir - western hemlock / salal (<i>Pseudotsuga menziesii</i> - <i>Tsuga heterophylla</i> / <i>Gaultheria shallon</i>)	CWHdm/03	G3G4	S2 (2019)	No change
Douglas-fir / sword fern (<i>Pseudotsuga menziesii</i> / <i>Polystichum munitum</i>)	CWHdm/04	G2G4	S2 (2019)	No change
western redcedar / sword fern (<i>Thuja plicata</i> / <i>Polystichum munitum</i>)	CWHdm/05	G2G3	S2? (2016)	No change
western hemlock – western redcedar / deer fern (<i>Tsuga heterophylla</i> – <i>Thuja plicata</i> / <i>Struthiopteris spicant</i>)	CWHdm/06	G2G3	S2 (2013)	No change
Sitka spruce / salmonberry (<i>Picea sitchensis</i> / <i>Rubus spectabilis</i>)	CWHdm/08	G1G2	S1S2 (2010)	No change
western redcedar / salmonberry (<i>Thuja plicata</i> / <i>Rubus spectabilis</i>)	CWHdm/13	GNR	S1S2 (2019)	No change
western redcedar / black twinberry (<i>Thuja plicata</i> / <i>Lonicera involucrata</i>)	CWHdm/14	GNR	S1 (2019)	No change
western redcedar / slough sedge (<i>Thuja plicata</i> / <i>Carex obnupta</i>)	CWHdm/15	GNR	S2 (2021)	No change

Training Requirements

- LMH#28 A Field Guide for Site Identification and Interpretation for the Vancouver Forest Region aka The Red Book

<https://www.for.gov.bc.ca/hfd/pubs/docs/Lmh/Lmh28.htm>

- Attend BCTS TSG Annual Species at Risk and AREC Awareness Training (this session)



**A Field Guide for Site
Identification and Interpretation
for the Vancouver Forest Region**

Land Management
Handbook NUMBER **28**

ISSN 0229-1622

1994



Province of
British Columbia
Ministry of
Forests

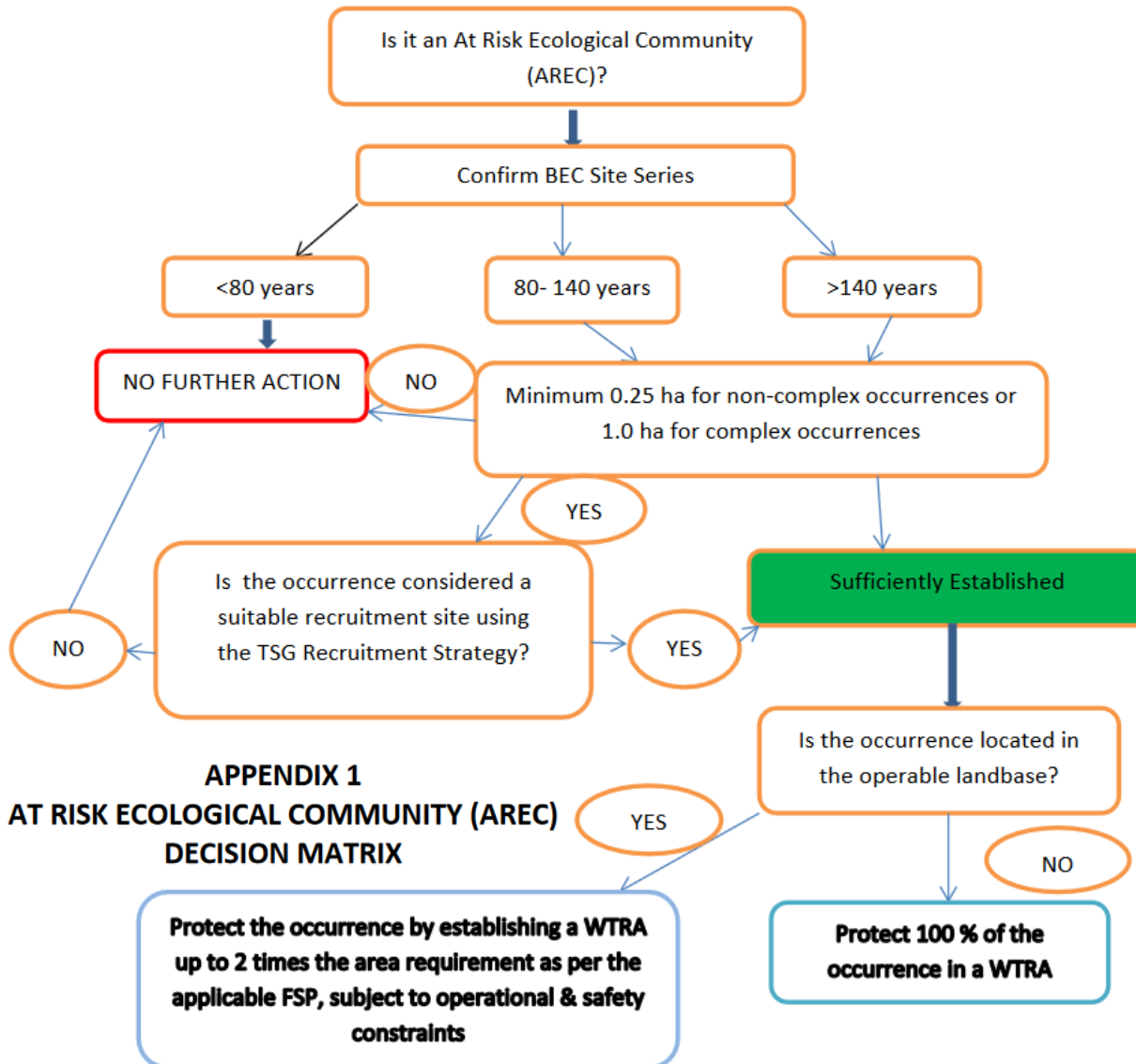
If an AREC is located in the field...

Record and Report!

1. Contact the applicable BCTS Practices Forester
2. Accurate size and location of the AREC (GPS points)
3. BEC site series classification
4. List of plants and percentage coverage
5. Photographs
6. Soils information (texture, coarse fragment content)
7. Complete a SAR/AREC field observation form:
G:\BCTS\TSG Records Management System\10000 FS
General-TSG Procedures\02-Procedures\1-Planning\Final\SAR Field Observation.pdf

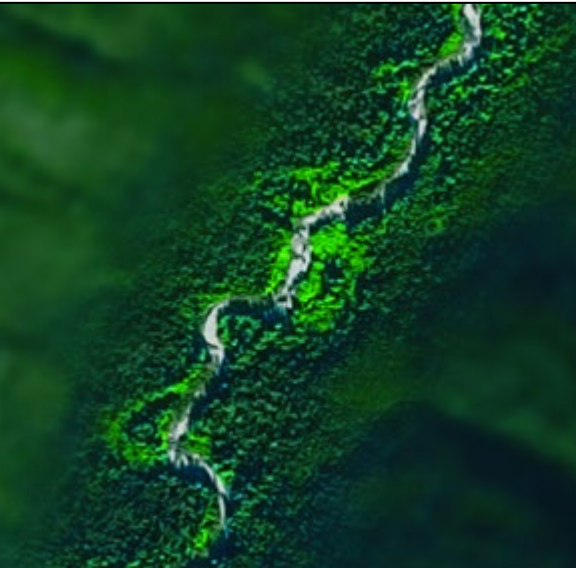


AREC Decision Matrix



Sufficiently Established?

- Is it big enough?
- Is it old enough?
- Is it good quality?



Sufficiently Established?

Is the potential polygon large enough to manage?

Minimum Size Criteria

- Single site series= 0.25 ha
- Complex (where two or more site series can not be separated)= 1.0 ha



Sufficiently Established?

- < 80 years old → **NOT Sufficiently Established**
- 80-140 years old (age class 5-7) + meets the minimum size criteria + suitable recruitment = **SUFFICIENTLY ESTABLISHED**
- > 140 years old (age class 8-9) + meets the minimum size criteria = **SUFFICIENTLY ESTABLISHED**



Suitable Recruitment

- ✓ The presence of a Veteran Overstory Tree (VOT) layer
- ✓ Crown closure 10-30%.
- ✓ A consistent/ well developed understory plant community layer where the total area is >50% represented by shrubs and herbs and the plant species listed in the vegetation table for the site series (The Red Book)
- ✓ *Coarse Woody Debris* (CWD) is an obvious and visible feature
- ✓ A natural disturbance or selective harvesting history
- ✓ Proximity to other landscape level values (WHA, OGMAs, UWRs)

The SOG Recruitment Strategy

The Site Plan Forester shall consider:

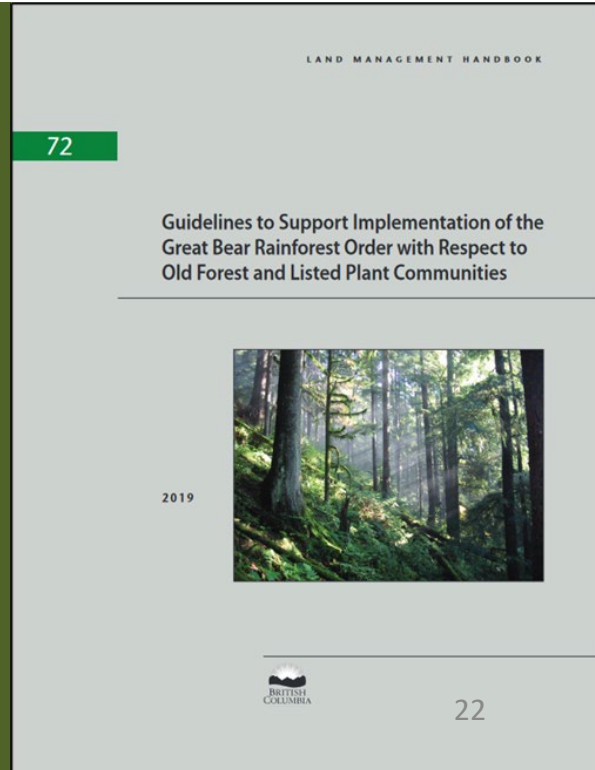
- Size of occurrence
- Age of occurrence
- Quality of recruitment

And prepare a written rationale to determine the suitability for recruitment

- The rationale titled: “AREC Recruitment Strategy Rationale” will be submitted to the applicable field team Practices Forester who shall incorporate the Rationale into a signed Supplemental Note to be included with the Site Plan final package
- If the site is determined to be a suitable recruitment site and meets the minimum size criteria then it is **SUFFICIENTLY ESTABLISHED**

More detail is available:

[*Guidelines to Support Implementation of the Great Bear Rainforest Order with Respect to Old Forest and Red –and Blue- Listed Plant Communities*](#)



AREC Management Objectives

Operable? Non-Operable?

Non-Operable

- Protect 100% of each Sufficiently Established occurrence within a WTRA

Operable

- Protect the occurrence by establishing a WTRA twice the area requirement as per the FSP



AREC Management Objectives

If the AREC is located in an operable polygon, must consider:

Section 9.1 of the Forest Planning & Practices Regulation (FPPR)

- *“the objective set by government for wildlife and biodiversity at the stand level is to retain wildlife trees”*



AREC Management Objectives

If the AREC is located in an operable polygon:

- Establish a WTRA up to 2 times the area requirement as per the applicable Forest Stewardship Plan
- Includes the West Coast, Pacific Maritime, and Campbell River FSPs; and
 - Area requirements specified in the approved Sproat, Sayward, or Renfrew Aggregate Landscape Use Plans
- Subject to operational and safety constraints.



Operable Polygon Example

Cutblock A + Cutblock B = Timber Sales Licence

Cutblock A
<ul style="list-style-type: none">• AREC Present• WTRA exceeds target in FSP to protect AREC

Cutblock B
<ul style="list-style-type: none">• No AREC Present• WTRA can be reduced to minimum of 3.5%

Total area in TSL is a minimum of 7% or the requirement in the ***applicable FSP***



AREC Example - SS03 in WTRP

Due Diligence

Two falling corners and/or road stations must be referenced in the field with the release map on a continual basis before, and during the felling of any timber within this setting. If you are unsure of your location, Stop Work and call a supervisor.

Forest and Range Practices Act

How to follow plan:
 1) Always read and understand your plans and maps.
 2) Always match your plan and map to what you find on the ground and then check that you can do the work.
 3) Stop and ask if you cannot follow the plan and map.
 4) Know your responsibilities. Ask if you are unsure.
 Due Diligence means following these steps.

GUIDELINES:

BCTS Zone 4 WET Weather Shutdown Guidelines must be strictly adhered to.

HAZARD ALERT

Use caution when working in area. Potential risk for rock fall.
 * Note: Harvest area may contain scattered areas of rock fall

Known Hazards for Ground Based Equipment

- Area of Steep Slopes
 - Isolated Location of Steep Slopes
- Contains slopes over 35%. Please refer to OHS Regulation Section 28.16 for equipment slope limitations and acceptable safe work practices.
- * Note: Harvest area may contain other non-identified areas of steep slopes.

Riparian Class	RMZ	RRZ
S1	20	50
S2	20	30
S3	20	20
S4	30	0
S5	30	0
S6	20	0
W1	40	10
W2	20	0
W3	30	0
W4	30	0
W5	40	10
L1	10	10
L2	20	10
L3	30	0
L4	30	0



BCTS
 BC Timber Sales
 Strait of Georgia
 Port Alberni Field Team

SITE PLAN MAP

Outblock: F016C4E8
 Forest Region: Coast
 Forest District: South Island
 Land District: Clayoquot
 Cascades: West C
 Geographic Coordinates: 0 05 50
 Lat: 49° 07' 26"
 Long: 124° 51' 05"
 Author: A. Furey
 Print Date: 20-Aug-2018
 Map Revision: 1a
 Revised Date: 03-mmm-yyyy

MAP LEGEND

- Boundary Features:
 - Falling Boundary
 - Hell Splitline
 - Adjacent Block-Planned Harvested
- Legal Boundary
- Tree Crown Modification Feathering
- Road Features:
 - Built Road
 - Old Grade
 - Proposed Road
 - Temporary Road
 - Backpack Trail
 - Access Trail
 - Bridge
 - Road Station
 - Existing Culvert
 - New Culvert
 - Culvert to be replaced
- Natural Features:
 - Windthrow
 - Snag
 - Sadpole
 - Slope
 - Rock Bluff
 - Wet Area
 - Ridge
 - Draw
 - Terrain Break
- Resource Features:
 - Hazard
 - Single Tree Retention
 - Monumental Cedar
 - Archaeological Feature/CMT
 - Quarry/Gravel Pit
 - Bear Den/Bird Nest
 - Helipad/Service Landing
 - Index Contour
 - Intermediate Contour
- Riparian Features:
 - Fish Streams (S1-S4)
 - Non Fish streams (S5, S6)
 - Unclassified Creek
 - Non Classified Drainage
 - FSZ Stream
 - Reach Break/Fish Barrier
 - Stream ID
 - Lakes/Wetlands:
 - Lakes Class 1, 2, 3, 4
 - Wetlands Class 1, 2, 3, 4, 5
 - Sensitive and Designated Areas:
 - Wildlife Tree Retention Area
 - Timber Leave Area
 - Special Management Zone

Field Marking Standards:

Activity	Ribbon	Paint
Timber Sale License Boundary		
Internal Boundaries		
Reconnaissance Lines		
Traverse Stations (Road/Other)		
Cruise Strips / Plots		
Road Location		
Culturally Modified Tree		
Landings / Tower Settings		
Deflection Lines		
Streams		
Reserve Zones (All)		
Management Zones (All)		
Reserve Trees (Painted)		

RPARIAN ID	RPARIAN CLASS	MANAGEMENT STRATEGIES
1,2,3,4,5,5A,6	S6	FX YX NC

DEFINITIONS

FA - Fall Away; YA - Yard Away	MC - Machine Clean
FX - Fall Across; YX - Yard Across	DX - Designated Crossings on Map
RD - Retain Saplings	NCD - Non-Classified Drainage
NC - No Clean	MFZ - Machine Free Zone

SU	Stocking Standards	Zone	Subzone	Variant	Site Series		Area (ha)
					Dominant (SS)	Related (SS-%)	
1	1051402	CWH	mm	1	D1	03(5%)	25.7
Net Area to be Reforested							25.7
Timbered Leave Areas							0.9
Wildlife Tree Retention Area - At Risk Ecological Community CWH mm1 03							5.7
Permanent Access Structures (Roads)							2.3
Total Area Under Prescription: 34.6							

NOTE: TREE CROWN MODIFICATION
 TREAT DOMINANT AND CO-DOMINANT TREES STANDING WITHIN 50M OF THE HARVEST BOUNDARY.
 TOP A MAXIMUM OF 50% OF THE WILDLIFE HABILITATION (HW) DOMINANT AND CO-DOMINANT TREES TO BE THINNED IN EACH SUGMLIN.
 TOPPING MUST TAKE PLACE BETWEEN 50% AND 70% OF THE LUF CROWN OF EACH TREE THAT IS TOPPED.
 MANUALLY SPREAD TOPPING AND TOPPED DOMINANT AND CO-DOMINANT CONIFER TREES BY REMOVING 30% TO 70% OF THE LUF CROWN EVENLY DISTRIBUTED AROUND THE DOLE.
 WHILE THINNING IN PLANNING MUST BE COMPLETED WITHIN 30 DAYS OF FELLING THE SUGMLIN WITHIN ONE FULL LENGTH OF ANY AREA DESIGNATED FOR TREATMENT.

BOUNDARY SEGMENT	WIDTH (m)	ATFA	TOTAL STEMS PER HA	% OF STEMS TO BE MODIFIED	# OF STEMS TO BE MODIFIED
FC 17 to FC 18	30	0.7	415.7	30%	125
FC 19 to FC 21	30	0.4	412.7	100%	413
FC 21 to FC 22	30	0.7	415.7	30%	125
TOTAL		1.8			263

AREC WTRAS

Silviculture Instructions	Color/Pattern
SU 1	Light Green
SU 2	Yellow
SU 3	Light Blue
PAS	Light Purple
Stumping	Red
Plant Alternate Species	Light Green
Sensitive Soils	Light Blue
Non-Timber Resources	Light Green
Sensitive Ecosystem	Light Green
Recreation Area	Light Green
Ungulate Winter Range	Light Green
Wildlife Habitat Area	Light Green
Mammoth Habitat Area	Light Green
Old Growth Mgmt. Area	Light Green
Draft Old Growth Mgmt. Area	Light Green

TSL A93750 - CUTBLOCK: F016C4E8

MAP 1 of 1

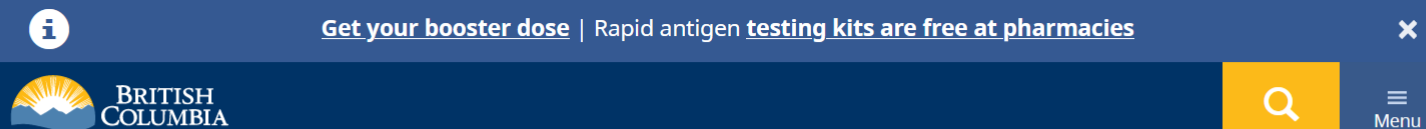
Reporting Criteria

- ✓ All ARECs must:
 - ✓ Be mapped and documented in the WTRA section of the Site Plan including the rationale for the placement of the WTRA.
- ✓ Shape files must be included in the final submission.



Additional Information Sources

- **Known occurrences** of G1/G2 or S1/S2 ecological communities that have been identified on the Focus List via the Conservation Data Centre (recommended for individual plant community locations)
<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/species-and-ecosystems-explorer>
- **Known occurrences** of G1/G2 or S1/S2 ecological communities that have been identified on the Focus List via iMap layers (recommended for areas of interest)
- **Potential for occurrences** using available BEC layers in iMap or Arcmap
- Any existing rare plant community (sometimes known as sensitive ecosystem) inventory information



Home > Environmental protection and sustainability > Plants, Animals & Ecosystems > Conservation Data Centre > Explore CDC Data >

- ▼ Explore CDC Data
 - ▼ **BC Species & Ecosystems Explorer**
 - Data Sources & Name Standards
 - ▶ Recent Data Changes
 - ▶ Mapped Locations
 - Status Ranks
 - Red, Blue & Yellow Lists

BC Species & Ecosystems Explorer

BC Species & Ecosystem Explorer (BCSEE) provides information for over 22,000 plants, animals and ecological communities in BC.

- Learn about the species and ecological communities in BC
- Generate lists based on your chosen criteria
- Find out what potentially occurs in your area of interest

[Launch BC Species & Ecosystems Explorer](#)

May 2021 update! Read about the changes [here](#)

Access the Data

Data about species and ecosystems in B.C. can be found using one of these online tools:



- [BC Species & Ecosystems Explorer](#)

Questions ?

