



Management of Species and Plant Communities at Risk

Stuart-Nechako Business Area

BC Timber Sales

TRAINING OBJECTIVES

- Awareness of existing legislation pertaining to the protection of species at risk in British Columbia and thereby the Stuart-Nechako Business Area (TSN).
- The planning process implemented within TSN to manage species at risk.
- How management strategies are implemented & follow-up monitoring is undertaken.
- Awareness of the scope of species at risk within TSN operating area in Fort St James & Vanderhoof Forest Districts.
- Information sources pertaining to species at risk, species of management concern, habitat requirements and potential management strategies.

INTRODUCTION

The conservation of species and plant communities at risk is a fundamental component of sustainable forest management. Rare and endangered species, their habitats, and plant communities need to be addressed and managed with a particular level of urgency, due to their sensitivity to forestry practices.

It is therefore important for all forestry personnel to be capable of recognizing species and plant communities in the field, as well as maintaining an understanding of the various stand and landscape level management strategies available to address species at risk or sites of biological significance.

WHY PROTECT SPECIES AT RISK?



➡ Loss of Biodiversity means loss of:

- Genetic resources
- Productivity
- Ecosystem buffering
- Ecosystem services
- Aesthetic and commercial resources



Osprey Nest - Karen Krushelnick

WHAT ARE SPECIES AT RISK ?

- A species or ecological community is “at risk” when it is determined to be in danger of disappearing from the wild.
- In Canada, a species status is determined at both federal and provincial levels. Assessments are based on up-to-date scientific information, followed by classification into categories based on level of risk.
- The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) determines the national status of wild Canadian species, subspecies, and separate populations suspected of being at risk (Federal – *Species at Risk Act*)
- Specialists at the BC Conservation Data Centre, in cooperation with scientists and experts throughout the province, identify British Columbia's most vulnerable vertebrate animals, vascular plants and natural plant communities.

RANKING SPECIES AT RISK

The conservation status of a species or ecological community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = Global, N = National or Canada wide, and S = Sub-national or Provincial conservation status).

<http://www.natureserve.org/explorer/ranking.htm>

The numbers have the following meaning:

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable
- 4 = apparently secure
- 5 = secure.

G1 would indicate that a species is critically imperiled across its entire range (i.e., globally). A rank of S3 would indicate the species is vulnerable and at moderate risk within a particular state or province, even though it may be more secure elsewhere.

RANKING SPECIES AT RISK

The BC Conservation Data Centre (CDC) assigns species & ecological communities to one of three lists based on their provincial Conservation Status Rank:

- ▶ **Red Listed** – Includes any ecological community and native species & subspecies that is, or are candidates for Extirpated, Endangered, or Threatened status in BC.
- ▶ **Blue Listed** – Includes any ecological community and native species considered to be of special concern in BC (at risk but not Extirpated, Endangered or Threatened). These species are not immediately threatened, but of special concern because of characteristics that make them particularly sensitive to human activities or natural events.
- ▶ **Yellow Listed** – Species and ecological communities that are secure.

Federal

- Species at Risk Act (SARA)

Provincial

- Wildlife Act
- Forest and Range Practices Act
- Fish Protection Act



Northern Goshawk Nest

SPECIES AT RISK ACT (SARA)

The purposes of the Act are to:

1. Prevent Canadian indigenous species, subspecies, and distinct populations from becoming extirpated or extinct
2. Provides for the development of recovery of strategies and action plans for endangered, threatened and extirpated species and management plans for species of special concern.

More specifically, the Act:

- Establishes COSEWIC (Committee on the Status of Endangered Wildlife in Canada) as a legal entity consisting of independent experts
- Requires that the best available scientific knowledge be used
- Create prohibitions
- Recognizes that compensation may be needed
- Creates a public registry
- Is consistent with Aboriginal and treaty rights and respect the authority of other federal ministers and provincial governments

SPECIES AT RISK ACT (SARA), Planning dual-level approach

1. Ecosystem or Coarse Filter Approach
2. Species-Specific or Fine Filter Approach

Coarse Filter

- Maintenance of biodiversity on a broad scale
- Parks and protected areas
- Provisions for managing seral distribution (OGMAs, WTRAs)
- Management of riparian areas
- Strategic and landscape-level planning

Fine Filter

- Wildlife Habitat Areas and associated Objectives and General Wildlife Measures
- Wildlife Habitat Features
- Stand level measures (e.g. coarse woody debris guidelines)

BC WILDLIFE ACT

- Main provincial law for protecting wildlife, endangered species and wildlife habitat
- Provisions for protecting, managing, and purchasing habitat areas as well as protecting endangered and threatened species
- Administered by the Ministry of Environment

The Act employs two primary vehicles for managing wildlife:

- Managing wildlife takings through licensing schemes and particular species protection measures
- Managing habitat areas



Rusty Blackbird – Beth Starr

FOREST AND RANGE PRACTICES ACT (FRPA)

- Govern the activities of forest and range licensees
- Sets the requirements for planning, road building, logging, reforestation, and grazing
- Designed to deliver a careful balance of economic and environmental benefits
- Specifies requirements

Various measures, including:

- Identified Wildlife Management Strategy (IWMS)
- Wildlife Habitat Features (WHFs)
- Ungulate Winter Ranges (UWR)
- Wildlife Tree Retention Areas (WTRAs)



FOREST AND RANGE PRACTICES ACT

Identified Wildlife Management Strategy (IWMS)

- Provides direction, policy, procedures and guidelines for managing identified Wildlife including all flora, fauna and plant communities
- Includes Species at Risk and Regionally Important Wildlife (RIW) considered to require special management
- Managed through the establishment of Wildlife Habitat Areas, implementation of General Wildlife Measures or other management practices



Sandhill Crane



Sharp-Tailed Grouse – Cindy Grey



Great Blue Heron Nest - Mike Baird,
bairdphotos.com

FOREST AND RANGE PRACTICES ACT Wildlife Habitat Features

- A feature used by a wildlife species
- Special management is required
- Policy still evolving
- Protects discrete habitat features that are readily identifiable in the field such as:
 - Mineral licks or wallows
 - Fisheries or marine sensitive features
 - Nest site of a great blue heron or other bird species at risk
 - Any other localized feature that is important for wildlife, especially SAR



BC LEGISLATION - PROTECTION FOR SPECIES AT RISK



FOREST AND RANGE PRACTICES ACT **Ungulate Winter Ranges**

- Area that contains habitat that is necessary to meet the winter habitat requirements of an ungulate species (hoofed mammal)
- Based on our current understanding of ungulate habitat requirements in winters by the Ministry of Environment

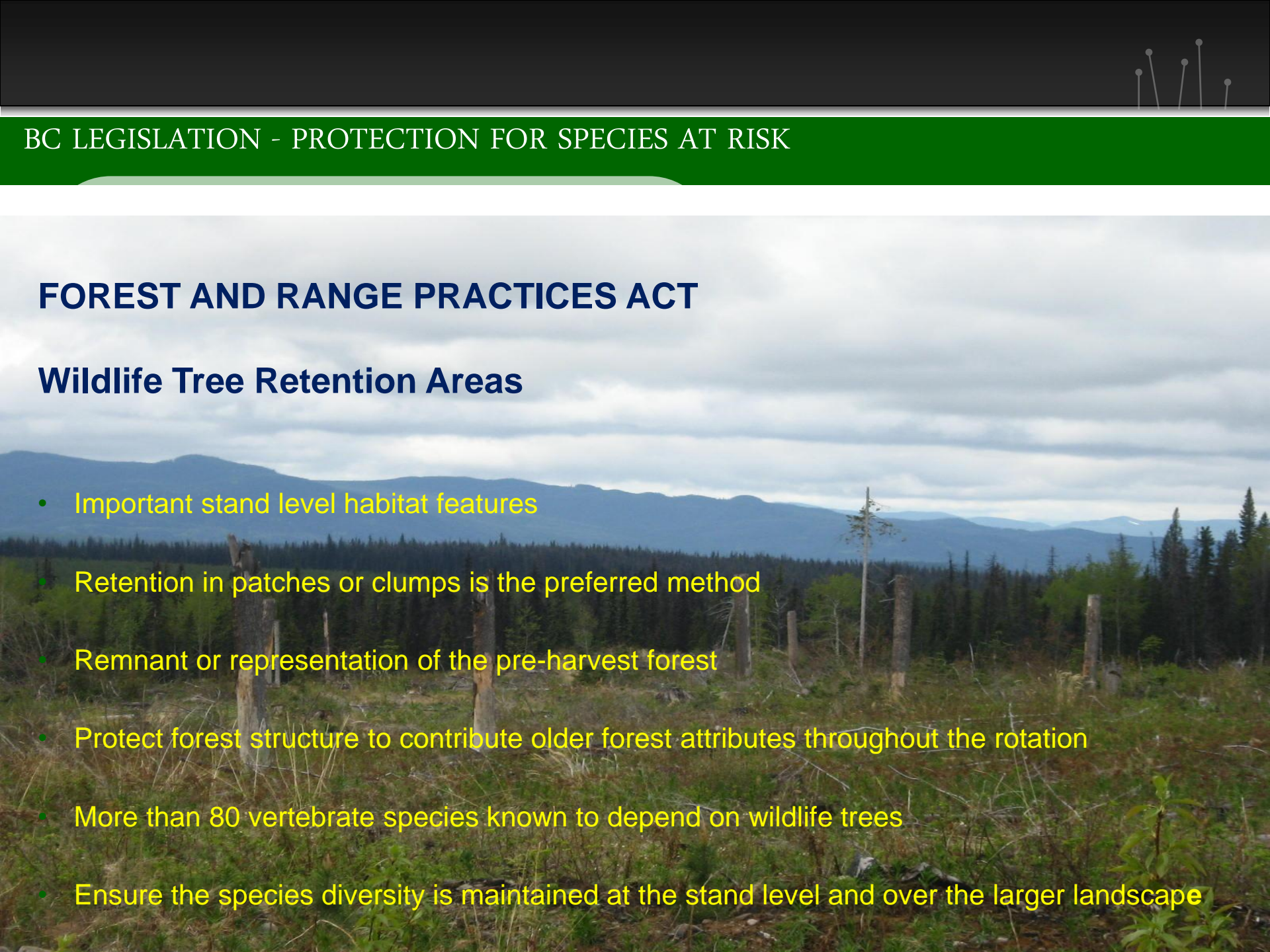
FOREST AND RANGE PRACTICES ACT

Non-Spatial Old Growth Order and Spatial OGMAs

- Legally establishes new landscape units as well as old growth forest retention objectives
- Confirm the extent of timber harvesting opportunities
- Clear action to conserve biodiversity value and species associated with old growth forests
- Delineated within landscape unit plans to address landscape level biodiversity
- Designed to reflect the composition of the landscape
- Selected from the non-contributing land base

FOREST AND RANGE PRACTICES ACT

Wildlife Tree Retention Areas

- Important stand level habitat features
 - Retention in patches or clumps is the preferred method
 - Remnant or representation of the pre-harvest forest
 - Protect forest structure to contribute older forest attributes throughout the rotation
 - More than 80 vertebrate species known to depend on wildlife trees
 - Ensure the species diversity is maintained at the stand level and over the larger landscape
- 



BC FISH PROTECTION ACT

- To ensure fish and fish habitat are sustained for present and future generations

Four major objectives:

- Ensuring sufficient water for fish
 - Protecting and restoring fish habitat
 - Improved riparian protection and enhancement
 - Stronger local government powers in environmental planning
- Addresses water levels, riparian habitat and designation of sensitive streams



Cutthroat Trout - Kirsten MacKenzie



White Sturgeon (Nechako River)

BC FISH PROTECTION ACT Riparian Areas Regulation

Purpose:

- Provide protection for the features, functions and conditions that are vital in the natural maintenance of stream health and productivity

Riparian Areas:

- Occur next to the banks of streams, lakes, and wetlands
- Contain many of the highest value non-timber resources
- Frequently contain the highest number of plant and animal species
- Degree of protection dependent on stream size, and whether it is fish-bearing or in a community watershed
- Focus is on protecting attributes of the in-stream habitat



Bull Trout – Phil Fischer

- TSN's Planning Process for the management of Species At Risk focuses on the Management of BC Red & Blue listed Species and Ecological Communities.
- BC Species & Ecosystem Explorer is utilized to generate current lists of provincial species and ecological communities based on a number of criteria options, including conservation or legal status, and spatial distribution.
- This MOE web-based tool allows users to print SAR search results, or download them to Excel. It also provides access to species and ecological community related reports and documents. It is updated annually or as warranted through research.

- TSN's planning process pertaining to Species At Risk relates specifically to planning and operational implementation of harvesting, road construction and road deactivation activities.
- TSN staff and associated layout contractors use BC Species & Ecosystems Explorer (<http://a100.gov.bc.ca/pub/eswp/>) to identify.
 - Provincial Red & Blue-listed species & ecological communities.
 - Relevant publications to aid in SAR identification & management.
 - Source material related to species distribution, life histories, conservation needs, recovery plans etc.

ACCESSING - BC SPECIES & ECOSYSTEM EXPLORER

Ministry Home GOVERNMENT OF BRITISH COLUMBIA

BC Species and Ecosystems Explorer Ministry of Environment

[home](#) [faq](#) [contacts](#) [glossary](#) [help us](#)

[Plants & Animals](#) [Ecological Communities](#) [Help](#)

Quick Search [?](#)

[Red List](#) [Red & Blue List](#) [SARA List](#) [Conservation Framework 1-3](#)

Basic Search

Species Name [?](#) [Search](#)

Scientific English Species Code

Species Groups [?](#) Animal Plant

Group	Subgroup
Vertebrate Animals	Amphibians (Frogs, Toads, Newts & Salamanders)
Invertebrate Animals	Reptiles & Turtles (Lizards, Skinks, Snakes, & Turtles)
Vascular Plants	Fish, Freshwater
Non-Vascular Plants	Fish, Marine
Lichens	Birds, All Species
	Birds, Species Breeding in BC
	Mammals
	Beetles (Tiger Beetles only)

Advanced Search [+Expand All](#) | [-Collapse All](#)

Area Based [?](#) (Restricted to Red, Blue, and Legally Designated species)

Conservation Status [?](#)

Legal Designation [?](#)

Native / Non-native [?](#)

Conservation Framework [?](#)

Sort Order:

[Search](#) [Reset](#)

BC SPECIES & ECOSYSTEMS EXPLORER – Sample Output (TSN – DVA & FSJ)



Plants & Animals Search Results (39 records) Sort Order Scientific Name Ascending

Scientific Name [?]	English Name [?]	Status					CF Priority [?]	Locations [?]	Reports
		Provincial [?]	BC List [?]	COSEWIC [?]	SARA [?]	Global [?]			
Acipenser transmontanus pop. 3	White Sturgeon (Nechako River population)	S1 (2010)	Red	E (2003)	1-E (2006)	G4T1Q (1997)	2		
Amblystegium varium		S2S4 (2011)	Blue			G5 (1991)	2		
Anaxyrus boreas	Western Toad	S3S4 (2010)	Blue	SC (2012)	1-SC (2005)	G4 (2008)	2		
Ardea herodias herodias	Great Blue Heron, <i>herodias</i> subspecies	S3B,S4N (2009)	Blue			G5T5 (2000)	2		
Astragalus bourgovii	Bourgeau's milk-vetch	S3 (2001)	Blue			G5 (1985)	4		
Boechera sparsiflora	stretching sunscress	S1 (2000)	Red			G5 (1988)	2		
Boloria epithore sigridae	Western Meadow Fritillary, <i>sigridae</i> subspecies	S2S4 (2013)	Blue			G5T3 (2001)	3		
Brachythecium calcareum		S3 (2011)	Blue			G3G4 (1999)	2		
Carex backii	Back's sedge	S2S3 (2003)	Blue			G5 (2012)	2		
Carex bicolor	two-coloured sedge	S2S3 (2000)	Blue			G5 (1989)	3		

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Modify Search

New Search

Printer Friendly

Export Details

Search Criteria

Search Type: Plants & Animals
 AND BC Conservation Status: Red (Extirpated, Endangered, or Threatened) OR Blue (Special Concern)
 AND Forest Districts: Fort St. James Forest District (DJA), Vanderhoof Forest District (DVA) (Restricted to Red, Blue, and Legally designated species)
 Sort Order: Scientific Name Ascending

Notes

1. Citation: B.C. Conservation Data Centre. 2013. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed Dec 18, 2013).
2. Forest District, MoE Region, Regional District and habitat lists are restricted to species that breed in the Forest District, MoE Region, Regional District or habitat (i.e., species will not be placed on lists where they occur only as migrants).

TSN SPECIES MANAGEMENT STRATEGIES

TSN has separated out the management strategies into 3 broad categories.


1. Animal Management Strategies. This management strategy includes the mammals, fish, birds, and invertebrates and involves grouping together of species into similar habitat requirements.
2. Vascular Plant Management Strategies. All vascular and non-vascular plants are managed in a similar fashion – Record, Collect, Confirm, and Implement a suitable stand level management strategy.
3. Plant Community Management Strategies. Plant communities at risk are managed in a similar fashion . Management of ecological communities usually involves confirming the actual presence of the rare plant communities in the field (BEC site series indicators do not necessarily mean the pertinent plant community is well represented). On-site assessment confirms location, size & quality of the plant community at risk. Appropriate management strategies are then developed. These could include – avoidance, inclusion of a representative portion of the plant community in a WTRA or in the case of beetle-killed types, trying to artificially rehabilitate the site.

RECORDING AND REPORTING

- Confirmed observations pertaining to species or ecological communities at risk must be reported to BCTS planners and where applicable the observations forwarded to the CDC.
- Observation forms are provided in the link below. BCTS staff must fill out the appropriate form and submit to the planning department. Contractors are to fill out this page as well and provide to the contract coordinator.

Link to CDC online reporting: <http://www.env.gov.bc.ca/cdc/contribute.html>

CONCLUSION

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- A photograph of two sandhill cranes wading in shallow, rippling water. The cranes are white with long necks and distinctive red patches on their heads. They are positioned on the left side of the frame, with one slightly ahead of the other. The background shows a blurred shoreline with some vegetation.
- Managing species and plant communities at risk is a challenge
 - There are very few 'absolutes' to guide resource managers
 - Unique problems will be encountered that require creative solutions
 - Conservation as the main objective
 - Success is evaluated by maintaining all species and plant communities through time
 - There are many opportunities to conserve biological diversity



CONGRATULATIONS

You have now completed TSN's training pertaining to the Management of Species and Plant Communities at Risk

Please take the time to review and become familiar with our **Planning Process – Management of Red & Blue Species / Ecological Communities**



Short-Eared Owl – Ralph Hocken