

# **DAYLU DENA COUNCIL**

## **INVASIVE PLANT MANAGEMENT STRATEGY 2022 - 2025**



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## **INTRODUCTION**

Area description: Invasive plants on the Kaska Dena Ancestral Territory (the Territory) are mostly located in the settled areas and access roads, but are also spreading to more remote areas (see Appendix 2: Invasive Plant Map). The Territory is also served by the Provincial government which provides coordinated support, education, inventory tools, assessments and treatments for the region. Treatment costs are provided by the appropriate jurisdiction.

Invasive plants are non-native plants introduced from outside the Territory that cause, or are likely to cause, economic, social, cultural or environmental damage (see Appendix 1: Invasive Plant List). Over the years many species of invasive plants have been introduced – including thistle species, common tansy, yellow and orange hawkweed species, scentless chamomile and oxeye daisy. The spread of these plants can take over large areas, crowding out native species. Managing and controlling these species is important to maintain an ecosystem that is natural.

Invasive plant management on the Territory requires a multi-jurisdictional and multi-organizational approach, beyond the Kaska First Nation (KFN) and Provincial Government, Federal Government, forest tenure holders, local governments and oil & gas companies.

## **MANAGEMENT AREA**

The strategy described in this document is applicable to the terrestrial landbase of Kaska First Nation Ancestral Territory in and around Lower Post, BC.

## **REGULATORY FRAMEWORK**

### **Kaska First Nation**

It is our people's belief that *Denetie* gave the Kaska Dena a homeland and entrusted the Kaska Dena to maintain, preserve, and protect the land. She instructed us with her values and gave us laws that govern all our relationships. Of the many responsibilities given to us by the Creator, the protection of land and the balance of relationships is paramount to our role as land stewards. This responsibility was and continues to be achieved through Kaska Dena's traditions, customs, practices, and values.

While our laws remain primarily unwritten, it is still sanctioned in our wisdom keepers, who help us identify and communicate our laws. Our legal traditions all convey a similar message, one that expressed our duties to Dena Kēyeh. Our stewardship principles of acknowledgement and accountability are embedded in our stories. We view them through the lens of long-established worldviews, practices, and actions. It is through Kaska Laws - Dene K'éh Gús'ān, that we can unite our people in a spiritual Declaration to revitalize and utilize our sacred, natural and customary laws to restore our connection to the Creator and the land.

Invasive species management will be mindful of the guiding principles and Indigenous laws that the Kaska Dena use to guide their way of life.

## The Kaska Dene guiding principles:

- **Respect (Yédānehdī – To Respect)**

*Our interpersonal interactions as a Nation are what held our people and our ways in such high regard through the mutual consent of respecting one another. Kaska Dena respect the dignity in each person, and we are guided by the value of respect to each other and all living things. This means that Kaska Dena citizens will continue to steward the land in a way that respects our laws to ensure that the land and water are able to sustain the Kaska way of life for future generations.*

- **Responsibility (A'ī – To Honour)**

*Kaska Dena commits to fulfilling our individual responsibility to engage in the activities required of us to ensure good governance of our land and resources. Our inseparable and enduring relationship to the land is founded on our belief that all things have a spirit and are inter-connected and therefore we as, Kaska Dena, have a duty and responsibility as land stewards to ensure that all decision making is guided through the understanding of these interconnections. A healthy ecosystem is at the heart of healthy communities and healthy economies. Therefore, resource development and recreational use of the area must support the ecological integrity of the area and traditional and cultural use locations. Maintaining ecological process, while sustaining biological diversity is essential to the Kaska Dena way of life, maintaining Kaska Dena-land relations, and fulfilling Kaska Dena inherent responsibilities to the land.*

- **Reciprocity (Sōnes'in and Ándes'á' – To Care and Share)**

*Within our kinship networks, there are roles and reciprocal responsibilities we have to each other. Of the many responsibilities given to us from the Creator, the protection of land and the balance of relationships is paramount to our role as land stewards. This responsibility was and continues to be achieved through Kaska Dena's traditions, customs, practices, and values. Balance and equality are therefore paramount to the Kaska ethical value of reciprocity.*

- **Relationships (Sats'éni – To Relate)**

*The Kaska Dena's relationship to the land is an elemental one. Many parts of our sacred laws stem from the natural law of the earth, which came from higher universal principles that connected our ancestors to the observations of nature and the principle of peaceful relations that we need to have with all Creation. Through these relationships, the Kaska Dena developed a sense of normative values and legal principles. These principles are known as Dene K'éh – which is the unique reciprocal relationship and morals that our communities have to the world. For the Kaska, it is our personal roles and relationships where people's legal obligations are found. Everything we do is guided upon our relationship to each other and to the land and will seek to protect this integral relationship.*

**Gūnié' Yedānehdī' Gūtīe Nédzúdá Dege  
We Must Protect Our Land So We Can Live Well**

## Federal

The federal government regulatory framework is guided by the *Invasive Alien Species Strategy for Canada* and focuses on preventing the importation of invasive species across national borders. Relevant legislation includes the *Plant Protection Act* and *Regulation and Seeds Act* and *Regulations*. Invasive species management on reserve lands is the jurisdiction of the First

Nation, though there is no legal requirement to do so under the *Indian Act*. Federal legislation such as the *Pest Control Products Act* applies.

## **Provincial**

The provincial government regulatory framework that is applicable for public lands includes the *Integrated Pest Management Act and Regulation*, the *Weed Control Act* and the Invasive Plant Regulation under *Forests and Range Practices Act*. Use of herbicide products in BC must also be consistent with the federal *Pest Control Products Act* requirements with respect to following product labels.

The *Invasive Alien Pest Management Plan (PMP) for Provincial Crown Lands in Central and Northern British Columbia*, which is required under the *IPMA*, was approved for a five-year term in June 2020.

Since 2007, major forest licensees have been managing for invasive plants on their tenures with measures put forward in their 5-year Forest Stewardship Plans as required under the Forest & Range Practices Act. Plants identified under the Invasive Plant Regulation are considered in these measures. Local governments and municipalities are also responsible for invasive plant management as “occupiers” of land under the *Weed Control Act*. This requires them to control noxious weeds as outlined in the Weed Control Regulation.

Oil & Gas companies as well as companies which have transmission or other infrastructure on public lands also have Invasive Plant Management plans and may have Pest Management Plans under the *IPMA*.

## **MISSION STATEMENT**

**The Daylu Dena Council (DDC) and BC will collaboratively manage invasive plants on the Kaska First Nation Ancestral Territory in and around Lower Post, in an inclusive manner that includes input from the communities, regional district/regional municipality areas and interested organizations.**

## **Goals**

1. Prevent the introduction of invasive plants, limit their spread, and, where necessary and possible, eradicate existing infestations and restore native plant communities.

### **Strategies to accomplish this goal:**

- a) Develop an annual workplan that implements prevention-oriented management that identifies high priority sites and species through surveys and inventories, and includes monitoring, treatment, restoration and ongoing data management.
  - b) Establish priorities and management strategies using spatial data overlay and analysis (plants and fish stream data overlaid with invasive plant layer)
2. Protect the environment and resources through transparent communications, respect for all life forms, and maintenance of social and cultural values, including drinking watersheds, fish streams, food and medicine gathering areas in villages and the broader landbase.

### **Strategies to accomplish this goal:**

- a) Ensure proactive communications with all relevant parties as part of annual work plans to identify sensitive areas that limit treatment options
  - b) Joint participation in on-the-ground treatment decisions
3. Facilitate Kaska stewardship through knowledge sharing, training and employment.

### **Strategies to accomplish this goal:**

- a) Facilitate public education, awareness and knowledge sharing
- b) Create a Dane Nan Yé Dāh (DNY) invasive species program
- c) Promote employment opportunities with KFN and local employment agencies.

## **STRATEGIC PLANNING PROCESSES**

<b>Document</b>	<b>Frequency of Review</b>	<b>Timeframe</b>	<b>Responsibility</b>	<b>Final Approval time and responsibility</b>
Strategy (Plan)	Annually	November	DKI	
Plant List	Annually	January by February by	Province	Collaborative
Work Plan	Annually	March	DKI	DKI
Annual treatment Report		November	Province	

## **INVASIVE PLANT MANAGEMENT PLAN 2024-2025**

An effective Invasive Plant Management Plan includes:

1. Public education to prevent the introduction of invasive plant, provide information on planting alternatives, explain where and how to dispose of garden waste that contains invasive plant materials
2. Invasive plant inventory – gather baseline data and identify gaps and approaches to strengthen the inventory
3. Determining invasive plant and site priorities
4. Annual Work Plan: determine treatment and site rehabilitation options
5. Monitor and evaluate treated sites
6. Reporting and record keeping

### **1. Education**

- a. Community review of the DDC Invasive Plant Management Strategy and annual work plan
- b. Invasive plant ID and management training of DNY guardians
- c. Invasive plant programs at Denetia School
- d. Community workshops and management activities (i.e. weed pulls)
- e. Development and distribution of education materials such as pamphlets, newsletters, etc.

### **2. Inventory**

To build on the existing invasive plant inventory, monitoring and assessment by DNY and Provincial field crews, additional inventory is required. GPS waypoints will be taken of individual occurrences and patches - the perimeter of patches will be mapped and data collected to describe the site and if located in proximity to food or medicine plants, fish bearing streams or other sensitive values.

### **3. Determining Invasive Plant and Site Priorities:**

In order to develop an Annual Workplan, the list of invasive plants must be reviewed periodically to determine their priority for management. As well, a systematic approach to determining which sites are a priority must also be used.

The decision-making process used for how to manage an infestation is:

- ⇒ How big a threat is this species (ecological, economic, health)? Including assessing what harm or risk they pose to native species
- ⇒ How big is this infestation?
- ⇒ Is the infestation in an area where this species is widespread and established?
- ⇒ Is there an adjacent ecosystem, infrastructure, value or industry, we must protect?
- ⇒ What direction have local governments provided?

## **a. Determining Invasive Plant Priorities:**

A list of species currently found in or nearby KFN territory is included in Appendix 1. DDC will develop a prioritized invasive plant list for management that is maintained electronically. It will track and classify invasive plants and help prioritize sites for control, and also outline required actions. Plant Profiles will describe the date of introduction, distribution and threat of the various invasive plants in, or threatening, the Territory.

Ultimately, an invasive plant's priority for treatment is dependent on the determinate of its invasiveness, threat to Kaska values, opportunity for control and its Management Category.

## **b. Species Management Categories**

### **1. Provincial EDRR (Early Detection Rapid Response)**

The focus of this system will be on preventing new species from entering and establishing in BC. A provincial EDRR, program has been developed for species not present, or with extremely limited establishment in BC.

### **2. Regional EDRR (Early Detection Rapid Response)**

The criterion for being on the REDRR list for an IPMA is that a species has to have less than 10 small active sites. The list is reviewed annually by the DNY Invasive species program. Changes to the list are presented to the membership and approved annually. DDC may choose to designate species for EDRR in the territory. The Northwest Invasive Plant Council has a REDRR for the southwestern portion of Kaska Territory available from their [website](#).

- The management goal for REDRR species is eradication.
- All REDRR sites are actively managed with no seed production allowed during the current growing year.

### **3. High Priority**

High Priority species are those that have established infestations in portions of the Territory. The management goal for high priority species is the prevention of any further spread of the species within the Territory.

- All sites are actively managed. Depending on funding level, active management could mean everything from treatment during the current season to survey and planning for treatment in the future.
- Management containment lines may be established to prevent further spread.

### **4. Low Priority**

Low Priority species are common and widespread across much of the Territory or do not pose a threat of establishing or spreading to the ecosystems within the Territory. These species are sometimes managed in agricultural settings, forestry operations, gravel pits, around industrial sites and storage yards.

They are not always actively managed; however they may be managed as follows:

- at the land manager's discretion and subject to the current year's budget.
- Whether control action would assist in preventing further spread, environmental degradation, or economic loss.

Where DDC is fully informed and agrees biological control should be considered where and when available for these species.



### c. Classification Of a Species Threat

Classification of a species threat evaluates the expected potential for these species to invade and cause serious problems should they become established. Species are evaluated based on:

1. Their current extent in the area – number of sites and total infested area.
2. Threat including:
  - a. Potential impact on
    - i. special values (such as Cultural Features or Rare & Endangered Species, or Agriculture).
    - ii. Human or animal health (toxicity)
  - b. Difficulty of control once established.
  - c. Longevity of the problem – how long has the species been in the area.
3. Invasiveness

**Table 1. Invasiveness classifications**

<b>EXTREMELY INVASIVE</b> Invade even undisturbed habitats and dominate them. Domination implies the invasive plant becomes the most abundant species across the entire site or area of the plant community being invaded. The invasion can progress slowly or rapidly.
<b>VERY INVASIVE</b> Invade even undisturbed habitats. They become very prevalent and may form dense patches but usually do not dominate the entire site or area of the plant community
<b>INVASIVE</b> Can invade undisturbed habitats but they usually require some disturbance to gain entry. Once in a habitat they usually do not dominate the site unless there are management problems.
<b>AGGRESSIVE</b> Can invade even undisturbed habitats but they do so at a slow pace and rarely dominate the site. These plants may go through large population fluctuations. This may be the result of the fluctuation in biocontrol agent populations or cyclic patterns the plant displays.
<b>BIOCONTROL AGENTS AVAILABLE</b> Biocontrol agents are available in BC.

### d. Determining Site Priorities

The speed at which invasive plants spread depends not only on the invasiveness of the species, but also on the suitability of the site and the state of health of the habitats. Habitats in poor condition, with weak or degraded plant communities and/or disturbed ground (e.g. construction sites, roadside ditches etc.) allow invasive species to establish and spread rapidly. Prevention of invasive plant problems requires management of susceptible sites. Keeping habitats in healthy condition, minimizing soil disturbances, and quick re-seeding are required if the goals of this plan are to be accomplished. Examples of high-risk sites including quarries and dumps and locations where work vehicles may be contributing to spread would be priorities; other sites such as homes or cemeteries, where people have requested help, would be the high priority.

**Site priorities** are divided into four groups based on expected potential for control (Table 2), with Priority '1' being the highest opportunity for control and Priority '4' being sites that have a much lower potential or opportunity.

**Table 2. Site prioritization classification**

PRIORITY	PURPOSE OR INTENT
<b>1 Extremely High Opportunity for Control</b>	To stop the spread of invasive plants threatening currently un-infested, highly susceptible areas. These sites are less than or equal to 0.25 ha and there is a good expectation of control. This priority also includes sites that are threatening a neighbouring <b>cultural or high value</b> ecological feature, or the riparian zone of a stream that is an important food fishery.
<b>2 High Opportunity for Control</b>	To stop the enlargement of sites in highly susceptible areas. These sites are less than or equal to 0.5 ha. Must have a reasonably good expectation of control.
<b>3 Moderate Opportunity for Control</b>	To stop the enlargement of sites greater than or equal to 0.5 ha in highly susceptible areas, or less than or equal to 0.5 ha in moderately susceptible areas.
<b>4 Low Opportunity for Control</b>	To stop the enlargement/contain sites greater than 0.5 ha in moderately susceptible areas.

The ranking of invasiveness and site priority will be used in the treatment decision matrix (Table 3) to select priority areas for treatment.

**Table 3. Treatment Decision Matrix**

	EXTREMELY INVASIVE	VERY INVASIVE	INVASIVE	AGGRESSIVE	BIOCONTROL AGENTS AVAILABLE or WITHIN CONTAINMENT
<b>Extremely High Opportunity for Control</b>	REDRR	High Priority	High Priority	High Priority	Medium Priority
<b>High Opportunity for Control</b>	High Priority	High Priority	High Priority	Medium Priority	Medium Priority
<b>Moderate Opportunity for Control</b>	High Priority	Medium Priority	Medium Priority	Medium Priority	Low Priority
<b>Low Opportunity for Control</b>	Medium Priority	Low Priority	Low Priority	Low Priority	Low Priority

#### **4. Annual Work Plan**

The annual treatment list is developed jointly by the Province and the DDC DNY, and District representatives responsible for invasive plants in April.

The DDC DNY workplan, including inventory and the annual treatment list, is developed to make efficient use of the funding provided by various partners (e.g. FOR, MOTI, MOE, private contributors, etc). The workplan will identify:

Planning stage prior to work:

- What info is expected by each partner (e.g. locations) - if inventoried locations aren't spatially explicit or the sites are mapped as points, but details for each are in associated spreadsheet, on next pass we will have field crew GPS the perimeter and note the size, density and distribution.
- In which format (e.g. shapefiles)
- How far in advance it must be shared (e.g. two months)
- Method of communication that should be used to distribute this info (e.g. email)

Once work commences (including field marking to notify public of herbicide application areas):

- The distribution list for info such as site, timing, type of treatment, etc.
- Format of information provided (e.g. KML/Excel spreadsheet)
- The frequency of updates and communications (annually/if high priority species is discovered)
- The method of communication that should be used to distribute this info (email, phone, etc)

#### **5. Monitoring and Evaluation**

Annual plans for field monitoring of work completed by IPMA contractors are drafted between the funding partners, the NWIPC Program Manager and Field Coordinator with input from DDC DNY. The work plan will include the following components which address monitoring protocol:

Additional monitoring (including related reporting via InvasivesBC) will be completed opportunistically by DDC DNY and provincial staff, focusing outside of areas covered by the IPMA contractor

#### **6. Record Keeping**

DDC DNY will receive an annual treatment report by email from the Province by December 31<sup>st</sup> of each year. The report will include the locations, species, density, area, treatment type and efficacy with corresponding Excel/KML files.

## APPENDIX 1: INVASIVE PLANT LIST

The following lists are invasive species that have been inventoried in the Kaska Ancestral territory and areas adjacent. These species have been found primarily along transportation routes, pipelines and forestry roads. The species listed in B. are others found in the greater area adjacent to the Kaska Ancestral Territory. The map label is the code to use when the identification has been confirmed and added to the survey data. Page numbers refer to species details that can be found in the *Field Guide to Noxious Weeds (2019)* also known as the “little green book”.

### A. Species inventoried in the Kaska Dena Territory

COMMON NAME	IAPP MAP LABEL	LATIN NAME ( <i>Genus species</i> )	GENUS short	SPECIES short
Annual hawkbeard	HB	<i>Crepis tectorum</i>	CREP	TEC
Bull thistle p.75	BT	<i>Cirsium vulgare</i>	CIRS	VUL
Canada thistle p. 9	CT	<i>Cirsium arvense</i>	CIRS	ARV
Common tansy p. 51	TC	<i>Tanacetum vulgare</i>	TANA	VUL
Groundsel	GS	<i>Senecio vulgaris</i>	SENE	VUL
Meadow/tall buttercup p.79	MB	<i>Ranunculus acris</i>	RANU	ACR
Mountain bluet	MO	<i>Centaurea montana</i>	CENT	MON
Nodding thistle p. 87	NT	<i>Cardus nutans</i>	CARD	NUT
Orange hawkweed p. 54	OH	<i>Hieracium aurantiacum</i>	HIER	AUR
Oxeye daisy p. 62	OD	<i>Leucanthemum vulgare</i>	LEUC	VUL
Scentless chamomile p. 37	SH	<i>Matricaria perforata</i>	MATR	PER
Sowthistle spp p. 38	SO	<i>Sonchus spp</i>	SOCH	SPP
Spotted knapweed p. 25	SK	<i>Centaurea stoebe</i>	CENT	STO
St. John's wort/Saint John's wort/ Goatweed p. 89	SJ	<i>Hypericum perforatum</i>	HYPE	PER
Yellow hawkweed species	HS	<i>Hieracium spp</i>	HIER	SPP
Yellow/common toadflax p. 40	YT	<i>Linaria vulgaris</i>	LINA	VUL

### B. Other species inventoried in the Stikine and northern Rockies areas adjacent to Kaska Dena Territory

COMMON NAME	IAPP MAP LABEL	LATIN NAME ( <i>Genus species</i> )	GENUS short	SPECIES short
Black knapweed	BL	<i>Centaurea nigra</i>	CENT	NIG
Bladder campion p. 74	BC	<i>Silene vulgaris</i>	SILE	VUL
Burdock species p. 48	BU	<i>Arctium spp</i>	ARCT	SPP
Common comfrey	CO	<i>Symphytum officinale</i>	SYMP	OFF
Creeping buttercup p. 79	CR	<i>Ranunculus repens</i>	RANU	REP
Curled dock p. 80	CD	<i>Rumex crispus</i>	RUME	CRI
Diffuse knapweed p. 24	DK	<i>Centaurea diffusa</i>	CENT	DIF
Field scabious p. 52	FS	<i>Knautia arvensis</i>	KNAU	ARV
Western goat's-beard p. 83	WG	<i>Tragopogon dubius</i>	TRAG	DUB

A full list of all provincial priority invasive species, including plants, can be found at:  
[https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/invasive-species/publications/provincial\\_priority\\_is\\_list.pdf](https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/invasive-species/publications/provincial_priority_is_list.pdf)



## APPENDIX 2: INVASIVE PLANTS MAP

