Toxic Invasive Plants in the Sea to Sky Corridor



The Sea to Sky Invasive Species Council is a non-profit society made up of volunteer members representing public and private organizations, industries and individuals. Members are committed to reducing the negative impacts caused by invasive species. For more information or to report a sighting, contact us:

604-698-8334

ssinvasives@gmail.com

www.ssisc.info

BIOHAZARD

Introduction

The Sea to Sky Corridor, including its agriculture and range lands, is negatively affected by weeds. Non-native plants arrive here with no natural enemies to keep them controlled and therefore can spread quickly. Non-native plants are called invasive when they pose a significant risk to health and safety, the environment and/or the economy.

For a full list of invasive plants in the corridor please see our website: **www.ssisc.info**

This brochure is to help with the identification and control of toxic invasive plants that can directly impact human, livestock and pet health. Although some native plants can also be toxic, only high priority toxic invasive species in the Sea to Sky Corridor are included here.

In addition to being toxic, many of these plants have additional negative impacts that include: reduction of native biodiversity and habitat; adversely affecting forage production and quality; and decreased water quality and quantity.

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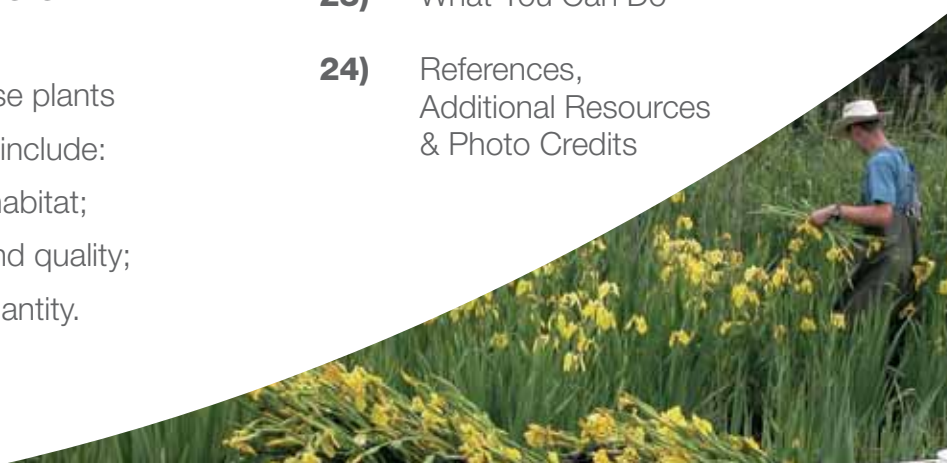
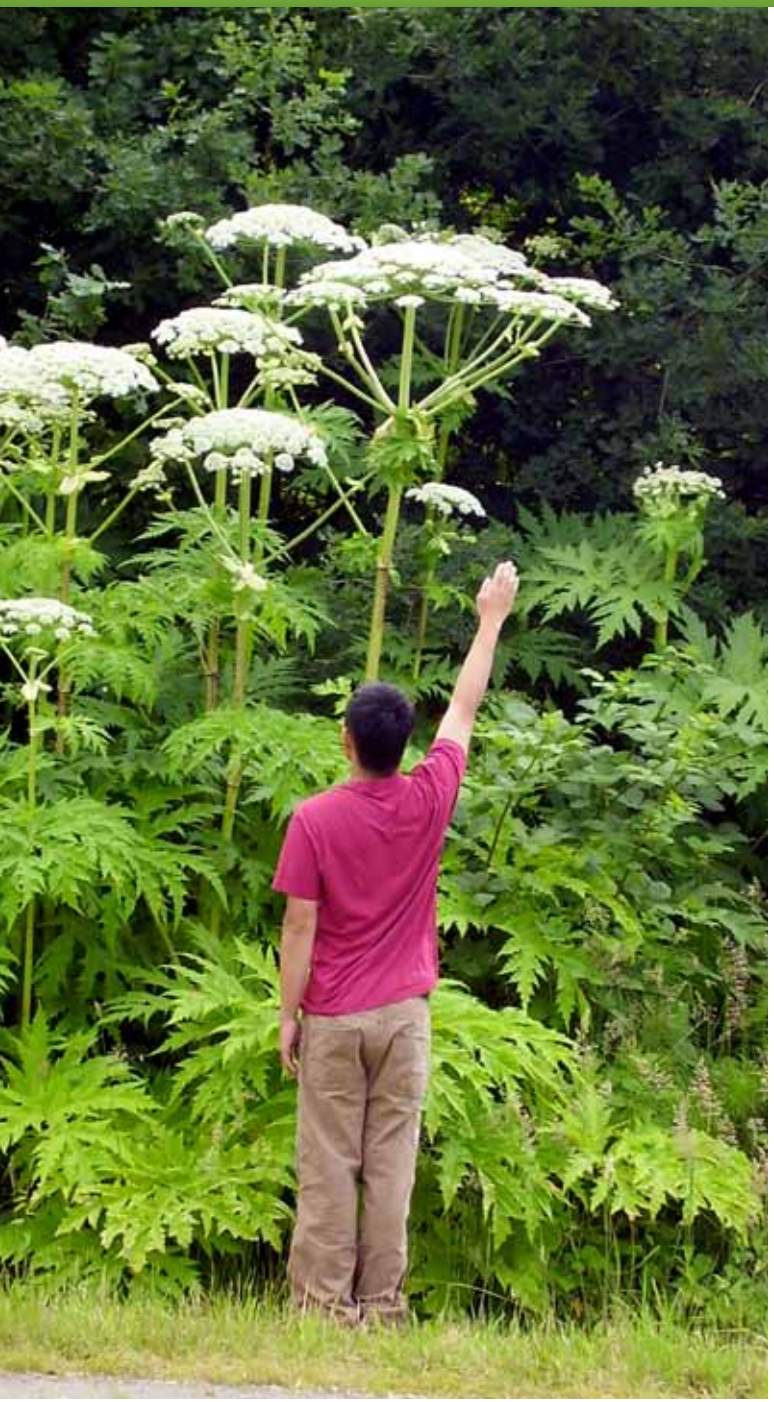




Giant hogweed *(Heracleum mantegazzianum)*

BIOHAZARD

A very tall (2-6 m), perennial plant in the carrot family that dies back every fall and winter. Is hairy with numerous, small white flowers in a large, flat topped, umbrella like cluster. Stems are hollow and 5-10 cm in diameter when mature. Leaves are generally "maple leaf-like" to over 1.5 m wide. Spreads by seed and via the roots. Sheer size is best diagnostic feature. In limited populations in the Squamish area and south – please report any sightings. Similar in appearance to native cow parsnip, which is much smaller (1-2 m tall) with stems 2.5-5 cm in diameter at maturity.

Reason for Concern

Severe human health hazard: Hairs on stems and leaves contain poisonous sap sensitizing skin to ultraviolet radiation; resulting in severe burns, blistering and painful dermatitis (forming 24 to 48 hours after contact). Contact with eyes can cause temporary and possibly permanent blindness.

Control

Caution: It is best to let a professional remove this plant for you. If you are going to remove the plant yourself we recommend contacting us for more information. Always wear protective, waterproof clothing, gloves and safety goggles.

- Cut the stem a few inches below the ground level with an axe or spade.

- Always bag seed heads, seal tightly and put in regular waste stream; transport rest of plant to landfill or pile on site to dry out (will no longer be toxic once dry) – never compost.

Foxglove
(Digitalis purpurea)

A biennial plant 0.5 – 1.5 m tall, densely grey-hairy, with pink-purple flowers with deeper-purple spots inside. Petals are fused into a long gaping tube. Found throughout corridor.

Reason for Concern

Upon ingestion, this plant can cause toxic reactions that lead to severe sickness and death in animals and in humans. However, because of the unpalatable nature of the plant poisoning is infrequent, although when it does occur it is often severe and dramatic, frequently resulting in death. Human poisoning occurs rarely. However, poisoning has been reported in children who ate flowers or drank water from vases.

Control

- Cut before seed set, bag and dispose of at invasive disposal site or with regular garbage; never compost.

- Plant will naturally die after flowering and going to seed, no need to dig out root.

Yellow flag iris
(Iris pseudacorus)

Has distinctive ‘iris-look’ with bright yellow flowers. Leaves narrow, sword shaped and dark green with prominent mid-rib. Perennial plant that spreads via seeds (wind and water) and by rhizome. In wet areas throughout corridor.

When not in flower, you can tell it apart from native cattail by its leaves. Yellow iris leaves will be arranged in a flat fan-like shape, where cattail leaves come off a rounded stem and are more grayish in colour.

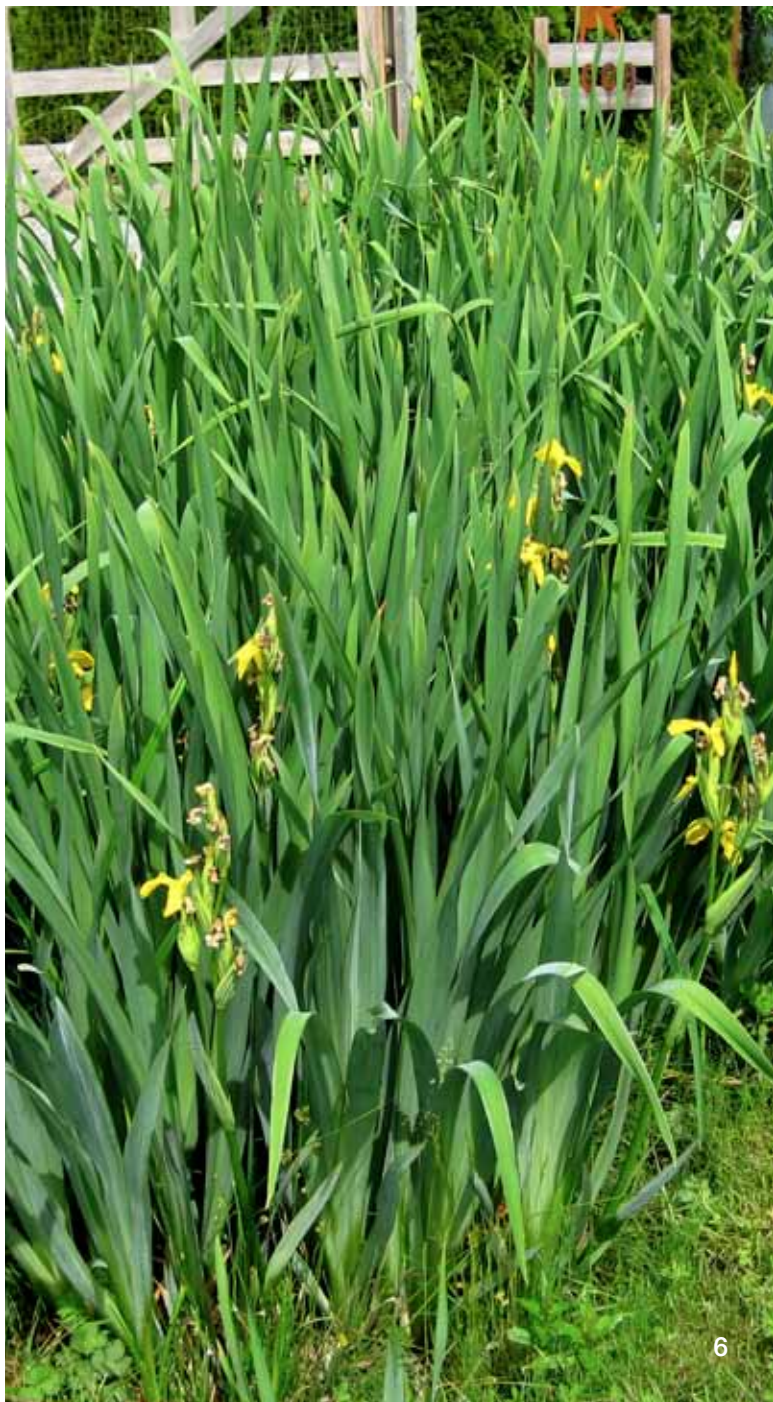
Reason for Concern

Toxic if ingested by livestock and humans; causes dermatitis in sensitive humans. Creates dense thickets to choke waterways and limits native vegetation.

Control

- Dig up small populations manually and remove all of root mass.

- For large populations, clip seed heads to prevent further spread. Cutting plants close to the ground several times a year has been effective if roots cannot be dug out.



Spurge laurel *(Daphne laureola)*

An evergreen shrub, shade-tolerant and reminiscent of rhododendron, 0.5 – 1.8 m tall. Leaves are very dark green, shiny, smooth and thick. The twigs are stout and have a strong odour when cut. Small yellow flowers develop into purple-black berries.

Reason for Concern

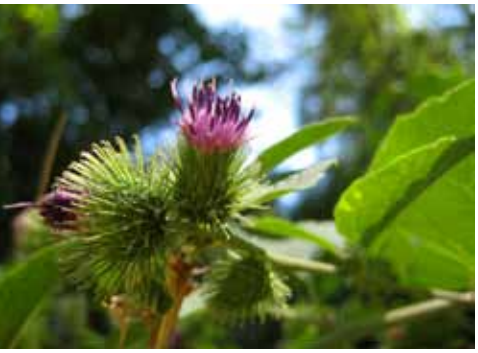
The berries, leaves and bark are poisonous to humans, cats and dogs and handling the plant can cause contact dermatitis.

Control

Caution: Due to the irritating toxins in the sap, fruit and leaves, wear gloves and other protective clothing when removing or cutting spurge laurel. Volatile plant toxins may be released during cutting, so protective gear is recommended.

- Seedlings and young plants can be hand-pulled, or pulled with a weed wrench or similar tool, but the entire root should be removed to avoid re-growth from root sprouts.

- Large populations up to three years old can be controlled fairly effectively with a weed whip or similar tool by cutting the plant close to the ground level. Older plants should be cut below the soil line to minimize re-sprouting.



Burdock
(Arctium minus)

A biennial plant that spreads by burs with hooks (that inspired Velcro), which can stay on animals for several weeks. Flowers are reddish-purple and leaves are large, dark green and heart-shaped with wavy edges. Mature plants are 1 – 3 m tall. Commonly found throughout corridor.

Reason for Concern

Although not technically toxic, there are potential diuretic effects and allergic reactions to hooked burs under the skin's surface. The burs can cause irritation if they cling to the eyes, throat, mouth, or the inside of the stomach of livestock. In some cases the seeds must be surgically removed. There have even been accounts of birds and bats becoming entangled in the burs and dying. Burdock is also associated with micro-organisms that cause powdery mildew, and root rot.

Control

- When in flower or seed, remove above ground material and dispose of in sealed bag. Plant will naturally die after going to seed, no need to dig out root.

- In the first year rosette stage, sever taproot below the root collar (where the stem becomes a root) with a flat nosed spade. Use mowing or tillage if taproot cannot be cut.

Hoary alyssum
(Berteroa incana)

A perennial, biennial or annual plant growing up to 70 cm tall. It has white flowers at the ends of branches. The flowers are 4-petalled but look like 8 because of the deep cleft down the middle of the petal. Flattened oval seed pods are 5 mm long and held close to the stem. Common along rail corridor and other disturbed areas around Pemberton.

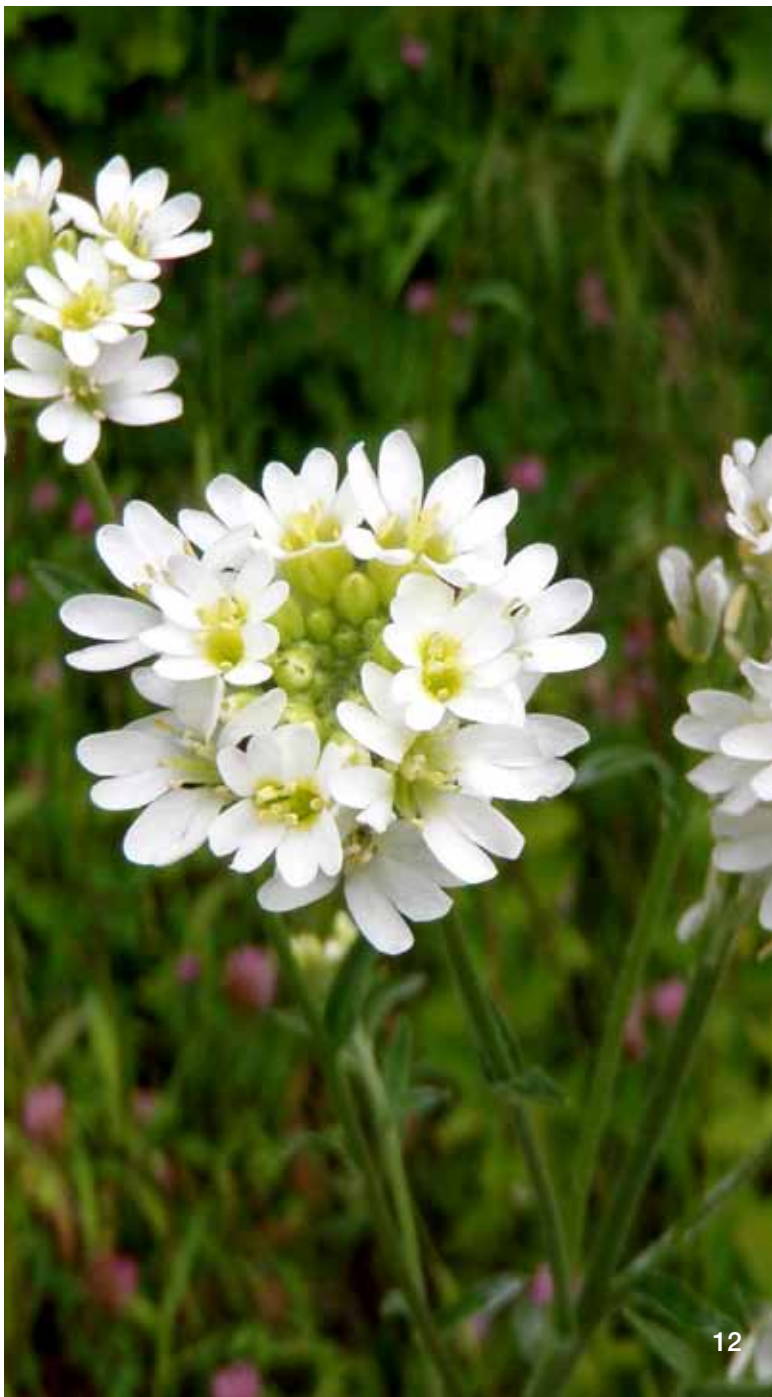
Reason for Concern

This plant can be toxic to horses. Consumption of large quantities (30% or more of forage) can cause swollen legs, severe lameness, diarrhea leading to dehydration, and miscarriage (horse deaths have occurred). The plant remains toxic after it is dried, and most poisonings are due to contaminated hay.

Control

- Mowing will reduce seed production, but cut plants will regenerate low to the ground below mower height. Mowing several times during the season, beginning before seed set and reducing mower height with each cutting, will improve effectiveness.

- Small populations can be effectively controlled by repeated hand pulling or hoeing if (a) done before seed set (b) the root crown is removed, and (c) exposed soil is seeded with an appropriate seed mixture to establish competition.



Blueweed
(Echium vulgare)

A biennial or short lived perennial plant, 30 – 80 cm tall, with many small blue flowers arranged on the upper side of short arching stalks. The entire plant is conspicuously hairy/bristly. Bright purplish-blue flowers are shaped like a funnel. In limited populations.

Reason for Concern

Blueweed can infest pasture and rangeland, causing potential impact to livestock. Contains pyrrolizidine alkaloids, which can be toxic to horses and cattle when ingested, while sheep and goats have shown resistance to alkaloid toxicity. Also a known host for several plant diseases spread by aphids including alfalfa mosaic virus and tobacco mosaic virus.

Control

Caution: Wear gloves and long sleeves as the plant causes itching and rashes.

- Mowing can deplete root reserves and prevent seed production. Cut stems encourage re-sprouting, therefore mowing must be repeated to be effective. Seed heads should be picked, bagged and removed from site.

- Hand-pulling is effective in loose soil, but nearly impossible in harder packed soils because of its tough taproot. Instead the plant stem can be sliced off just below ground level with a sharp shovel.

- Tilling is also effective.

Yellow & Dalmatian toadflax *(Linaria vulgaris & L. dalmatica)*

Perennial plants that have snapdragon-like yellow flowers. They spread by copious amounts of seed and by rhizomes or lateral roots. Yellow toadflax flowers are smaller, its leaves are narrow and pointed at both ends, and plants grow to only 0.6 m tall. Dalmatian toadflax has heart-shaped leaves that clasp its stem and grows up to 1.2 m tall. Found throughout corridor.

Reason for Concern

Yellow toadflax contains several compounds, including glucosides and the cyanogenic glucoside prunasin. Cattle generally avoid grazing stands of this plant, but there is more potential for poisoning when the animals are provided with hay that has a high content of yellow toadflax. For safety's sake, hay should not be fed to livestock if it contains a high content of either of these plants.

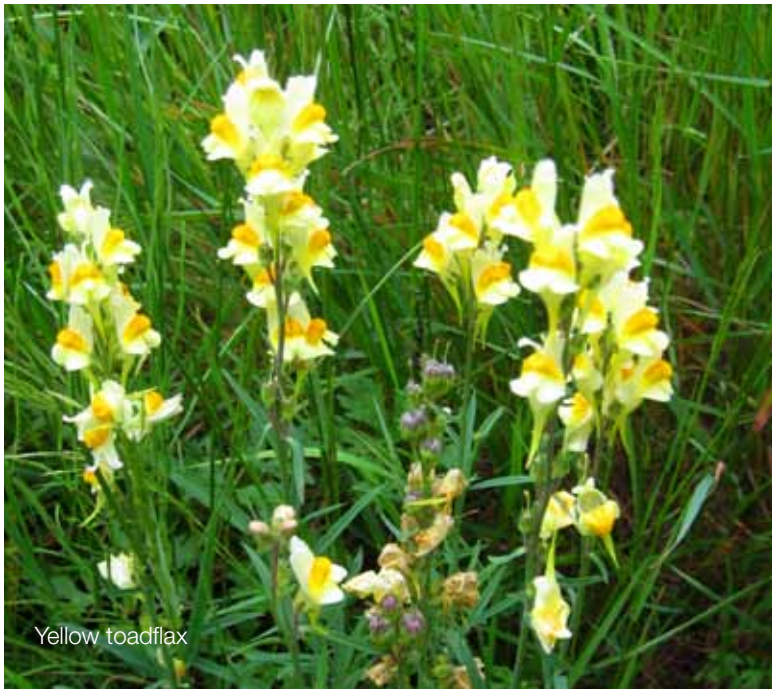
Control

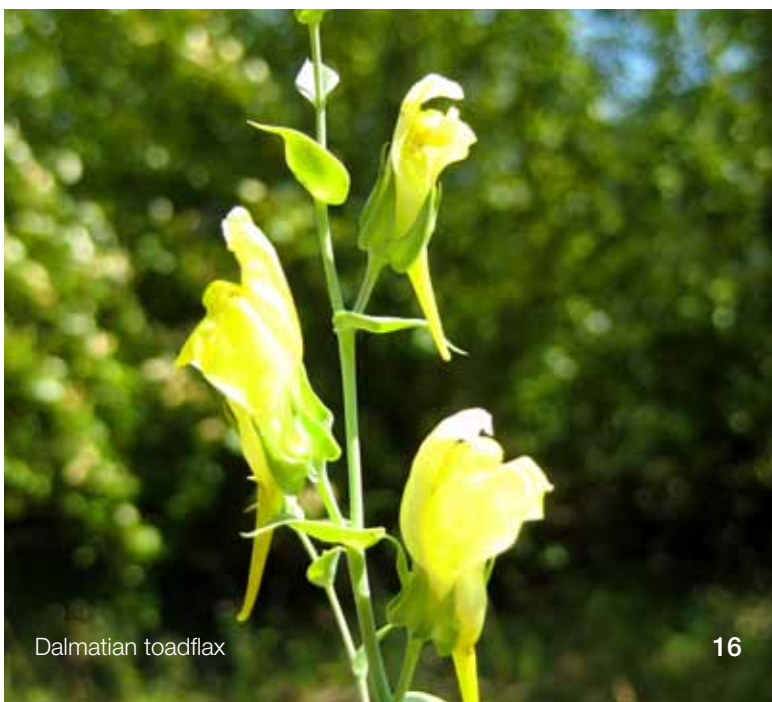
- **Manual** - Hand pull new and small populations prior to seed set. Mow/cut larger populations to reduce top-growth and seed set. Promptly seed area with native perennial grasses.

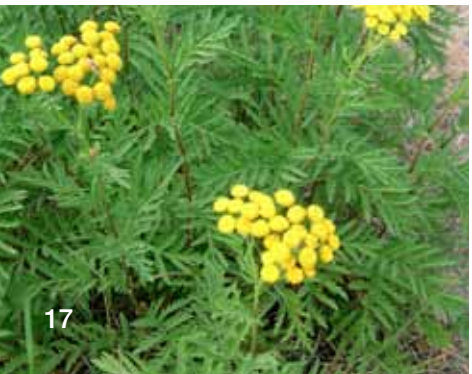
- **Biocontrol** - A weevil (*Mecinus janthinus*) and beetle (*Rhinusa antirrhini*) have been introduced to control this plant in our area. For more information on biocontrol contact the SSISC.


Yellow toadflax


Dalmatian toadflax


Yellow toadflax


Dalmatian toadflax



Common tansy
(Tanacetum vulgare)

Up to 1.5 m tall and has showy, button-like yellow flowers in dense flat-topped clusters lacking ray flowers (large petals). Dark green leaves are alternate and deeply divided into numerous individual leaflets. Plants are perennial and spread by seed and creeping roots. Common throughout corridor.

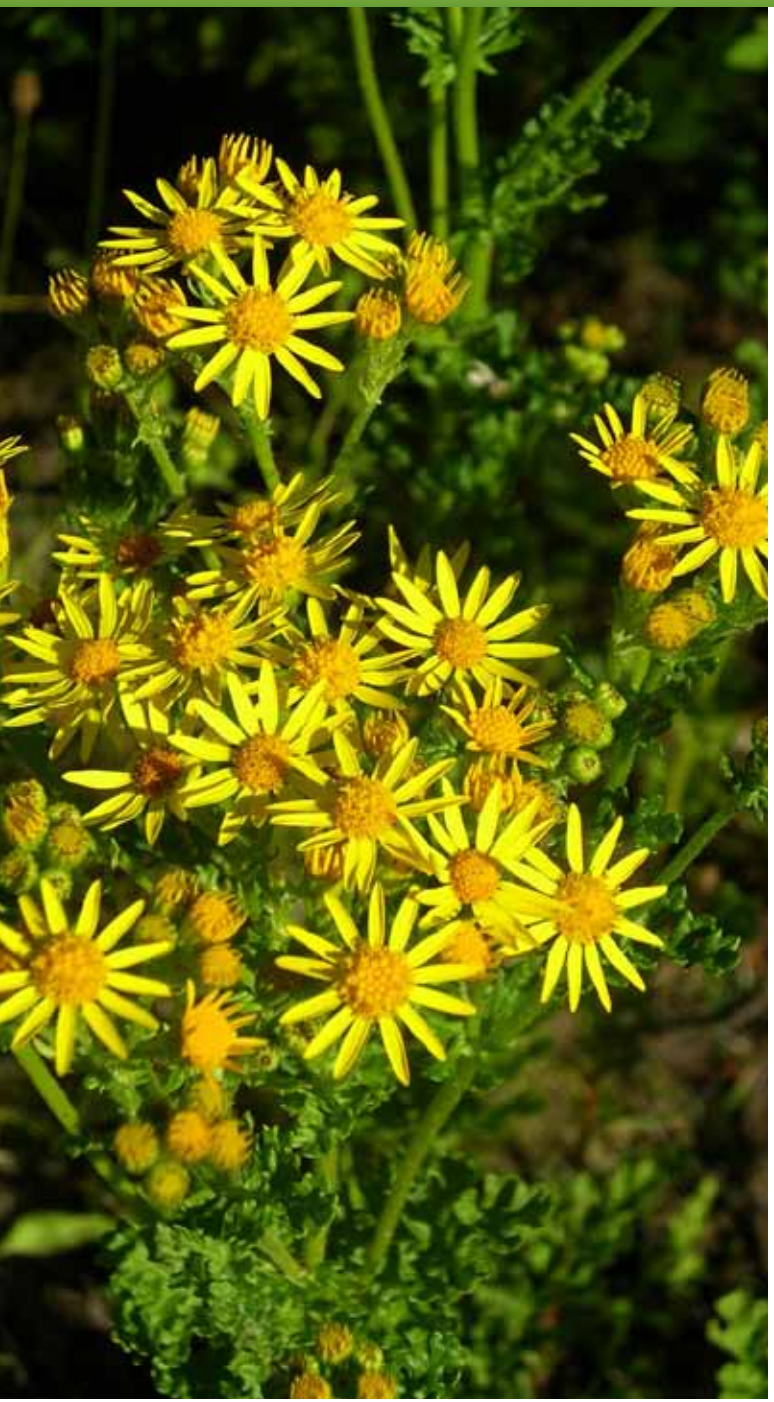
Reason for Concern

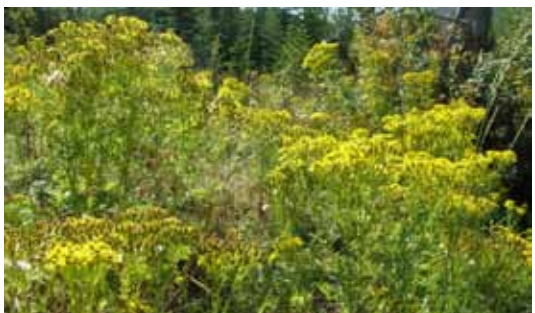
The leaves and flowers are toxic if consumed in large quantities by humans or livestock, but can be grazed safely by sheep and goats. The volatile oil contains toxic compounds (including thujone), which can cause convulsions as well as liver and brain damage.

Control

Caution: If hand pulling gloves and other protective clothing should be worn to prevent skin irritation or other illness.

- Cannot be controlled with single mowing events (e.g. once-a-year), as the plants will respond with an increase in vegetative growth.
- Mowing sites very low to the ground before July can prevent seed production.
- The use of fertilizer can increase the competitive ability of grasses and other desirable plants, thereby preventing or reducing infestations.





Tansy ragwort
(Senecio jacobaea)

Similar to common tansy but has ray flowers instead of buttons and is up to 1 m tall. Leaves are dark green, stalkless and deeply cut into irregular segments, giving each plant a 'ragged' appearance. Plants are biennial to short lived perennial and have taproots with well-developed fibrous roots. Reproduces by seed; root fragments can also produce new shoots. In limited populations in corridor – please report any sightings.

Reason for Concern

All plant parts are toxic and contain several alkaloids considered to be toxic and potentially carcinogenic. Chronic, cumulative poisoning, and irreversible liver damage, including cirrhosis of the liver, are the results of ragwort poisoning. Animals seldom eat mature plants but poisoning can occur when seedlings are accidentally grazed with other forage or hay is contaminated.

Note: The first years growth, the rosette stage, is most toxic.

Control

- Hand pull new and small populations prior to seed set.
- Mow/cut prior to flowering or seed set.
- Promptly seed with native perennial grasses.

Symptoms of Poisoning

Children & Adults: There are numerous signs of human poisoning that include vomiting, nausea, diarrhea, pain, blurred vision, rash or confusion. If you suspect poisoning seek immediate medical help.

Do NOT make a person throw up unless told to do so by poison control or a health care professional. Inform doctors of any possible contact with toxic plants.

Pets & Livestock: Poisonings are often undiagnosed since symptoms can be as general as a decreased appetite, weight loss or unhealthy appearance. Symptoms can also be as severe as liver or nervous system damage and death. If animals are experiencing unusual symptoms it is important to contact your veterinarian for proper diagnosis and treatment.

When consulting with your veterinarian, inform them of any changes to your pasture, range or property, including:

- Sparse forage due to heavy grazing, drought or poor early season growth
- Recently moving livestock to a new pasture
- Feeding livestock hay from a new source

Notes on animal toxicity: In most circumstances livestock rarely directly consume toxic plants. Poisonings are most likely to occur through consuming large quantities of contaminated hay or silage in the early spring and during a drought when forage quality is low. In these circumstances, livestock are either unable to detect dried plants or are so hungry that even toxic plants become a potential source of food.

General Notes on Control

Avoid infested areas: When you move anything around, you can transport and unknowingly disperse weed seeds to new areas. They can hitchhike on shoes, clothing, pets, tools, tire treads, and in transported gravel & soil. If you can't avoid travelling or working in an infested area, take the time to thoroughly inspect and clean everything that will be leaving the area.

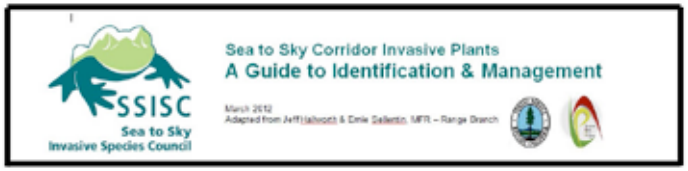
Be persistent: By definition, invasive plants are aggressive, fast growing and hard to get rid of. A successful control strategy will span at least 3 – 5 years and involve regular monitoring. Planting or seeding desired vegetation after treatment can also aid control efforts. If the source of the infestation can be determined and addressed, control efforts will have a much greater chance of success. Find specific control strategies for each species within this booklet.

Agricultural areas: When removing invasive plants, do not leave material on the ground where it is available to livestock; it can become more palatable when deteriorating but still be toxic and/or still be spread. Seeds can also spread in the intestines or fur of livestock, so keep animals away from infested areas. Infested forage can also carry seeds from invasive plants; purchasing weed free forage prevents weeds and helps limit control costs.

What You Can Do

√ Learn to identify toxic and other invasive plants and prevent or reduce their spread

- *Download on the 'Resources' page of the SSISC website:*



√ Share your knowledge with your neighbours, especially those with children

√ Learn proper disposal practices

- *Never compost or dump in uncontrolled areas*
- *The Squamish landfill and Whistler transfer station have special protocol for accepting invasive plants*
- *Small amounts should be disposed of in regular household garbage*

√ Examine fields, fence lines, hay and forage regularly for toxic and other invasive plants

√ Clean equipment, tools, vehicles, pets and footwear before leaving an infested area

Contact us to report sightings or for more information:

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604-698-8334 | ssinvasives@gmail.com

References include

Regional District Okanagan-Similkameen (2005). Invasive plants that are toxic to livestock. www.sosips.ca/TOXIC%20PLANTS_FINAL_Dec%202005.pdf

Majak et al. (2008). Stock-poisoning Plants of Western Canada www1.foragebeef.ca/$foragebeef/frgebeef.nsf/all/frg33/$FILE/rangepoisonousplants.pdf

Canadian Poisonous Plants Information System (accessed 2011). www.cbif.gc.ca/pls/pp/poison

Additional Resources

- SSISC website: ssisc.info
- Weeds BC: weedsbc.ca
- E-Flora BC - The Electronic Atlas of the Flora of BC: eflora.bc.ca
- "Plants of Coastal BC" (book) 1994, Pojar & MacKinnon, BC Forest Service

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Sea to Sky Invasive Species Council
Box 845
Whistler BC V0N 1B0
604-698-8334
ssinvasives@gmail.com
www.ssisc.info