

# Invasive/Noxious Weeds



# What is Maple Ridge Working On?

- ▣ Met with representatives from the City of Coquitlam to discuss their program and costs
- ▣ Fielding calls re Japanese Knotweed from throughout the community (as a result of media coverage)
- ▣ Responding to media enquiries
- ▣ Follow up discussion with the Metro Vancouver Invasive Plant Council regarding qualified consultants/ contractors
- ▣ Research suitable chemical controls / applications

# Metro Vancouver Invasive Plant Council

- ❑ Is a not for profit society, who`s focus is to help control the spread of invasive species in the Metro Vancouver area
- ❑ Has raised the level of awareness of invasive species in the metro Vancouver area through a very successful media and social media campaign.
- ❑ Act as contractor for municipal, regional and provincial agencies to control invasive species populations
- ❑ They do not offer this control service on a commercial or residential basis, however they do offer advice if asked.

# Indigenous Plants

- A term used to describe plants endemic (indigenous) or naturalized to a given area in geologic time.
- This includes plants that have developed, occur naturally, or existed for many years in an area (e.g. trees, flowers, grasses, and other plants). In North America a plant is often deemed native if it was present before colonization.
- Some native plants have adapted to very limited, unusual environments or very harsh climates or exceptional soil conditions. Although some types of plants for these reasons exist only within a very limited range (endemism), others can live in diverse areas or by adaptation to different surroundings (indigenous plant).

# Invasive Weeds

- ▣ Produce large numbers of new plants each season.
- ▣ Tolerate many soil types and weather conditions.
- ▣ Spread easily and efficiently, usually by wind, water, or animals.
- ▣ Grow rapidly, allowing them to displace slower growing plants.
- ▣ Spread rampantly when they are free of the natural checks and balances found in their native range.



# Japanese Knotweed



# Giant Hogweed

- Plant is Phototoxic and can cause severe burns



# Why are invasive plants a problem in British Columbia

- ▣ Invasive / Noxious weed can compete with and sometimes crowd out native plant species
- ▣ Some of these plants can grow very aggressively
- ▣ Can cause erosion problems by leaving the soil exposed during the winter months
- ▣ Can cause damage to infrastructure such as pavements/ driveways
- ▣ Causes problems in waterways and other habitat areas
- ▣ May cause injury to people or livestock



# The Following Common Nuisance Weeds are Not Regulated by the BC Weed Control Act:

- Annual Bluegrass (*Poa annua*)
- Himalayan Balsam (*Impatiens glandulifera*)
- Field Horsetail (*Equisetum arvense*)
- **Japanese Knotweed (*Polygonum cuspidatum*)**
- Lady's-Thumb (*Polygonum persicaria*)
- Lamb's-Quarters (*Chenopodium album*)
- Common Mallow (*Malva neglecta*)
- Showy Milkweed (*Asclepias speciosa*)
- Mullein (*Verbascum thapsus*)
- Nightshade (*Solanum species*)
- Nodding Beggar-Ticks (*Bidens cernua*)
- Nodding Thistle, a.k.a. Musk Thistle (*Carduus nutans*)
- Pineappleweed (*Matricaria matricarioides*)
- Baby's-Breath (*Gypsophila paniculata*)
  
- Redroot Pigweed (*Amaranthus retroflexus*)
- Scotch Broom (*Cytisus scoparius*)
- Sheep Sorrel (*Rumex acetosella*)
- Shepherd's-Purse (*Capsella bursa-pastoris*)
- Spiny Annual Sow-thistle (*Sonchus asper*)
- St. John's-Wort (*Hypericum perforatum*)
- Stinkweed (*Thlapsi arvense*)
  
- Cluster Tarweed (*Madia glomerata*)
- Water Hemlock (*Cicuta douglasii*)
- Wild Buckwheat (*Polygonum convolvulus*)
- Witchgrass (*Panicum capillare*)
- Barnyardgrass (*Echinochloa crusgalli*)
- Bladder Campion (*Silene cucubalus*)
- Bog Rush (*Juncus effusus*)
- Broad-Leaved Plantain (*Plantago major*)
- Bull Thistle (*Cirsium vulgare*)
- Common Chickweed (*Stellaria media*)
- Chicory (*Cichorium intybus*)
- Corn Spurry (*Spergula arvensis*)
- Creeping Buttercup (*Ranunculus repens*)
- Cudweed (*Gnaphalium uliginosum*)
- Curled Dock (*Rumex crispus*)
- Field Bindweed (*Convolvulus arvensis*)
- Foxtail Barley (*Hordeum jubatum*)
- Western Goat's-Beard (*Tragopogon dubius*)
- **Giant Hogweed (*Heracleum mantegazzianum*)**
- Groundsel (*Senecio vulgaris*)
- Hemp-Nettle (*Galeopsis tetrahit*)
- Henbit (*Lamium amplexicaule*)

# The Following Weeds are Classified as Noxious within all Regions of British Columbia: Part I - Provincial

## PRIOR TO AUGUST 2011

- ▣ Annual Sowthistle (*Sonchus oleraceus*)
- ▣ Canada Thistle (*Cirsium arvense*)
- ▣ Crupina (*Crupina vulgaris*)
- ▣ Dalmatian Toadflax (*Linaria dalmatica*)
- ▣ Diffuse Knapweed (*Centaurea diffusa*)
- ▣ Dodder (*Cuscuta* spp.)
- ▣ Gorse (*Ulex europaeus*)
- ▣ Hound's-tongue (*Cynoglossum officinale*)
- ▣ Jointed Goatgrass (*Aegilops cylindrica*)
- ▣ Leafy Spurge (*Euphorbia esula*)
- ▣ Perennial Sowthistle (*Sonchus arvensis*)
- ▣ Purple Nutsedge (*Cyperus rotundus*)
- ▣ Rush Skeletonweed (*Chondrilla juncea*)
- ▣ Scentless Chamomile (*Matricaria maritima*)
- ▣ Spotted Knapweed (*Centaurea maculosa*)
- ▣ Tansy Ragwort (*Senecio jacobaea*)
- ▣ Velvetleaf (*Abutilon theophrasti*)
- ▣ Wild Oats (*Avena fatua*)
- ▣ Yellow Nutsedge (*Cyperus esculentus*)
- ▣ Yellow Starthistle (*Centaurea solstitialis*)
- ▣ Yellow Toadflax (*Linaria vulgaris*)

## AFTER AUGUST 2012

- ▣ Annual Sowthistle (*Sonchus oleraceus*)
- ▣ Canada Thistle (*Cirsium arvense*)
- ▣ Crupina (*Crupina vulgaris*)
- ▣ Dalmatian Toadflax (*Linaria dalmatica*)
- ▣ Diffuse Knapweed (*Centaurea diffusa*)
- ▣ Dodder (*Cuscuta* spp.)
- ▣ Gorse (*Ulex europaeus*)
- ▣ Hound's-tongue (*Cynoglossum officinale*)
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# BC Weed Control Act

- ❑ Noxious weeds are typically non-native plants that have been introduced to British Columbia without the insect predators and plant pathogens that help keep them in check in their native habitats. For this reason and because of their aggressive growth, these alien plants can be highly destructive, competitive and difficult to control.
- ❑ The B.C. Weed Control Act imposes a duty on all land occupiers to control designated noxious plants.
- ❑ The purpose for the Act is to protect our natural resources and industry from the negative impacts of foreign weeds.

# What is Maple Ridge working on?

- ▣ Presentation from the Metro Vancouver Invasive Plant Council to ARMS and Municipal staff on issues related to Knotweed and Giant Hogweed
- ▣ Recommendation to Commission to direct staff to develop a noxious weed strategy
- ▣ Staff steering committee meeting held with Parks, Eng Operations, Bylaws, Fire Dept Planning (environment Section)

# Next Steps

- ▣ It is important to work with neighboring jurisdictions in the region to develop best practices to control invasive species in the region
- ▣ Prepare a recommendation for both Councils to provide funding to retain a consultant to inventory / map existing noxious weed populations, and develop an implementation plan (estimated at \$30,000)
- ▣ Implementation plan estimate at \$50,000 per year (during growing season) for Pesticide applicator contractors



# Accepted Control Methods

- ▣ It is estimated that any areas that are identified as control areas may take up to 4 years to eradicate (constant monitoring)
- ▣ Chemical control is currently the only method where reduction or elimination for knotweed has been successful
- ▣ Manual removal of Knotweed is ineffective due to the plants ability to re-establish quickly and may spread the weed to other areas of the site
- ▣ Manual removal of Giant Hogweed is acceptable (with safe handling procedures)

# Chemical Control Methods

- ▣ The Metro Vancouver Invasive Plant Council have recently achieved very high efficacy rates (plant kill) with foliar applications, which is not typical
- ▣ They have also been applying pesticides via injection, which uses up to 80 percent more chemical than foliar applications
- ▣ The injection equipment currently available is reportedly subject to mechanical issues and product failure. MVIPC are now ordering equipment from the UK

# Appropriate Chemical Controls

- ❑ Glyphosate is considered to be effective in the control of Japanese Knotweed and is readily available to both residents and contractors
- ❑ The Metro Vancouver Invasive Plant Council have also been using other chemical products, however staff do not support their use due to the reported residual effect in the soil (until properly researched)
- ❑ Glyphosate is a non selective systemic herbicide therefore care must be taken not to kill or damage non target species when foliar spraying
- ❑ Chemical applications should be carried out by certified professionals.

# Pesticide Regulations

- ▣ The Province of British Columbia has developed their own “Pest Management Plan” (PMP)
- ▣ Maple Ridge and Pitt Meadows will not require a pest management plan if Licensed contractors are used, as the applications will be recorded on the “Pesticide User License” (PUL) of the contractor.
- ▣ Currently Giant Hogweed is manually removed by trained staff, double bagged and buried.  
(procedure is currently being updated)

# Next Steps

- ▣ If approved by Council, staff will retain the services of a consultant to inventory and map noxious weed populations (2013 budget)
- ▣ If approved by Council staff will retain a suitable certified company to complete pesticide applications at a level that an approved budget will permit. (2013 budget)
- ▣ Continue to work with the Metro Vancouver Invasive plant Council and neighboring municipalities towards the implementation of a regional plan



# Additional information

- ❑ Knotweed is not considered to be spreading by seed (dioecious) PNW plants are considered to be female plants only
- ❑ Knotweed may cross pollinate with other less aggressive knotweeds (unconfirmed)
- ❑ Knotweed will not hurt you, unlike Giant Hogweed.
- ❑ Knotweed has the potential to cause erosion or destabilization of footings or foundations.
- ❑ Unable to find any evidence that it grows through 3 feet of concrete!!!!!!!!!!

# Invasive Plant Strategy May Require Additional Regulations

- ▣ Inspect and certify construction/ development sites are free of Knotweed before land clearing
- ▣ Requiring land occupiers to eradicate noxious weed populations
- ▣ Inspections of fill materials before transporting
- ▣ Restricting noxious weeds from green waste and land fill systems
- ▣ Developing an education program for residents
- ▣ Amend cosmetic pesticide bylaw
- ▣ Amend Municipal Noxious Weed Bylaw.

Questions?