



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Canadian Food Inspection Agency



Our vision:

To excel as a science-based regulator, trusted and respected by Canadians and the international community.

Our mission:

Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.

Canadian Invasive Plant Framework

Exotic and Invasive Alien Species Workshop

January 22, 2008

(Corner Brook, NL)

Canada



Canadian Food Inspection Agency

- ❖ Established in 1997

- ❖ Government of Canada's key science-based regulatory agency for:
 - ❖ Food safety
 - ❖ Animal products
 - ❖ **Plant products**
 - ❖ *Plant Protection Act*
 - ❖ *Seeds Act*

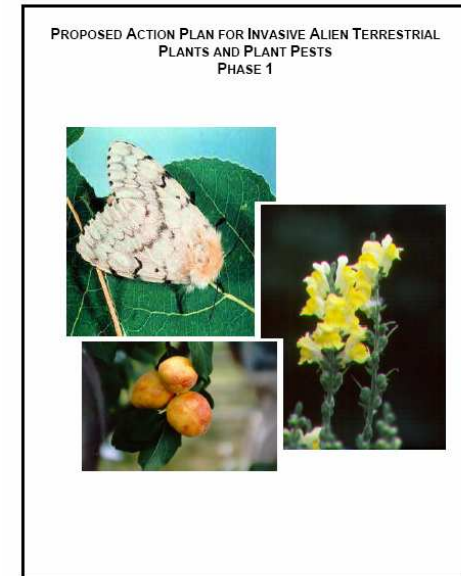
- ❖ Policies take into account and/or are based on international standards

IAS Strategy for Canada

CFIA provides leadership in the implementation of the IAS Strategy for Canada as it relates to invasive alien plants and plant pests

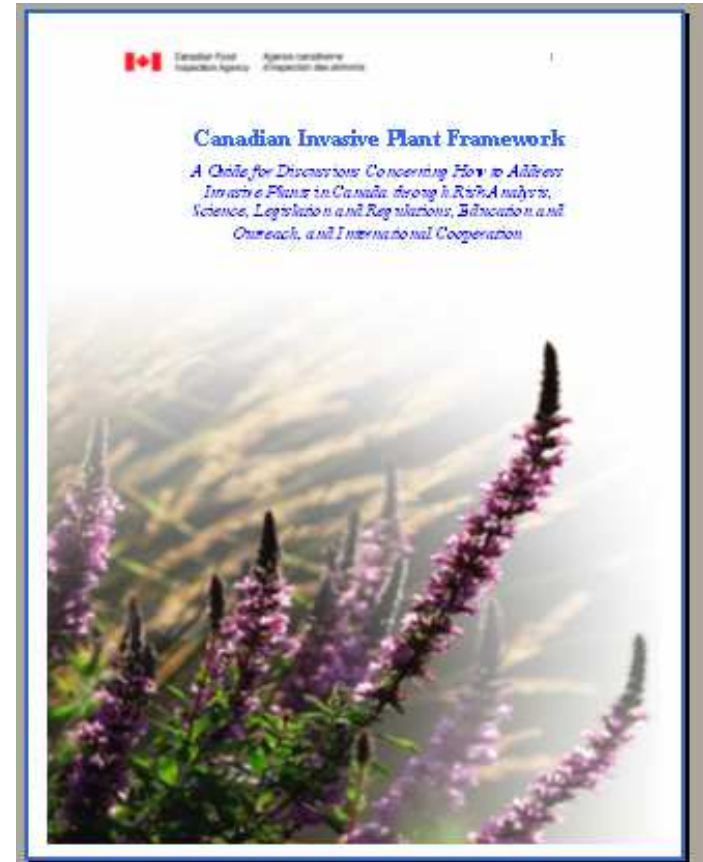
Two primary objectives for the CFIA:

- ❖ Strengthen existing plant health program
- ❖ Develop & implement a new program for invasive alien plants (various activities, e.g. weed risk assessments, database, surveys)



Canadian Invasive Plant Framework

- ❖ To establish consistent, coordinated policies and programs that prevents or minimizes the impacts of invasive plants
- ❖ Consistent with IAS Strategy, including consistency with implementation strategies:
 - ❖ Risk analysis
 - ❖ Science
 - ❖ Legislation and regulations
 - ❖ Education and outreach
 - ❖ International cooperation

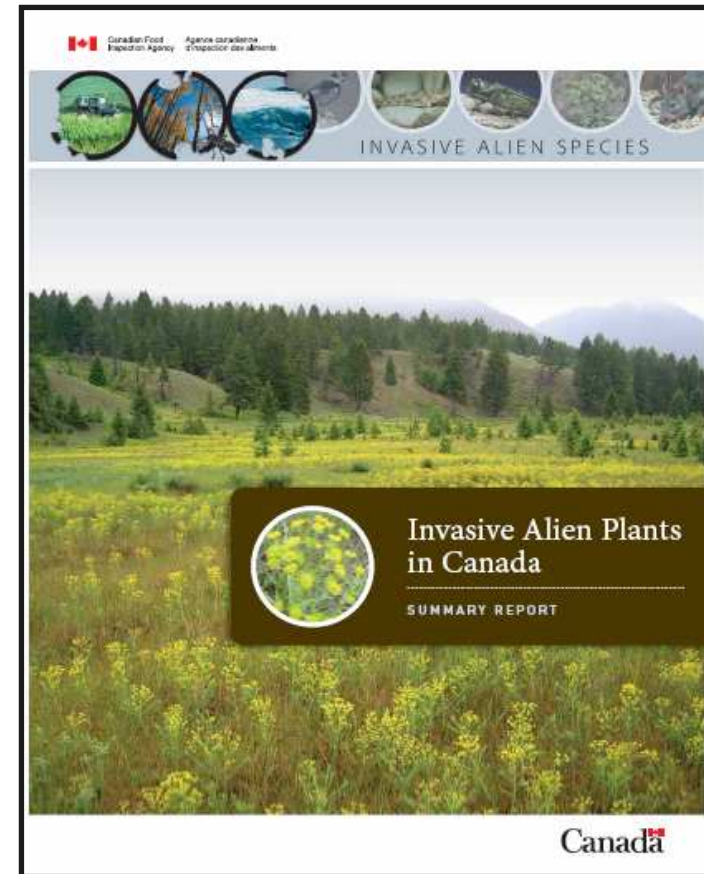


Invasive Alien Plants in Canada

❖ Database of Invasive Vascular Plants

- Based primarily on the *Wild Species 2005* database
- Distributional information
- Taxonomic data
- Life history (annual, biennial or perennial)
- Growth form (forb, graminoid, subshrub, shrub, tree, vine, or aquatic)

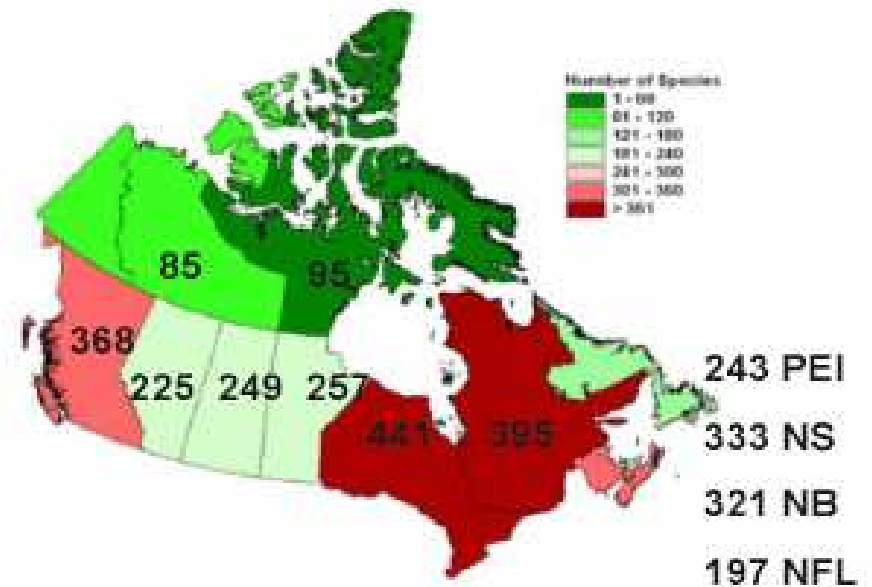
❖ Survey of Invasive Vascular Plant Programs



Abundance & Distribution

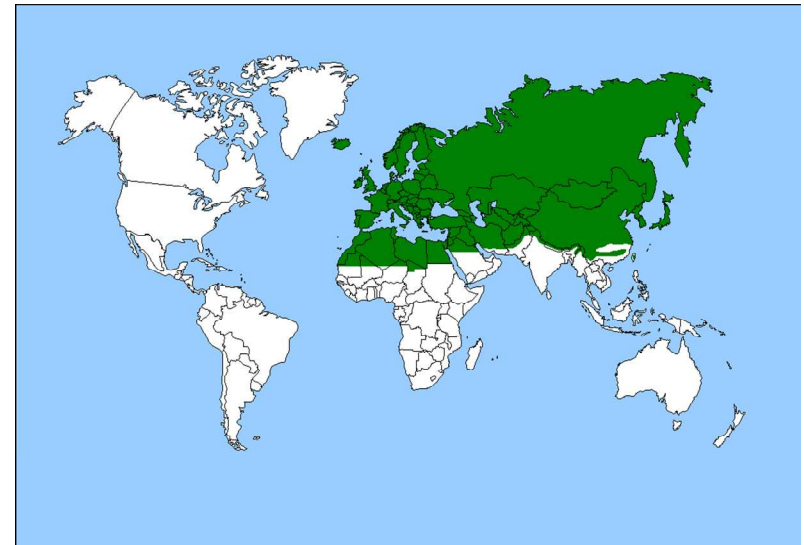
Number of Invasive Plants by Province

- ❖ 1,229 alien vascular plant species reported in Canada, representing approx. 24% of the Canadian vascular flora
- ❖ 486 of these aliens are considered invasive

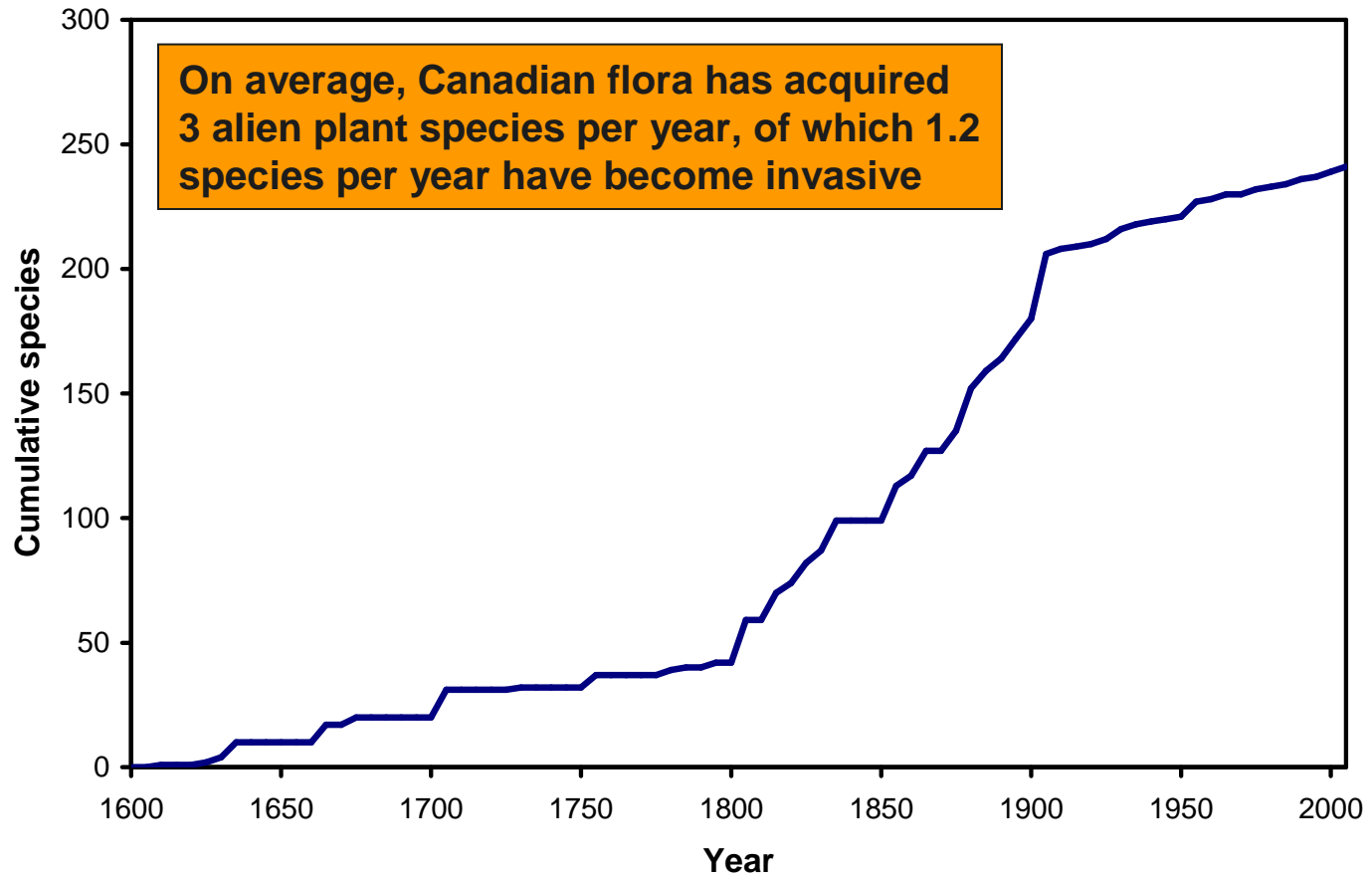


Regions of Origin

Region of origin	Number of IP in Canada
West Palaearctic	401
East Palaearctic	75
Nearctic	23
Neotropical	15
Oriental	6
Australasian	1
Afrotropical	0



Trends in Numbers



Risk of Introductions

- ❖ Exponential increase in air & shipping travel (speed)
- ❖ Increased ports of entry
- ❖ Expanded export/imports with new international trading partners
- ❖ Increased access to foreign ecosystems



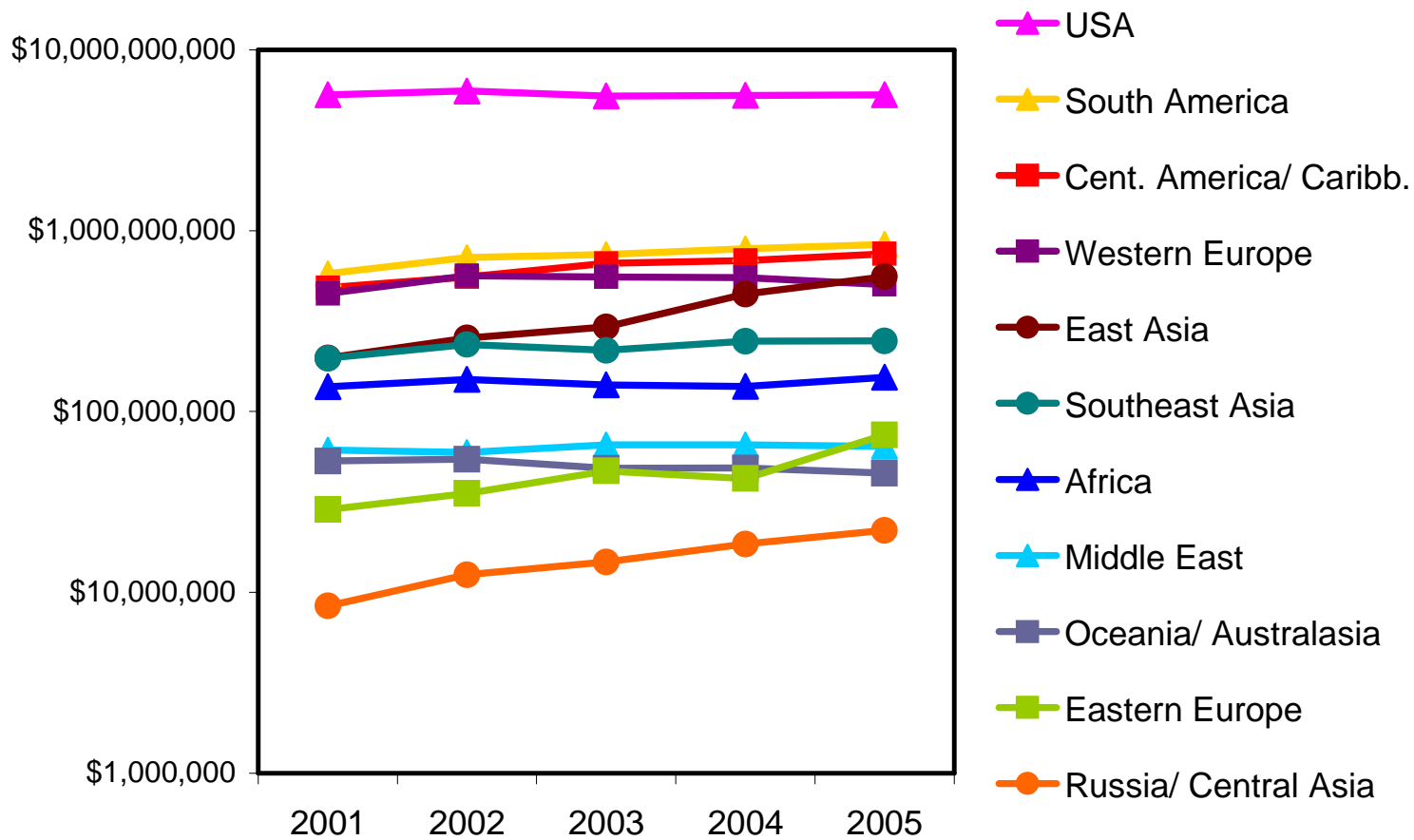
Pathways of Introduction

❖ About 58% of the invasive plant species in Canada are the result of deliberate introductions (of 245 invasive plant species for which some information on pathways could be inferred, estimated that 141 were introduced intentionally and 120 were introduced unintentionally):

- **Crops or forages**, e.g.,
Common Velvetgrass
- **Ornamentals or landscaping plants**, e.g., Japanese knotweed, Yellow iris
- **Herbal or medicinal use**, e.g.,
Sea buckthorn, Garlic mustard
- **Accidentally introduced** as seed contaminants etc., e.g.,
Canada thistle, Leafy Spurge



Trade Patterns



Autumn-olive

Elaeagnus umbellata

- ❖ Shrub of the oleaster family
- ❖ China, Korea, Japan
- ❖ Formation of dense thickets;
Fixes N₂
- ❖ Open woodlands, forest edges, wet meadow, pastures, fields

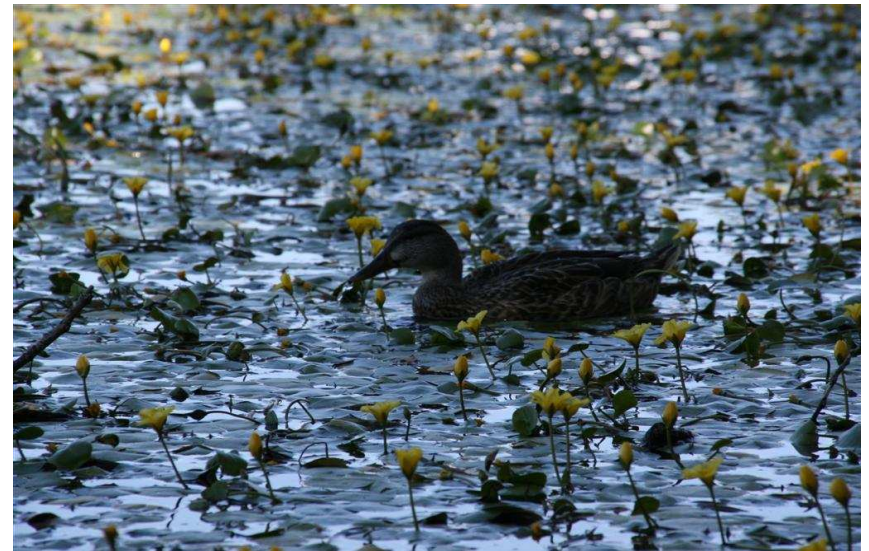


- Planted for re-vegetation purposes, ornamental, wildlife cover etc.
- Grows rapidly, producing fruits in 3-5 years
- Large amounts of seed, producing 2-8 lbs of seed per year

Yellow floating heart

Nymphoides peltata

- ❖ Perennial, aquatic plant of the buckbean family
- ❖ Europe, Japan, China, Korea, India
- ❖ Formation of dense mats; O₂ reduction; Competitor for light
- ❖ Prefers still waters found in lakes and ponds; water gardens



- Ornamental water-garden plant
- Seeds with special hairs allowing them to attach to waterfowl
- Seeds germinate easily

Kudzu

Pueraria montana

- ❖ Perennial vine of the pea family
- ❖ Japan
- ❖ Formation of dense canopies; Smothering or girdling plants; Fixes N₂
- ❖ Forest edges, abandoned fields, roadsides, disturbed areas



- In New England, restricted to a few sites in CT, MA
- Formerly planted as an ornamental and for erosion control
- Grows best where winters are mild
- Grows rapidly, about one foot a day

Mile-a-minute weed

Polygonum perfoliatum

- ❖ Annual vine of the knotweed family
- ❖ East Asia
- ❖ Formation of dense mats; Overgrows and out-competes vegetation
- ❖ Open disturbed areas and abandoned agricultural fields



L. Mehrhoff, U of Connect., Bugwood.org

UGA5273095

- In New England, found in CT, RI
- Spreads rapidly
- Stems can grow up to 7 m in length and as much as 15 cm per day

Oriental bittersweet

Celastrus orbiculatus

- ❖ Perennial vine of the staff-Tree family
- ❖ Japan, Korea, China
- ❖ Reduction of light levels; Over-topping existing vegetation and shading lower layers; Girdling
- ❖ Forest edges, disturbed forests, roadsides, beach, dune, meadows



- Formerly planted in highway landscaping, for wildlife food and cover, and erosion control
- Climbs by twining about a support, up to 18m in some areas
- High reproductive rate, long range dispersal, rapid growth rates



Invasive Plant Impacts

- ❖ Economic Impacts - Cost us billions of dollars annually, local and national economies are being affected
- ❖ Ecological Impacts - Degrade the productivity and biological diversity of all ecosystems
- ❖ Society (Health) – Endanger human and animal health and safety, recreation, land values, etc
- ❖ Trade Relationships – International commitments (IPPC, CBD)

Economic Impacts

❖ Estimated that invasive alien plants cost the Canadian agricultural community approximately \$2.2 billion each year



Canada thistle (*Cirsium arvense*)

- \$3.6 million - wheat losses in Saskatchewan per year
- \$320 million - canola yield losses and treatment costs in the prairies per year

Environmental Impacts

- ❖ Invasive plants are responsible for the decline of at least 46 species at risk and threaten numerous habitats and ecosystems in Canada
 - ❖ Prairie lupine, Pink milkwort, Dun Skipper etc.
- ❖ Invasive plants can compete with and, in some cases, displace native plant species, potentially changing the floristic composition of an ecosystem
 - ❖ Japanese Knotweed, Coltsfoot etc.



Social Impacts

- ❖ Human health problems (allergies, dermatitis, etc.)
- ❖ Interference with traditional lifestyles
- ❖ Reduction or loss of tourism and employment
- ❖ Reduced aesthetic values
- ❖ Reduced enjoyment of natural areas





Canadian Invasive Plant Framework Development

- ❖ Scope?
 - ❖ Seeds
 - ❖ Grains
 - ❖ Plants that impact the economy, environment and/or human health
 - ❖ New invasive plants
 - ❖ Established invasive plants
 - ❖ Imports
 - ❖ Exports

- ❖ Prioritization of strategic goals
- ❖ Priority action items - Implementation strategies
- ❖ Top invasive plants of concern

Questions?



Canada