

Summary of Canada's response to the risk of invasive alien species

November 2007

Contained in this document is a summary of past and current key achievements of Canadian federal departments in preventing, detecting and/or managing invasive alien species (IAS) under *An Invasive Alien Species Strategy for Canada*. Input was provided by key federal departments including Environment Canada, Fisheries and Oceans Canada, the Canadian Food and Inspection Agency and Natural Resources Canada.

Invasive Alien Species Program

- *An Invasive Alien Species Strategy for Canada* was approved by federal, provincial, and territorial Ministers responsible for wildlife, forests, fisheries and aquaculture, and endangered species at their joint meeting on September 16, 2004. The purpose of the Strategy is to establish a coordinated national policy and management framework that minimizes the risk of invasive alien species to the economy, environment, and society. The Strategy outlines a response to invasive alien species through an approach that prioritizes: *prevention* of new invasion; *early detection* of new invaders; *rapid response* to new invaders; and, *management* of established and spreading invaders (eradication, containment, and control).
- Progress under the strategy has been aided by the 2005 Federal Budget, which allocated \$85 M over 5 years for new measures to address the threat of invasive alien species.

Invasive Alien Species Partnership Program

- The Invasive Alien Species Partnership Program (IASPP) is an important component of *An Invasive Alien Species Strategy for Canada*. The IASPP received \$5M over five years to engage Canadians in preventing, detecting, and managing the harmful introduction and spread of invasive alien species.
- The Program, is managed jointly by EC, the Canadian Food Inspection Agency (CFIA), and the Department of Fisheries and Oceans (DFO), and administered by EC.
- A four-year (2006-2010) Memorandum of Understanding (MOU) has been signed outlining the program management roles and responsibilities of participating departments.
- To date, the IASPP has supported 76 projects totalling nearly \$2.8 M representing a wide range of stakeholders and provincial and territorial governments who are working in support of the national strategy.

- Grants and Contribution funds have supported a wide variety of projects to address both aquatic & terrestrial invasive alien species, including the development of communication products and educational courses, support for workshops and monitoring programs, help for establishing provincial or regional Invasive Species Councils, and research initiatives to address invasives.

More information is available at the following web site. Environment Canada's Invasive Alien Species home page:

<http://www.cbin.ec.gc.ca/issues/ias.cfm?lang=e>

Leadership and Coordination

- Environment Canada plays a leadership role with regards to implementing the national Strategy and maintaining strong partnerships with other federal departments and/or other stakeholders who are contributing to IAS prevention, detection and/or management. Federal, provincial and territorial Deputy Ministers endorsed continuation of the existing Leadership and Coordination Committee (L&CC) to oversee the implementation of the Strategy and address IAS issues of a horizontal nature.
- The role of the L&CC is being revised to better reflect the strengthened partnerships between federal departments and provincial ministries. Further, the mandate of the L&CC is being updated as well as the terms of reference in order to reflect current IAS issues, federal department efforts and layout a clear path forward on this issue.
- National IAS aquatic, and terrestrial plant and plant pests working groups have been established to help identify, coordinate and implement specific actions under these operational plans across Canada. These working groups were created to ensure collaboration of all federal agencies in developing clear roles and responsibilities need to implement the Strategy, including the IASPP. Both working groups have developed respective National Action Plans that address the threat of aquatic and terrestrial invasive species and set out roles, responsibilities and timelines for implementation of key initiatives.
- A National IAS Web Portal is being developed cooperatively by a number of Canadian federal departments. With an expected launch date in January of 2009, this site will be a first point of contact for invasive alien species information in Canada.
- Environment Canada has established a Secretariat to coordinate communication on IAS and coordinate the IASPP

Aquatic Invasive Species

- DFO has taken the federal lead for aquatic invasive species (AIS). DFO developed the Canadian Action Plan to address the Threat of Aquatic Invasive Species with provincial and territorial governments in consultation with stakeholders. The Action Plan was approved by the Canadian Council of

Fisheries and Aquaculture Ministers in 2004. Funding was sought and received for implementation of a portion of the action plan.

- Budget 2005 provided DFO with \$10 M over 5 years to assist with the implementation of the aquatic component of the national Strategy. An additional \$10 M over 5 years was allocated for sea lamprey control. This funding addresses a portion of the Action Plan's components and is specifically targeted for risk assessment, research, early detection monitoring, development of a test emergency response plan and development of a national regulatory framework.
- The Federal/Provincial/Territorial Aquatic Invasive Species Task Group (AISTG) co-chaired by Ontario Ministry of Natural Resources and the Department of Fisheries and Oceans (DFO) continues to make progress on three key priority areas: engaging Canadians, early detection and rapid response, and risk assessment.

For more information on DFO's efforts, please visit: http://www.dfo-mpo.gc.ca/science/environmental-environnement/action_plan/action_plan_e.htm

- Other major AIS program milestones include creation of a Centre of Expertise for Aquatic Risk Assessment (CEARA) in 2005 and the Canadian Aquatic Invasive Species (Research) Network in 2006. More information on CAISN can be obtained at: <http://www.uwindsor.ca/caisn>.
- Risk assessment guidelines are under development to assess the risk of invasive species to Canada, US and Mexico. These tri-national guidelines were tested using two groups of freshwater fishes. Canada led one case study involving 5 species of snakeheads found in trade (aquarium and food industries), while Mexico led the suckermouth catfish case study. This report has been completed and is in final formatting stages before being sent for quality control, translation and release.
- A screening process for the aquarium trade in North America is also being developed with aquatic invasive species experts from the three member countries. A draft has been developed and work on continuing on this process for future inclusion as a CEC report.
- DFO has implemented a limited national early detection monitoring program based on provincial and stakeholder priorities and these priorities were identified through its biological risk assessments. Zonal workshops were also held in 2006 to assist in the identification of high priority pathways and species to be monitored.

Ballast Water Issue

- Transport Canada developed guidelines in 1989 for ships entering the Great Lakes, expanded them nationally in 2000 and, in 2005, proposed regulations under the *Canada Shipping Act*.
- On June 28, 2006, the Government, through Transport Canada, made the *Ballast Water Control and Management Regulations* under the *Canada Shipping Act*. The *Ballast Water Control and Management Regulations*, administered by

Transport Canada, require all ships entering Canada (other than from nearby American ports) to exchange their ballast water at sea or treat it before discharging it in Canada. Ships on voyages within Canada are excluded from the Regulations but are subject to non-enforceable guidelines.

- Joint Canadian and American inspections cover about 80% ocean going foreign ships before they enter the Great Lakes. For the 2006 shipping season, 94% of the ships inspected were in compliance with the Regulations. The remaining 6% of ships had to take corrective action, effectively providing 100% compliance of inspected ships. For 2007, non-compliance dropped to 3.5% for ships entering the Great Lakes. While the Great Lakes inspections cover all ships, for 2007, TC also selectively targeted higher risk ships destined for Quebec ports found a higher rate of non-compliance.
- Environment Canada has been assessing the effectiveness on ballast water treatment technology and on monitoring the presence of certain invasive species in the St. Lawrence and Great Lakes systems.
- Transport Canada is assisting the development of six promising technologies using different approaches to sterilize ballast.

Terrestrial Plants and Plant Pests

- The Canadian Food Inspection Agency (CFIA) and Natural Resources Canada (NRCan) were allocated \$50M and \$10M over 5 years, respectively, to aid in the implementation of the terrestrial plant and plant pest component of the national Strategy.

Initiation of an invasive plant program

- A Canadian Invasive Plants Framework (CIPF) is being proposed to provincial and federal government partners and workshops will continue in late 2007/2008. The CIPF will establish a framework within which partner government and non-government organizations can work together to reduce the impacts of invasive plants in Canada by preventing new introductions, detecting and responding to recent introductions, effectively managing existing introductions and by educating and engaging Canadians in actions to address invasive plants
- Development of invasive plant policies and regulations is ongoing. Risk management documents are currently out for comment, or under development for plant species for which pest risk assessments have been completed; a list of prohibited invasive plants is proposed.
- A “Status of Invasive Alien Plants in Canada” report will be published by CFIA in late 2007

Establishment of a national surveillance network

- Biologists and support personnel have been hired to increase survey capacity via a

- network of survey coordinators across the country.
- Increased surveillance of high risk entry sites for invasive plants and plant pests has been delivered as part of the national IAS survey work plan.
 - Establishment of specialized insect rearing facilities in Toronto, Vancouver and Montreal to study invasive pests not captured by traditional survey techniques.
 - Enhanced training via such initiatives as national “Plant Health Survey” and “Nursery Pest and Disease” workshops has been provided.

Enhanced use of Pest Risk Assessment as a support tool

- Increased capacity for Pest Risk Assessment (PRA); botanists hired to conduct weed risk assessments and capacity has been augmented in the areas of entomology and pathology.

Enhanced lab capacity

- Increased diagnostic capacity in the laboratories; botanists, entomologists and pathologists have been retained.

Strengthened border control to prevent establishment of introduced species

- Enhanced inspection of imported plants and plant products and the development of new tools for inspection activities such as the “*Import Inspection Manual*”

Emergency Response to Invasive Forest Pests

- CFIA continues to respond to Brown Spruce Longhorn Beetle (BSLB), Emerald Ash Borer (EAB) and Asian Long-horned Beetle (ALHB).
- Emerald Ash Borer: Since its initial detection in 2002, CFIA has worked toward slowing the spread of EAB. There are currently five areas in South-western Ontario regulated by Ministerial Order for EAB. EAB is routinely regulated county-by-county as part of the CFIA’s management plan, and is consistent with the U.S. approach.
- Asian Long-horned Beetle: Since detecting ALHB in 2003, the CFIA, together with its partners, has implemented a very successful eradication program with the Regulated Area that includes parts of the cities of Toronto and Vaughan. CFIA is committed to the eradication of ALHB.
- Brown Spruce Longhorn Beetle: BSLB was first identified in Halifax’s Point Pleasant Park in 1999. In 2000, a BSLB Ministerial Order zone was put into place to limit its spread. In 2007, CFIA changed the BSLB management focus from eradication to containment based on pest distribution. A BSLB Risk Mitigation Program has been developed which outlines mandatory phytosanitary movement controls to continue to slow the spread of BSLB.

Increased collaboration

- CFIA, NRCan-CFS and the Argentinian Instituto Nacional de Tecnología Agropecuaria (INTA) have initiated a collaborative semi chemical forest pest trapping survey in Argentina in a effort to increase the knowledge about semi chemical lures for invasive insect surveillance projects.
- Collaborative development and delivery of an International Plant Protection Convention (IPPC) Pest Risk Assessment training course. CFIA led an international committee, consisting of members from Germany, UK, New Zealand, India, CHILE and the IPPC. The pilot for this program was delivered in India in the spring of 2007 by CFIA and staff from the UK.
- An Invasive Alien Species panel was formed within the North American Plant Protection Organization to advance collaboration and harmonization between Canada, United States and Mexico on issues pertaining to invasive alien plants and plant pests. EC and CFIA are represented on this Committee.
- Support for The Barcode of Life program. Financial support has been provided to the Pacific Forestry Centre (NRCan-CFS) to DNA barcode forest pests from each of the four, national, forestry centres to develop DNA barcodes for a wide variety of native and non-native forest pests. This baseline data can then be used to quickly identify invasive forest pests that are intercepted or detected at international ports
- A “*Field Guide to Terrestrial Gastropods in Canada*” will be published in 2007 as a joint undertaking with CFIA and The Bishops Mills Natural History Centre.
- The Action Plan for Invasive Alien Terrestrial Plants and Plant Pests, Phase 2, Proposed Implementation Plan (May 2005) lays out roles, responsibilities and timelines for implementation of key initiatives identified in Phase 1 of the Action Plan developed by the federal/provincial/territorial Terrestrial Plants and Plant Pests Working Group on IAS. Progress is reported in all six key areas of delivery identified in the Plan (e.g., leadership and coordination, legislation and regulation, risk analysis,etc..) The Action Plans is located at:
<http://www.inspection.gc.ca/english/plaveg/invenv/action/phase2e.shtml>
- The Terrestrial Plants and Plant Pests Working Group (TPPWG) co-chaired by Ontario Ministry of Food and Agriculture and the Canadian Food Inspection Agency, convened in May 2006 to review federal and provincial progress in implementing the Terrestrial Plants and Plant Pests Action Plan. The TPPWG agreed to formalize a governance structure to enable its ongoing role in terrestrial invasive alien species in Canada.

Forest Pests

National Policies

- Through Natural Resources Canada (NRCan), the 2003-2008 *National Forest Strategy* was developed, which identifies and charts the direction that Canadians, as stewards of the forest, need to move toward in order to deal with evolving

social, cultural, institutional, environmental and economic factors in our journey toward sustainable forest management.

- This year, through Natural Resources Canada (NRCan), a *National Forest Pest Strategy* has been developed. This was developed in collaboration with the provinces and territories, communities, First Nations and industry. The strategy's objective is to protect Canada's forests from the increasing threat of forest pests in response to the forest industry's needs and for the benefit of all Canadians.
- NRCan-CFS research in the management of forest invasive alien species (FIAS) is a component of the National Forest Pest Strategy and National Strategy on Invasive Alien Species.
- Information regarding pests and their current and projected impacts is integrated and used to build sound science-based policies and strategies consistent with sustainable forest management.

Assessment

- Research is conducted to: identify and assess risks; generate taxonomic and ecological knowledge; develop detection and sampling tools and surveillance systems; develop predictive models; develop prevention and mitigation tools and strategies including a capability for rapid response and; to assess the biological and socio-economic impacts of FIAS.
- CFS undertakes surveys and research into interceptions of quarantine and potential quarantine FIAS in wooden articles, wooden dunnage and wood packing materials from Asia, Europe and South America.
- Under the National forest Pest Strategy, NRCan-CFS research will include development of an early warning system for invasive species; techniques for FIAS risk mapping information to improve science-based policy recommendations and advice; a national FIAS early warning system and diagnostic network; predictive models for new threats; and a framework for ecological risk analysis.

Communication

- CFS is currently developing a FIAS database, a synthesis of historical records of FIAS, and a FIAS Web Portal. Additionally, the CFS is a contributor to and consortium member of the CABI IS Compendium project.