



# **Invasive Species: Overview of the U.S. Perspective and Current Issues**

*European Conference on Invasive Species*

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## What is an Invasive Species?

***An invasive species is defined by Executive Order (EO) 13112 as:***

- **a species that are not native to the ecosystem under consideration**
- **a species whose introduction causes or is likely to cause economic or environmental harm or harm to human health.**

***Invasive species can be plants, animals, or microorganisms.***

Hydrilla

Burmese Python

Fire Ants



*Brown Treesnake*

## Invasive Species Impacts:

- Reduce property values
- Spread to neighboring lands
- Cause of species becoming threatened and endangered
- Hybridize with native species
- Degrade habitat
- Exclude other species, and
- Alter nitrogen and carbon cycling.



## Invasive Species Impact Example:

*Kudzu*

(NPS photo/Louisiana/Mississippi)



## Invasive Plants Impact Example:

Invasive plants can depress shoreline property values (average decrease per property study - **\$12,000** in the state of Vermont)

**Eurasian Water Milfoil**



## Asian Carp

Asian carp are 39-40 in. (40-50 lb.) and include 5 species: 1) the grass carp (***Ctenopharyngodon idella***), 2) bighead carp (***Hypophthalmichthys nobilis***), and 3) silver carp (***Hypophthalmichthys molitrix***), 4) the common carp (***Cyprinus carpio***) and the 5) black carp (***Mylopharyngodon piceus***).



## Emerald Ash Borer

Emerald Ash Borer

- **Infesting thousands of Acres in Michigan, Indiana and Ohio**
- **Infestation started near Detroit and probably arrived via solid wood packing material**
- **KILLS every Ash tree (not just exfoliates or weakens like some pests and pathogens).**
- **Federal and State governments spending millions each year in quarantine and other efforts to halt the spread.**



# Nutria

**Nutria – Blackwater National Wildlife Refuge (USFWS)**



## Federal Activities On Invasive Species

*Over 30 U.S. Federal agencies and departments deal with invasive species*

- **National Oceanic and Atmospheric Administration, U.S. Department of Commerce (NOAA/DOC)**
  - covers many aquatic invasive species issues
- **U.S Department of the Interior (DOI)**
  - covers public lands invasive species issues, regulates fish and wildlife species determined to be injurious
- **U.S. Department of Agriculture (USDA)**
  - covers plant pests, noxious weeds, and invasive species that harm livestock and poultry (animal quarantine laws)



## Federal Activities On Invasive Species *(cont'd.)*

- **U.S. Department of Defense (DOD)**
  - manages military lands, transports personnel and equipment, conducts operations overseas
- **U.S. Environmental Protection Agency (EPA)**
  - regulates water quality, pesticides and herbicides, and conducts research
- **U.S. Agency for International Development (USAID), United States Trade Representative (USTR), and the U.S. State Department**
  - deal with international issues that relate to invasive species
- **IAS Funding U.S. about \$1.3 Billion (90%    USDA)**



## Overview of USDA Authorities

### I. Plants and Plant Pests

➤ **Plant Protection Act (PPA, 7 U.S.C. 7701 et esq.)**

- Consolidated authorities of plant related statutes, including:
  - Plant Quarantine Act
  - Federal Noxious Weed Act

*Provides broad authority to prevent the dissemination of a plant pest or noxious weed that is new to or not known to be widely distributed within the U.S.*

➤ **Federal Seed Act (FSA, 7 U.S.C. 1581 et esq.)**

*Requires accurate labeling and purity standards for seeds in commerce and prohibits the importation and movement of adulterated or misbranded seeds*



## Overview of USDA Authorities (cont'd.)

### II. Animals

#### Animal Quarantine Laws

Authority to regulate the importation and interstate movement of invasive animals derived from several statutes referred as animal quarantine laws (21 U.S.C. 101 – 135b and 19 U.S.C. 1306)

*Authorizes USDA to regulate and take measures to prevent the introduction and dissemination of communicable diseases and pests of livestock and poultry (not wildlife)*

- **Animal Damage Control Act of 1931**  
(as amended in the Agriculture Appropriations Act of 2001)  
*Provides general authority under which APHIS' Wildlife Services program functions (BTS and other programs)*



## Overview of USDA Authorities (cont'd.)

### **III. National Forest Service**

*(general authorities to manage National Forests)*

- **Organic Administration Act (16 U.S.C. 551)**
- **Multiple-Use Sustained Yield Act 1960 (16 U.S.C. 528-531)**
- **Statutes related to forest planning (includes National Forest Management Act [16 U.S.C. 1604] and many other relevant authorities)**



## Overview of DOI Authorities

### 1) **The Lacey Act** *(two provisions)*

#### ➤ **Injurious Wildlife Provisions (18 U.S.C. 42)**

*Prohibits the importation, possession or shipment of certain categories of animal species determined by the U.S Fish and Wildlife Service (DOI) to be injurious to human beings, agriculture or wildlife*

- *Species must be listed pursuant to regulation. Not all animals are covered. Just those specifically listed as well as wild mammals, birds, fish, amphibians, reptiles, mollusks and crustaceans. (Currently approximately 20 genres and species listed as injurious)*



## Overview of DOI Authorities (cont'd.)

### ➤ **Other Provisions of the Lacey Act (16 U.S.C. 3371 et seq.)**

*Makes unlawful for any person to import, export, transport, etc. in interstate or foreign commerce of any fish, wildlife or plant taken, possessed or transported in violation of any federal, tribal, state or foreign law*

Provision administered by DOI, USDA, and Commerce

## 2) Land Management Authority of Federal Land Management Agencies

*Separate authorities for DOI land management agencies to authorize management activities including actions to protect resources from the impact of invasive species (NPS, FWS, BLM)*



## Overview of DOI Authorities (cont'd.)

### 3) Endangered Species Act (ESA)

*(16 U.S.C. 1535 et seq.)*

*To the extent that an action regarding an invasive species can be shown to (directly or indirectly) harm or likely to harm an endangered or threatened species, the ESA could be implicated (recovery actions – not mandated)*



## Overview of DOI and Commerce Authorities

### **Aquatic Invasive Species**

- **Non-indigenous Aquatic Species Prevention and Control Act (NANPCA, P.L. 101-636; 16 U.S.C 4701 et seq.) as amended by the National Invasive Species Act (NISA, 16 U.S.C. 4701-4704)**
  - Focuses on ballast water, a major pathway for aquatic nuisance species (ANS)
    - Only regulatory provisions in NANPCA deal with ballast water; directs Coast Guard to implement ballast water management program
    - Coast Guard issued final rule in 2004 requiring ballast water exchange nationwide
  - Creates Aquatic Nuisance Species Task Force (ANSTF), co-chaired by FWS and NOAA



## Overview of DOI and Commerce Authorities (cont'd.)

- Directs the Aquatic Nuisance Species Task Force (ANSTF) to establish and implement a program to prevent the introduction and dispersal of aquatic nuisance species (ANS)
  - Other Activities:
    - Monitoring
    - Control
    - Research and Education



## Executive Order 13112 (Issued in February of 1999)

**NISC was established by EO to ensure that Federal activities are:**

- **Coordinated**
- **Complimentary**
- **Cost-efficient**
- **Effective**

**Council's Co-Chairs:** Secretaries of Interior, Agriculture & Commerce

**Members:** DOT, DOD, Treasury, DOS, EPA, HHS, USAID; USTR, DHS, & NASA.

- About **35** Federal agencies share the responsibility and authority for invasive species and as do all 50 states, tribes, local governments, and territories.



## The Executive Order (EO) Directs the Council to:

- 1) Oversee the implementation of the EO.
- 2) Promote **Action** at **Local, State, Tribal** & Ecosystem levels.
- ★ 3) **Recommend** measures to **enhance** international **cooperation**.
- 4) Facilitate documentation of invasive species impacts.
- ★ 5) Develop a web-based **Information Network** on invasive species.
- 6) Develop **NEPA Guidance** related to invasive species.
- ★ 7) Draft and update a *National Invasive Species Management Plan* (NISC Plan) every two years.

**Council Members**

**Secretaries of the Departments & Administrators**

**Co-Chair Principals**

**Agriculture, Commerce & Interior**

**Policy Liaisons**

**1 per Dept.-Agency**

**Agency Reps**  
In each agency

**Agency Reps**  
In each agency

**Agency Reps**  
In each agency

**Agency Reps**  
In each agency

**Agency Reps**  
In each agency

**Agency Reps**  
In each agency

**ISAC**

**Work**

**Groups**

**“TAXA Teams”**

**Nonfederal -FACA**

**Council Staff**

**ANSTF, FICMNEW & ITAP**

**NON-FEDERAL** 

**FEDERAL** 

**ADMINISTRATION**   
Political Appointees



## THE INVASIVE SPECIES ADVISORY COMMITTEE (ISAC):

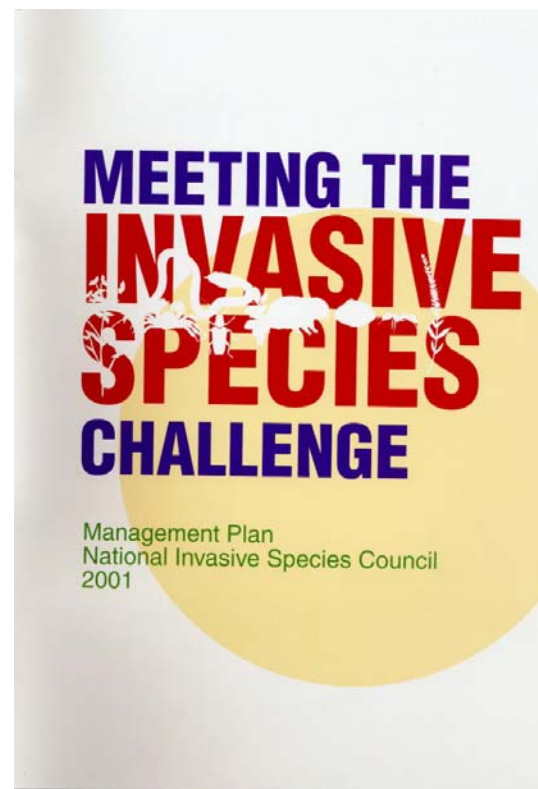
- Established under EO 13112 to provide information and stakeholder input for consideration by NISC.
- Represents a range of non-Federal expertise, constituencies, localities, and stakeholder interests.
- Subcommittees and Task Teams include NISC and ISAC members.



The 2001 Plan's 57 numbered Action Items call for about **168** identifiable actions.

**Two-thirds** of the Plan's Action Items have been completed, or are in progress

**All of the Plan's 57 Action Items require a continuing effort by agencies to implement.**





## National Invasive Species Management Plan 2008 – 2012

- Based on 5 key strategic long term goals
  - ❖ With supporting elements: Research, International Cooperation, Information Management and Education and Outreach
    - Prevention
    - EDRR
    - Control
    - Restoration
    - Organizational collaboration



## NISC PLAN Revision and Update (continued)

- Include Performance Goals
- 5 year time horizon – more strategic and focused actions
- Built on much that has been learned and accomplished (Research/EDRR/Pathways)
- Timeline: December 2007 – March 2008
- Public Comment Finalize 2008



**Prevention:** *The first line of defense and most cost effective approach*

***Actions:***

- Develop and test a risk assessment screening system for evaluating intentionally introduced invasive species and reducing risk of establishment. (APHIS—Q 37)
- Rank key pathways by which invasive species move (Pathway Ranking Guide 2006); and develop mechanisms to reduce movement through these key pathways (ongoing)
- Training Implementation Guide for Pathway Definition, Risk Analysis and Risk Prioritization (January 2007 – NISC/ANSTF Prevention Committee)



## **Early Detection and Rapid Response:**

*Finding IS early may provide the only opportunity to eradicate or contain them.*

### **Actions:**

- Improve detection methods to speed up the process
- Seek a flexible funding source for rapid response contingencies
- Establish rapid response guidelines and teams in cooperation with local/state organizations



## An Ounce of Prevention...

- 1) Best Management Practices/Codes of Conduct
  - St. Louis Declaration
  - Pilot Efforts
  
- 2) Target “Message” Campaigns
  - Stop Aquatic Hitchhikers
  - “Habitattitude!”



**Habitattitude**™

PROTECT OUR ENVIRONMENT  
DO NOT RELEASE FISH AND AQUATIC PLANTS

PIJAC • U.S. FISH & WILDLIFE SERVICE • SEA GRANT



## An Ounce of Prevention Continued...

### 3) Finding Alternatives

- Research
- Positive Message – What to plant?
- What to do with unwanted exotic pest?

### 4) Engaging Existing Leaders & Organizations

- GCA
- Master Gardeners
- USDA Extension Services
- Plantwise

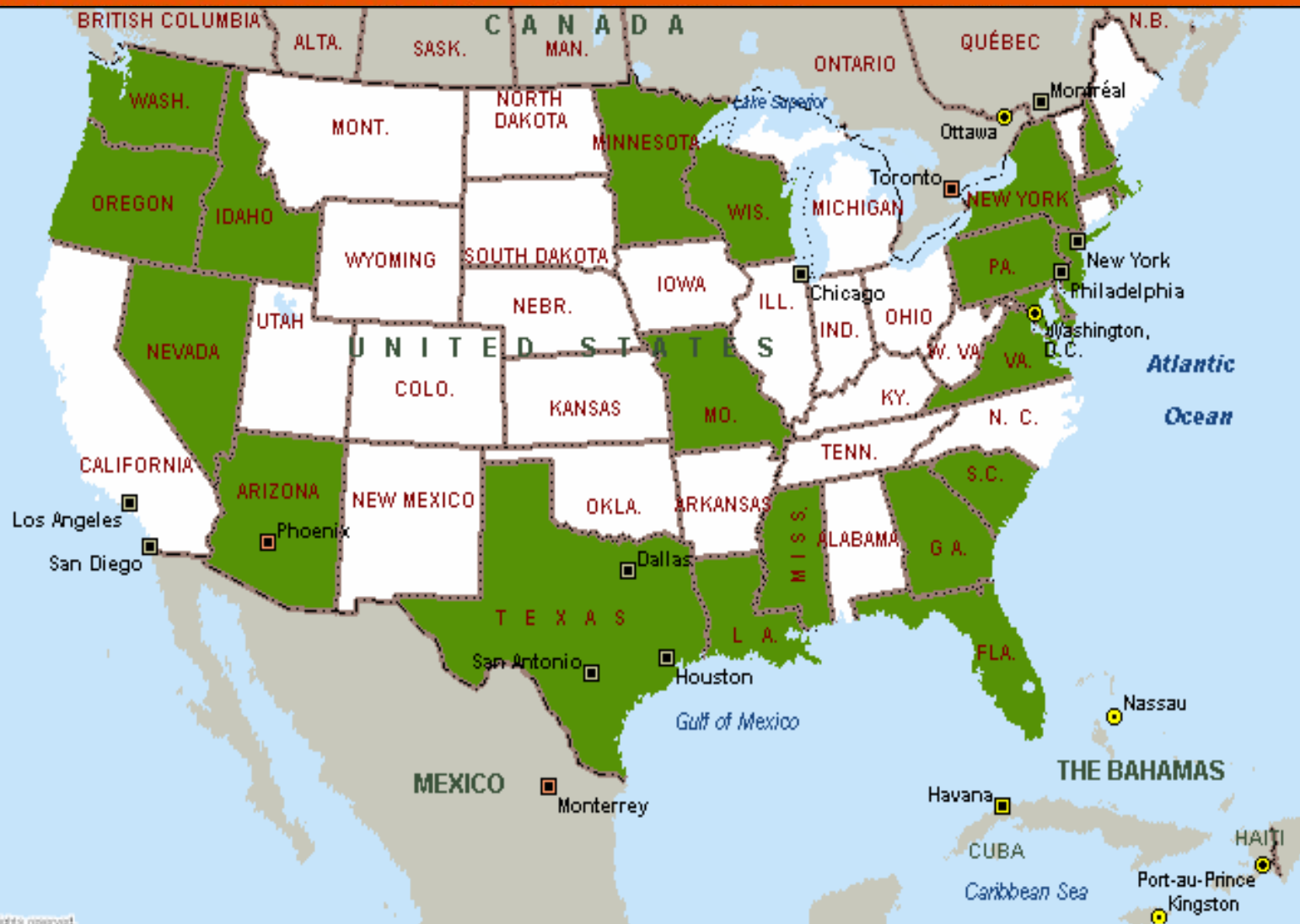


## State Invasive Species Council

- About 26 states have established a state-level invasive species council.
- About 46 states have an invasive plant program
- About 33 states have an aquatics program

HI 

AK 



July 2007

States with all-taxa Invasive Species Councils 



## Outreach and what is needed:

- 1) Broaden the number of organizations devoting time and resources to invasive species
- 2) Convey the big picture and the scale of the threat to the public
- 3) Encourage international bodies to address issue
- 4) Increase preparedness regarding *next* invasives informed by international research
- 5) Communicate the costs and risks of doing nothing

***From Frank Lowenstein of the Nature Conservancy at the Forest Pest Conference in Fall of 2006 – Hosted by NISC, USDA/APHIS and FS***



## New Issues

- ◆ Impact of climate change on invasive species
- Potential use of invasive plants as bio-fuels
- Upcoming discussion of invasive species at CBD

Arial view of *Arundo Donax*



## Upcoming for 2008:

- 1) ISAC 4 meets in Alaska in May 2008
- 2) Revision of National Invasive Species Management Plan
- 3) Further efforts in Economic Analysis of Invasive Species impacts and control alternatives
- 4) Revised [www.invasivespecies.gov](http://www.invasivespecies.gov) website to better market NISC and partner successes and programs
- 5) Focus on partnerships, working within existing structures to achieve goals.
- 6) Continued work with international organizations, such as NAPPO, IPPC, EU to develop an international approach to IAS prevention and control
- 7) CBD Meeting on May 19 – 30, 2008



**National Invasive Species Council**  
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**Office of the Secretary (OS/SIO/NISC)**  
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