

**2008 – 2012 National Invasive Species Management Plan**  
**Draft for Public Comment**  
**December 20, 2007**

**TITLE PAGE:**

**2008 – 2012 National Invasive Species Management Plan**

*National Invasive Species Council*

*Co-Chairs: U.S. Department of the Interior*  
*U.S. Department of Agriculture*  
*U.S. Department of Commerce*

*Members: U.S. Department of State*  
*U.S. Department of Defense*  
*U.S. Department of Transportation*  
*U.S. Department of Homeland Security*  
*U.S. Department of Health and Human Services*  
*U.S. Department of the Treasury*  
*U.S. Environmental Protection Agency*  
*U.S. Agency for International Development*  
*Office of the U.S. Trade Representative*  
*National Aeronautics and Space Administration*

## **EXECUTIVE SUMMARY**

Invasive Species introduced from around the globe are having a major impact on our plant and animal communities in our farms, parks, waters, forests, ranches, coasts and backyards. As global climate patterns shift, the distribution of species will change, and particular habitats may become more or less susceptible to the impacts of new species introductions. Human activity such as trade, travel and tourism have all increased substantially, increasing the speed and volume of species movement to unprecedented levels. Invasive species are often unintended hitchhikers on cargo and other trade conveyances. Still more species are deliberately introduced as pets, ornamental plants, crops, food, recreation, pest control or other purposes. Most non-native species, including most of our sources of food and fiber, are not harmful; and many are highly beneficial. A small percentage of non-native species cause great harm the environment, economy or harm to animal or human health. Non-native species that cause harm are collectively known as invasive species.

It is difficult to estimate the total economic harm caused by invasive species, however invasive plants alone result in two to three billion dollars in crop loss each year (Bridges 1992). Aquatic invasive species clog irrigation canals and pipes that supply water to power plants and factories. Invasive plants, pathogens and parasites cut crop yields and sicken livestock. Humans can be affected directly. Invasive ants cause painful stings. Invasive plant pollen increases the severity of respiratory allergies and the sap of the invasive plant, Giant Hogweed, causes blisters on the skin that can lead to permanent scarring. West Nile Virus (WNV) is an invasive pathogen of humans and animals. It was first found in North America in 1999 in New York and surround states. Carried by mosquitoes, birds, and other animals, WNV is now in all continental U.S. States and Puerto Rico. About one in 150 people infected by WNV develop severe illness. As of November 2007, Centers for Disease Control and Prevention report that over 27,000 people have been made sick by WNV, and 994 people have died in the U.S.

Invasive species (such as kudzu, snakehead fish, zebra mussels, emerald ash borers, sea lamprey, tree of heaven, hydrilla, nutria, West Nile virus, and Sudden Oak Death Pathogen) may prey upon, displace or otherwise harm native species. Some invasive species also alter ecosystem processes, transport disease, interfere with crop production, or cause illnesses in animals and humans; affecting both aquatic and terrestrial habitats. For these reasons, invasive species are of national and global concern.

Invasive species populations span geographic and jurisdictional boundaries; thus efforts to manage invasive species must be coordinated across boundaries. In 1999, Executive Order 13112 (Order) established the National Invasive Species Council (NISC), co-chaired by the Secretaries of the Interior, Agriculture, and Commerce. NISC members include the Secretaries of Transportation, State, Defense, Homeland Security, Treasury, Health and Human Services; the Administrators of the Environmental Protection Agency and National Aeronautics

and Space Administration; as well as the Director of the U.S. Agency for International Development and the U.S. Trade Representative. NISC was charged with providing coordination, planning and overall leadership for Federal invasive species programs and reaching out to State, Tribal, local and private partners.

The Order also required the Secretary of the Interior to establish the Invasive Species Advisory Committee (ISAC), a group of 30 nonfederal stakeholders from diverse constituencies (representing State, Tribal, local and private concerns) around the nation, to advise NISC on invasive species issues. In addition, the Order called on NISC to prepare and issue the first national plan to deal with invasive species. Completed in 2001, The National Invasive Species Management Plan, Meeting the Invasive Species Challenge (2001 Plan), served as a comprehensive “blueprint” for Federal action on invasive species, as well as NISC’s primary coordination tool. This coordination tool provided the first comprehensive national plan for invasive species action. It called for about 170 specific actions within nine categories of activity, about 100 of which have been established or completed. Actions identified in the 2001 Plan continue to be implemented.

The 2008 – 2012 National Invasive Species Management Plan (2008 Plan) is the first revision of the 2001 Plan, as mandated by the Order. This document will direct Federal efforts (including overall strategy and objectives) to prevent, control and minimize invasive species and their impacts within the next five (5) fiscal years (2008 through 2012). If necessary, it may be updated more frequently to reflect changes in circumstances, agency plans and priorities. NISC member agencies, ISAC members, NISC staff, stakeholders and other experts have provided input in drafting this revision, which replaces the 2001 Plan.

The 2008 Plan is focused upon five Strategic Goals: Prevention; Early Detection and Rapid Response; Control and Management; Restoration; and Organizational Collaboration. To accomplish these Strategic Goals critical support for efforts such as research, data and information management, education and outreach, and international cooperation elements that are often critical to achieving the Strategic Goals and are included in pertinent sections of the 2008 Plan.

Each of the five Strategic Goals specifies on-going objectives and the long-term vision for success in that area. Under each Strategic Goal, Objectives describe what is to be accomplished over the next 5 years, and Implementation Tasks describe what agencies expect to do in order to accomplish that Objective. Within the Implementation Tasks, Performance Elements allow for measurement of progress towards accomplishing identified tasks.

The 2008 Plan is not a comprehensive list of all Federal invasive species actions. It is a targeted set of priority Strategic Action Plans with Objectives and Implementation Tasks that are intended to be completed in the next five years. The over-arching Strategic Goals and Strategic Action Plan Objectives remain consistent with the 2001 Plan. The accomplishment of specific Implementation Tasks and Performance Elements will be dependent upon agency budgets, and in some cases, legal or regulatory changes.

The 2008 Plan currently requires the work of 35 different “entities” (typically agencies or bureaus within NISC members’ departments and agencies) to achieve a total of 79 Performance Elements. Participating agencies are identified either as a “Lead” or a “Participant” to describe their role in accomplishing a specific Performance Element. Most (45) Performance Elements call for a finite accomplishment that once completed will require little continuing effort to coordinate. The remaining 34 Performance Elements require establishment and on-going coordination.

**Prevention** is the first-line of defense. The Strategic Goal for Prevention calls for preventing the introduction and establishment of invasive species by developing screening processes to evaluate non-native species currently being considered for importation into the U.S., and by interdicting high risk pathways for the unintentional introduction of invasive species.

Even the best prevention efforts cannot stop all invasive species. **Early Detection, rapid assessment and Rapid Response (EDRR)** may act as a critical second defense. The EDRR Strategic Goal calls for the enhancement of the Federal capacity to halt the establishment of invasive populations by improving the capacity to identify species, assess risks, and support rapid response efforts.

The spread of widely established invasive species populations can be slowed and their impacts reduced. The **Control and Management** Strategic Goal calls for reducing the spread and damage caused by invasive species by evaluating current programs, avoiding further spread, developing additional management tools, and increased training for resource managers.

Invasive species can severely undermine the ability of plants and animal communities to recover. The **Restoration** Strategic Goal calls for the restoration of high-value ecosystems to meet natural resource conservation goals by conducting restoration efforts on multiple scales and incorporating restoration considerations and lessons learned into guidance documents to improve future efforts.

Invasive species cross jurisdictional boundaries, making coordination and collaboration critical to success. The **Organizational Collaboration** Strategic Goal calls for maximizing effectiveness by increasing collaboration. A diverse set of efforts include: analyzing current laws and regulations; streamlining policy, regulatory, and decision processes; developing collaborative budgets and plans; coordination of research efforts; contributing to international coordination and collaborative efforts; conducting public outreach; and making it easier for agencies to report back to NISC on their efforts.

The problem of invasive species may at times seem overwhelming. However, considerable success is being achieved in the prevention, detection, eradication and control of some invasive species. Additional research and information exchange; new detection and eradication techniques; and innovative control methodologies and collaborative models are increasing our capacity to address invasive species problems. The 2008-2012 National Invasive Species

Management Plan takes a strategic approach and builds on existing programs to maximize Federal efforts over the next five years to prevent and control invasive species in order to enhance our environment, economy and human health.

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## **INTRODUCTION**

Invasive Species introduced from around the globe are having a major impact on our plant and animal communities in our farms, parks, waters, forests, ranches, coasts and backyards. As global climate patterns shift, the distribution of species will change, and particular habitats may become more or less susceptible to the impacts of new species introductions. Human activity such as trade, travel and tourism have all increased substantially, increasing the speed and volume of species movement to unprecedented levels. Invasive species are often unintended hitchhikers on cargo and other trade conveyances. Still more species are deliberately introduced as pets, ornamental plants, food, for recreation, pest control or other purposes. Most non-native species, including many of our sources of food and fiber, are not harmful; and many are highly beneficial. However, a small percentage of non-native species harm the environment, economy or harm to animal or human health. Non-native species that cause harm are collectively known as invasive species.

Executive Order 13112 (EO 13112) defines an invasive species as:

*“an alien species whose does or is likely to cause economic or environmental harm or harm to animal or human health.”*

The definition includes many types of invasive species such as animals, plants and microorganisms. It focuses upon invasive species which are harmful, rather than focusing on non-native species, most of which are not harmful. Several different terms have been used to describe invasive species, such as: “alien”, “aquatic nuisance species”, “injurious wildlife”, “noxious.” In 2006, the Invasive Species Advisory Committee (ISAC) issued a white paper to provide advice on what is intended by the term “invasive species”, and why so many different terms have been used in the past. The ISAC white paper is available on the NISC website at: <http://www.invasivespeciesinfo.gov/docs/council/isacdef.pdf>.

Invasive species (such as kudzu, snakehead fish, zebra mussels, emerald ash borers, sea lamprey, tree of heaven, hydrilla, nutria, West Nile virus, and Sudden Oak Death Pathogen) may prey upon or displace native species. Some invasive species also alter ecosystem processes, transport disease, interfere with crop production, or cause disease in animals or humans; affecting both aquatic and terrestrial habitats. For these reasons, invasive species are of national and global concern.

Invasive species populations span geographic and jurisdictional boundaries; thus efforts to manage invasive species must be coordinated across boundaries. Executive Order (EO) 13112 charged all federal departments whose actions may affect the status of invasive species, to the extent practicable and permitted by law. Such agencies were charged to work together within their current authorities to prepare, prevent, and protect resources from harm caused by invasive species. EO 13112 established the National Invasive Species Council (NISC), co-chaired by the Secretaries of the Interior, Agriculture, and Commerce. NISC members include the Secretaries of Transportation, State, Defense, Homeland Security, Treasury, Health and Human Services; the Administrators of the Environmental Protection Agency and National Aeronautics and Space

Administration; as well as the Director of the U.S. Agency for International Development and the U.S. Trade Representative.

EO 13112 also required the Secretary of the Interior to establish the Invasive Species Advisory Committee (ISAC), a group of 30 nonfederal stakeholders from diverse constituencies around the nation, to advise NISC on invasive species issues. In addition, the EO called on NISC to prepare and issue the first national plan to deal with invasive species. Completed in 2001, The National Invasive Species Management Plan, *Meeting the Invasive Species Challenge* (2001 Plan), serves as a comprehensive “blueprint” for federal action on invasive species, as well as NISC’s primary coordination tool.

This document is the first revision of the 2001 Plan, as mandated by EO 13112. The *2008 – 2012 National Invasive Species Management Plan* (2008 Plan) will direct federal efforts (including overall strategy and objectives) to prevent, control and minimize invasive species and their impacts within the next five (5) fiscal years (2008 through 2012). If necessary, it may be updated more frequently to reflect changes in circumstances, agency plans and priorities. NISC member agencies, ISAC members, NISC staff, stakeholders and other experts have provided input in drafting this revision, which is intended to replace the 2001 Plan.

Federal, State, local and Tribal governments, as well as the private sector, have taken significant steps to meet the challenges posed by invasive species. These steps set the stage for the 2008 Plan and provide direction and focus. An estimated 67% of the 2001 Plan’s 57 action items (encompassing over 100 separate elements) have been completed or are in progress. Among other products, NISC has generated guidance documents on early detection and rapid response, prioritization of control actions, and analysis of major pathways for introduction of invasive species. NISC members have developed an *Invasive Species Performance (crosscutting) Budget* for fiscal years 2004-2007. ISAC members completed a white paper on the definition of invasive species in 2006, and provided input on the 2008 Plan and crosscut budget.

Awareness about the problems caused by invasive species has dramatically increased in the last eight (8) years. Over 24 states now have invasive species coordination councils. Local governments and citizens groups of all types are active in invasive species prevention and control. Despite the significant increase in activity and awareness, much remains to be done to prevent and mitigate the problems caused by invasive species.

## **2008 PLAN STRUCTURE AND ORGANIZATION**

Long-range strategic planning, consistent with other government agencies' strategic plans, is necessary to address complex invasive species issues. The 2008 Plan establishes five long-term Strategic Goals that focus Federal efforts in the areas of invasive species work related to:

- 1) Prevention (P),**
- 2) Early Detection and Rapid Response (EDRR),**
- 3) Control and Management (CM),**
- 4) Restoration (R), and**
- 5) Organizational Collaboration (OC).**

The Strategic Goals are ongoing and serve as guideposts for managing invasive species. Each Strategic Goal has an associated Strategic Action Plan with long-term Objectives and shorter-term Implementation Tasks and Performance Elements. The accomplishment of the Strategic Action Plan Objectives within each Strategic Goal are likely to be longer term than the five-years, during which the 2008 Plan will be effective. However, the 2008 Plan does specifically describe Implementation Tasks for each Objective that the agencies expect to accomplish during the life of the 2008 Plan. Where practicable, Implementation Tasks define specific Performance Elements that can be used to gauge progress toward accomplishing the Implementation Tasks and achieving the Objectives. These Performance Elements specify agencies and bureaus/offices that are assigned responsibility to be the Lead or a Participant in accomplishing each Implementation Task.

### **Structural Hierarchy of the 2008 Plan**

- ❖ STRATEGIC GOALS (P, EDRR, CM, R, and OC)
  - Strategic Action Plan for each Strategic Goal
    - OBJECTIVES (P.1, P.2, P.3, etc.)
      - Implementation Tasks (P.1.1, P.1.2, P.1.3, etc.)
        - ◆ Performance Elements (P.1.1.1, P.1.1.2, P.1.1.3, etc.)
          - Leads [Agency (Bureau/Office)]
          - Participants [Agency (Bureau/Office)]

Work in Research, Information and Data Management, and International Cooperation are elements critical to achieving each of the Strategic Goals and are included in pertinent sections of the 2008 Plan.

Some parts of the 2008 Plan specifically note the international nature of the Objective, Implementation Task and/or Performance Element. Other elements of the plan may include an international component— whether or not the international nature of the activity is highlighted.

The 2008 Plan is not a comprehensive list of all Federal invasive species actions. It is a targeted set of priority Strategic Action Plans with Objectives and Implementation Tasks that are intended to be completed in the next five years. The over-arching Strategic Goals and Strategic Action Plan Objectives remain

consistent with the 2001 Plan. The accomplishment of specific Implementation Tasks and Performance Elements will be dependent upon agency budgets, and in some cases, legal or regulatory changes.

There have been significant advances in policy, information exchange, program activity, public awareness and control and management tools for invasive species since the 2001 Plan. A more strategic approach to prevent and minimize harm caused by invasive species over the next five years involves taking advantage of what has been learned, and creating next steps that are well planned and coordinated.

Within each Implementation Task, there are indices of progress called "Performance Elements." Each Performance Element identifies the Federal agency that has a leadership (Lead) or a Participant role. Because of the varied nature of the work, the responsibilities associated with a Lead or Participant role varies among Performance Elements. The specific responsibilities of Leads and Participants will be determined by those engaged in the work. At a minimum, participants will play a role in and provide information concerning that agency's actions on that Performance Element. Leads will play a major role, provide their agency's information and also be the primary source of information concerning joint accomplishments for that Performance Element. Information provided by Leads and Participants will be summarized in reports prepared by NISC staff.

## **Prevention**

### **STRATEGIC GOAL #1**

**Prevent introduction and establishment of invasive species to reduce their impact on the U.S. environment, economy and health.**

### **Introduction**

Prevention is the first-line of defense. It can be the most cost-effective approach to protect against invasive species. Once a species becomes widespread, controlling the species may require significant and sustained expenditures. Therefore, public investment in prevention tools, resources and infrastructure are indispensable in protecting human health, agriculture and natural resources. Since the original Plan was written in 2001, progress on risk analyses, screening processes, evaluation of pathways, and the scientific understanding of the biology/ecology of invasive species has been made. A joint ANSTF/NISC Prevention Committee is currently addressing prevention issues.

Long-term success in prevention will reduce the rate of introduction, the rate of establishment and the damage from additional invasive species in the United States (U.S.) Measuring success requires accurate baseline data and monitoring systems to measure long-term trends. The Implementation Tasks identified in the 2008 Plan focus on accomplishing a limited number of important and achievable tasks related to prevention within the next five years which will substantially contribute toward the accomplishment of the Strategic Goals and Objectives.

### **Strategic Action Plan for Prevention**

**OBJECTIVE P.1: PREVENT ESTABLISHMENT OF INTENTIONALLY INTRODUCED INVASIVE SPECIES.** Develop fair and practical screening processes that evaluate different types of species moving intentionally in trade. Encourage agencies to modify and incorporate the processes into their own regulatory and non-regulatory programs.

- **Implementation Task P.1.1:** Develop screening processes to evaluate invasiveness of plants which are intended for planting and are moving in trade.

**Performance Element P.1.1.1:** APHIS publishes proposed rule(s) on intentional introduction of potentially invasive plant species, including mechanisms to evaluate invasiveness potential and restrict introduction of species likely to be invasive.

**Lead: USDA (APHIS)**

**Participants: USTR, USDA (CSREES, ARS, NRCS, FS)**

- **Implementation Task P.1.2:** Develop screening processes to evaluate invasiveness of terrestrial and aquatic nonnative wildlife (e.g., fish, mollusks, crustaceans, mammals, birds, reptiles and amphibians) moving in trade.

**Performance Element P.1.2.1:** Develop a draft screening process.

**Leads:** DOI (FWS); DOC (NOAA)

**Participants:** DOI (USGS, NPS); USDA (APHIS, ARS); USTR; EPA

- **Implementation Task P.1.3:** Develop a process to identify high-priority invasive plants, animals, and plant or animal pathogens for agencies' actions.

**Performance Element P.1.3.1:** Prioritization process is developed and available on the internet, at www.invasivespecies.gov and/or www.invasivespeciesinfo.gov.

**Lead:** USDA (APHIS)

**Participants:** USDA (ARS, CSREES, NRCS, ERS)

**OBJECTIVE P.2: PREVENT ESTABLISHMENT OF UNINTENTIONALLY INTRODUCED INVASIVE SPECIES INTRODUCED THROUGH HIGH RISK PATHWAYS.**

- **Implementation Task P.2.1:** Reduce the movement of invasive plant pests and pathogens on propagative plant material.

**Performance Element P.2.1.1:** APHIS will publish proposed rule(s) to revise the Quarantine on Plants for Planting (known as "Q37").

**Lead:** USDA (APHIS)

**Participants:** USDA (ARS)

**Performance Element P.2.1.2:** Contribute to the development of a new IPPC standard for Plants and Planting that protects against pests.

**Lead:** USDA (APHIS)

**Participants:** USDA (ARS, FS)

- **Implementation Task P.2.2:** Sponsor research on new technologies for ballast water management and formally assess their efficacy.

**Performance Element P.2.2.1:** Complete a minimum of five (5) full scale projects.

**Lead:** DHS (Coast Guard)

**Participants:** DOC (NOAA); DOI; MARAD; EPA; DOD (COE)

- **Implementation Task P.2.3:** Reduce movement of invasive species on or in Solid Wood Packing Materials (SWPM).

**Performance Element P.2.3.1:** Evaluate the importance of residual bark on SWPM, and take appropriate management or regulatory measures.

**Lead:** *USDA (APHIS)*

**Participants:** *USDA (FS, ARS); DHS; USTR*

**OBJECTIVE P.3: IMPROVE THE INTERNATIONAL, FEDERAL, STATE, AND TRIBAL STANDARDS AND GUIDELINES TO PROTECT THE U.S. FROM INVASIVE SPECIES.**

- **Implementation Task P.3.1:** Strengthen and/or support development of risk-based sanitary and phytosanitary international standards and guidelines under IPPC, OIE, NAPPO and other international fora.

**Performance Element P.3.1.1:** In cooperation with others, APHIS will approve and implement sanitary and phytosanitary standards developed in the appropriate International fora.

**Lead:** *USDA (APHIS)*

**Participants:** *DOS; USDA (ARS); NISC; USTR; EPA*

**Performance Element P.3.1.2:** Provide training and capacity building for developing nations to assist them in understanding, adopting, and implementing international standards and guidelines for sanitary and phytosanitary measures.

**Lead:** *USDA (FAS)*

**Participants:** *USDA (APHIS)*

- **Implementation Task P.3.2:** Improve domestic and international risk analysis processes. Include new risk methodologies and scientific advances in understanding invasive species. Expand its scope to include terrestrial and aquatic organisms.

**Performance Element P.3.2.1:** Revise 1996 ANSTF risk analysis process; submit draft for review in 24 months, and finalize in 36 months.

**Leads:** *DOC (NOAA); DOI (USGS); ANSTF*

**Participants:** *NISC, DOI (FWS), DOS, EPA, USDA (APHIS, ARS); DOD (COE)*

**Performance Element P.3.2.2:** Provide training and capacity building for developing nations to assist them in utilizing new risk assessment methodologies and incorporate scientific advances in the understanding of invasive species.

**Lead:** *USDA (FAS)*

**Participants:** *USDA (APHIS, ARS); USAID; DOS*

- **Implementation Task P.3.3:** Design a process to identify and rank pathways by invasive species risk. Encourage agencies to modify and incorporate the process into their own regulatory/non-regulatory programs.

**Performance Element P.3.3.1:** Prepare a final draft of the pathway analysis process in 24 months; complete and distribute in 36 months.

**Lead:** *USDA (APHIS)*

**Participants:** *DOC (NOAA); DOI (FWS, USGS); USDA (FS, ARS); EPA*

- **Implementation Task 3.4:** Integrate agency data sets to improve assessment of invasive species threats prior to arrival.

**Performance Element P.3.4.1:** Three (3) or more data sets are integrated.

**Lead:** *USDA (APHIS)*

**Participants:** *USDA (ARS, FS, CSREES, NRCS)*

- **Implementation Task P.3.5:** Support efforts by nonfederal stakeholders to develop/enhance codes of conduct and best management practices.

**Performance Element P.3.5.1:** Encourage nonfederal stakeholders to publish codes of conduct and best management practices on the web.

**Lead:** *NISC Staff*

**Participants:** *DOC (NOAA); DOI (FWS, BLM); USDA (APHIS, FS, NRCS, ARS); DOS*

- **Implementation Task P.3.6:** Share Best Management Practices among NISC members to prevent or mitigate invasive species establishment or movement.

**Performance Element P.3.6.1:** Distribute any new Best Management Practices that NISC Staff are made aware of to all relevant NISC members.

**Lead:** *NISC Staff*

**Participants:** *All NISC Members*

## **Early Detection and Rapid Response**

### **STRATEGIC GOAL #2**

Develop and enhance Federal capacity to identify, report and respond to newly discovered/localized introductions to increase response effectiveness and reduce costs. Collaborate at the Federal, State, Tribal and local levels.

### **Introduction**

Even the best prevention efforts cannot stop all invasive species. Early detection, rapid assessment and rapid response (EDRR) is a critical second defense against the development of invasive populations. EDRR increases the likelihood that localized invasive populations will be found, contained, and eradicated from areas before they become established. EDRR can slow range expansion, and reduce the need for extensive and costly long-term control efforts. Effective EDRR depends upon the timely ability to answer critical questions including:

- a) What is the species of concern, and has it been authoritatively identified?
- b) Where is it located and likely to spread?
- c) How important is it to respond (i.e., what is the potential harm the species may cause?)
- d) How can it be addressed?
- e) Who has the authority and capacity to address it?
- f) How will the effort be funded?

EDRR capacity at the regional, State and Federal levels has improved. However, significant gaps remain.

### **Strategic Action Plan for EDRR**

This section is divided into three (3) sections that track the three (3) components of EDRR – Early Detection, Rapid Assessment, and Rapid Response.

In order to conduct EDRR, invasive populations must first be found. Then specimens have to be authoritatively identified, and the boundaries of the infestations determined. These essential **Early Detection (ED)** efforts require resources, planning, and coordination. Invasive species are often detected by chance, but they can also be detected through targeted invasive species surveys and monitoring specific areas. Monitoring, taxonomic infrastructure and species surveys provide data needed to construct accurate distribution maps. Maps and other ecological/biological information are critical to planning and response actions. However, monitoring, mapping, and taxonomic resources and capabilities are still lacking for much of the U.S.

**Rapid Assessment (RA)** encompasses actions necessary to determine the appropriate response, including the extent of the range of the invasive species' infestation. A Rapid Assessment process identifies the invasive species and interdiction options, timing, overall strategy of actions and provides reliable

information to the public. Advanced planning that anticipates invasions and takes into account trans-jurisdictional issues can greatly expedite efforts.

**Rapid Response (RR)** is a systematic effort to eradicate, contain, or control a potentially invasive species introduced into an ecosystem while the infestation is still localized. RR may address totally new introductions into the United States or satellite infestations of previously established species. Timeliness is a key element in rapid response. It is critical to quickly mobilize resources to intensely manage an infestation before it becomes permanently established. Many RR efforts are led by State or local officials working with private landowners. Invasions can rapidly overwhelm these local resources. The abilities to share resources across jurisdictional boundaries, form strategic partnerships, and have “ready” access to plans, funds and technical resources are critical components of RR success.

### **OBJECTIVE EDRR.1: ENHANCE CURRENT MONITORING EFFORTS FOR EARLY DETECTION.**

- **Implementation Task EDRR.1.1.** Identify and evaluate the status of monitoring efforts for high-priority invasive species and the supporting technological infrastructure including geographic and temporal coverage. Identify critical gaps.

**Performance Element EDRR.1.1.1:** Conduct status surveys and make recommendations for high-priority invasive species.

**Leads:** *USDA (APHIS); DOI (USGS)*

**Participants:** *USDA (ARS, CSREES, FS, NRCS); DOI (USGS, NPS, FWS, BLM); DOC (NOAA); EPA, DHS; DOD (COE)*

- **Implementation Task EDRR.1.2:** Prepare protocols to identify high priority locations for targeted monitoring efforts. Initiate three (3) systematic monitoring pilot programs.

**Performance Element EDRR.1.2.1:** Develop protocols; select monitoring programs/locations and implement pilot projects.

**Leads:** *DOI (USGS); USDA (APHIS)*

**Participants:** *DOT, DHS, DOC (NOAA), EPA, USDA (FS, CSREES, ARS)*

- **Implementation Task EDRR.1.3:** Improve and support recruitment and training of volunteers for EDRR efforts at the local level, utilizing existing programs and infrastructure (i.e. Master Gardeners, Master Naturalists, Cooperative Extension, Sea Grant, National Wildlife Refuge “Friends” Groups, 4-H Groups, National Park support groups).

**Performance Element EDRR.1.3.1:** Develop guidance for volunteer training on at least one monitoring program. Publish guidance on [invasivespeciesinfo.gov](http://invasivespeciesinfo.gov).

**Lead:** *USDA (APHIS)*

**Participants:** *DOI (USGS, FWS, NPS, BLM); USDA (CSREES, FS, ARS, NRCS); DOD (COE); DOC (NOAA)*

- **Implementation Task EDRR.1.4:** Enhance plant or animal pathogen detection methods.

**Performance Element EDRR.1.4.1:** Develop enhanced identification methods and supportive technologies for one group of pathogens.

**Leads:** *DOI (USGS); USDA (ARS)*

**Participants:** *DHS, HHS, DOD, EPA, USDA (APHIS, CSREES, FS)*

## **OBJECTIVE EDRR.2: MAKE TAXONOMIC INFORMATION MORE READILY AVAILABLE TO GOVERNMENTS AND THE PUBLIC.**

- **Implementation Task EDRR.2.1:** Develop or enhance taxonomic expert lists to facilitate identification of organisms.

**Performance Element EDRR.2.1.1:** Identify taxonomic experts for terrestrial plants, invertebrates/vertebrates, plant and animal pathogens. Make contact information available, as appropriate.

**Leads:** *USDA (ARS); Smithsonian*

**Participants:** *USDA (APHIS, CSREES, NRCS); DOI (USGS)*

**Performance Element EDRR.2.1.2:** Finalize and maintain an updated database of taxonomic experts to identify invertebrate and vertebrate aquatic species.

**Leads:** *DOC (NOAA); DOI (USGS)*

**Participants:** *USDA (APHIS)*

## **OBJECTIVE EDRR.3: DEVELOP AND ENHANCE CAPACITY AND TOOLS TO SUPPORT EDRR EFFORTS.**

- **Implementation Task EDRR.3.1:** Prepare protocols to evaluate and map invasive species risks.

**Performance Element EDRR.3.1.1:** Test protocols by mapping current and potential extents of three high-priority invasions.

**Leads:** *USDA (APHIS); DOI (FWS, USGS)*

**Participants:** *USDA (CSREES, ERS, FS, NRCS, ARS); DOI (USGS); DHS, DOC (NOAA); EPA, NASA; DOD (COE)*

- **Implementation Task EDRR.3.2:** Engage risk assessment experts to provide authoritative and timely assessments of current or potential invasions.

**Performance Element EDRR.3.2.1:** Prepare lists of risk experts for major groups of invasive species (e.g., plants, terrestrial invertebrates/vertebrates, plant pathogens, animal pathogens, or aquatic invertebrates/vertebrates.) Identify gaps in available expertise.

**Leads:** DOI (USGS); USDA (APHIS)

**Participants:** USDA (ARS, CSREES, ERS, FS, NRCS); DOI (FWS, USGS, NPS); DOC (NOAA); DHS; HHS, Smithsonian, EPA; DOD (COE)

- **Implementation Task EDRR.3.3:** Develop and evaluate the use of predictive models to forecast the spread of specific invasive species.

**Performance Element EDRR.3.3.1:** Develop and test models to forecast spread of two (2) invasive species.

**Leads:** DOI (USGS); USDA (ARS)

**Participants:** EPA, USDA (APHIS, CSREES, ERS, FS); DOI (FWS, NPS, BLM); DOC (NOAA); HHS, Smithsonian; DOD (COE)

#### **OBJECTIVE EDRR.4: ENHANCE EXISTING CAPABILITY TO CONDUCT PLANNING FOR EDRR.**

- **Implementation Task EDRR.4.1:** Prepare model guidance or plans that encourage RR contingency planning at the appropriate level (national, state, regional or local.) Include planning for communications, response funding, cooperative mechanisms and other relevant issues.

**Performance Element EDRR.4.1.1:** Evaluate existing emergency response plans and identify effective mechanisms to enhance cooperation among and between States and federal agencies, and make this information available to response agencies.

**Leads:** USDA (APHIS); DOC (NOAA)

**Participants:** USDA (CSREES, NRCS, ARS); HHS, EPA, DOD, NASA; DOD (COE and other agencies); DOI (FWS)

#### **OBJECTIVE EDRR.5: DEVELOP OPTIONS PAPER TO FUND RAPID RESPONSE EFFORTS.**

- **Implementation Task EDRR.5.1:** Work with Invasive Species Advisory Committee (ISAC) and others to develop alternatives for cooperation and funding rapid response efforts. Explore options for permanent funding mechanisms and matching grants to States.

**Performance Element EDRR.5.1.1:** Explore and prepare options paper on alternatives for cooperation and funding; and submit to NISC for discussion and selection of preferred alternative.

**Lead:** *NISC Staff*

**Participants:** *DOI (FWS, BLM); NASA; DOD (COE)*

- **Implementation Task EDRR.5.2:** Explore options for research funding for preparedness and other programs that are required for emergency response.

**Performance Element EDRR 5.2.1:** Prepare and submit to NISC options for funding research for EDRR

**Lead:** *NISC Staff*

**Participants:** *USDA (CSREES, APHIS, ARS)*

## **Control and Management**

### **STRATEGIC GOAL #3**

**Contain, reduce the spread and reduce the population of established invasive species to minimize their harmful impacts.**

#### **Introduction**

Localized infestations of invasive species may be eradicated through early detection and rapid response efforts. Eradication of widespread invasive species, however, may not be feasible. Widespread invasive species are subject to control and management efforts that slow the rate of range expansion and lessen the impacts of invasive populations.

Invasive species can span geographic and jurisdictional boundaries. Their control and management requires regionally coordinated action. Information on the distribution, abundance, rates of spread, and impacts of invasive species is critical.

Invasive plants, animals, and pathogens cause different impacts, as do aquatic invasions. Understanding their ecological, economic, and social impacts is important in prioritizing control and management operations.

Differing control and management tools are needed to assess, remove and contain invasive species populations and guide management decisions. These tools are applied within coordinated and integrated invasive species management strategies that are adjusted, as needed. Financial and human resources limit the capacity to control and manage invasive species.

#### **Strategic Plan for Control and Management**

##### **OBJECTIVE CM.1: EVALUATE CONTROL AND MANAGEMENT CAPABILITIES AND IDENTIFY STRATEGIC GAPS.**

- **Implementation Task CM.1.1:** Evaluate regional invasive species control and management efforts.

**Performance Element CM.1.1.1:** Identify and evaluate three (3) regional control and management efforts including their geographic coverage (i.e., regions, States or countries within North America.)

**Leads:** *DOI (FWS, BLM)*

**Participants:** *DOD (COE); USDA (CSREES, NRCS, APHIS)*

**Performance Element CM.1.1.2:** Benchmark, compare and report on the success rates of at least three (3) control and eradication programs within broader regional efforts.

**Lead:** *USDA (APHIS)*

**Participants: USDA (FS, NRCS, ARS)**

- **Implementation Task CM.1.2:** Identify and address strategic gaps in regional invasive species control and management efforts and tools.

**Performance Element CM.1.2.1:** Identify three (3) priority species or locations (including international border locations, if appropriate) that need additional or enhanced control methods.

**Participants: DOI, USDA (NRCS, APHIS); DOC (NOAA); DOD (COE)**

**Performance Element CM.1.2.2:** Increase acres of land or water included in established regional invasive species control and management programs.

**Participants: USDA (NRCS, APHIS); DOI (FWS, BLM); DOD (COE and other agencies)**

**Performance Element C.1.2.3:** Evaluate, develop or enhance three (3) or more biological, chemical, physical or other control methods.

**Leads: USDA (ARS); DOI (USGS); DOD (COE)**

**Participants: USDA (FS, NRCS, APHIS) DOI (FWS)**

**OBJECTIVE CM.2: REDUCE THE SPREAD AND HARM CAUSED BY INVASIVE SPECIES.**

- **Implementation Task CM.2.1:** Reduce the spread of invasive species.

**Performance Element CM.2.1.1:** Increase the number of cleaning treatments conducted to address potentially contaminated equipment, hikers, recreation vehicles, watercraft or other conveyances. Monitor effectiveness.

**Leads: USDA (FS); DOD (COE); DOI (BLM)**

**Participants: USDA (APHIS, NRCS); DOT, DOI (NPS, FWS)**

**Performance Element CM.2.1.2:** Increase the number of acres using weed-free forage, mulch, seed, gravel and other materials; having live bait restrictions or other methods of reducing spread of invasive species.

**Leads: USDA (FS); DOI (BLM)**

**Participants: USDA (APHIS, NRCS); DOI (NPS, FWS); DOD (COE)**

- **Implementation Task CM. 2.2:** Support “on-the-ground” control and management efforts.

**Performance Element CM. 2.2.1:** Increase number of “on-the-ground” projects technically supported.

**NISC Staff collates information**

**Participants: USDA (APHIS, ARS, FS, NRCS); DOI (BLM, FWS, NPS); DOD (COE and other agencies)**

**Performance Element CM. 2.2.2:** Increase acres treated through “on-the-ground” control and management efforts.

**NISC Staff collates information**

**Participants: USDA (APHIS, FS, NRCS, ARS); DOI (BLM, FWS, NPS); DOD (COE)**

**Performance Element CM.2.2.3:** Increase percentage of highest priority acres at risk treated, implemented according to a science-based plan, and implemented successfully as demonstrated by monitoring.

**NISC Staff collates information**

**Participants: USDA (APHIS, FS, ARS); DOD (COE)**

**Performance Element CM.2.2.4:** Increase the ratio of projects technically supported vs. the total number of on-the-ground projects requesting technical support.

**NISC Staff collates information**

**Participants: USDA (APHIS); DOI (BLM, FWS, NPS); DOD (COE)**

### **OBJECTIVE CM.3: DEVELOP WORKFORCE COMPETENCIES TO PERFORM CONTROL AND MANAGEMENT ACTIVITIES.**

- **Implementation Task CM. 3.1:** Increase invasive species training for land and water resource managers.

**Performance Element CM. 3.1.1:** Increase the number of training workshops, training materials developed and total number of personnel trained; including but not limited to training in the area of Integrated Pest Management.

**Leads: USDA (FS, CSREES); DOI (FWS)**

**Participants: DOI (BLM, NPS); USDA (CSREES, NRCS, ERS, ARS); DOD (COE and other agencies)**

### **OBJECTIVE CM.4: ENHANCE ECOSYSTEM RECOVERY PROCESSES THAT CONTRIBUTE TO CONTROL AND MANAGEMENT.**

- **Implementation Task CM.4.1:** Enhance ecosystem recovery decision tools and conduct ecosystem assessments.

**Performance Element CM.4.1.1:** Increase efficiency and precision of monitoring and mapping operations.

**Lead:** *DOI (USGS)*

**Participants:** *USDA (APHIS, NRCS, ARS, ERS, CSREES); NASA; DOD (COE)*

**Performance Element CM.4.1.2:** Enhance ecosystem recovery models and methods.

**Lead:** *DOD (COE)*

**Participants:** *DOI (USGS); USDA (FS, ARS, CSREES)*

**Performance Element CM.4.1.3:** Number of acres monitored and mapped. Number of species monitored and mapped.

**NISC Staff collates information**

**Participants:** *DOI (USGS, FWS, BLM); USDA (FS, NRCS, ARS); NASA; DOD (COE)*

## **Restoration**

### **STRATEGIC GOAL #4**

Restore and rehabilitate high-value ecosystems and key ecological processes that have been impacted by invasive species to meet desired future conditions.

### **Introduction**

Restoration treatments are an integral part of control and management efforts to help guard against future re-infestations and further harm. Section 2(a) (2) of Executive Order 13112 charges Federal agencies to “provide for restoration of native species and habitat conditions in ecosystems that have been invaded”. Additionally, Section 4 (d) of the Order calls on NISC to develop guidance, in coordination with the Council on Environmental Quality (CEQ), “including the procurement, use and maintenance of native species as they affect invasive species.”

Habitats and ecological processes can suffer cumulative impacts from the direct and indirect effects of invasive species and other environmental stressors. Complex ecological relationships evolved over evolutionary time scales can be at risk if invasive species interrupt nutrient cycling, pollination, predator/prey relationship or other ecological processes and services. Processes altered by human activity may promote invasion by inhibiting the reproduction and/or survival of native or desirable species, thereby promoting invasions.

The 2001 Plan recognized the importance of restoration to long-term ecosystem resiliency by using native species. For shorter term rehabilitation and site stabilization, both native and desired nonnative species appropriate to the site have been used successfully. Evaluation of available materials for success in competing with and keeping out invasive species is needed, as is the development of new materials specifically to serve as an ecological bridge while native components of ecosystems develop. Assessment of the ecosystem’s desired future condition and restoration potential allows managers to strategically control and eradicate invasive species, and restore habitats with appropriate species. These efforts can result in lower control costs, increased effectiveness, and improved chances for ecosystem restoration success.

## Strategic Plan for Restoration

### **OBJECTIVE R.1: RESTORE HIGH-VALUE AREAS IMPACTED BY INVASIVE SPECIES.**

- **Implementation Task R.1.1:** Restore sites that have the highest ecological or economic value or contribute most to protecting human health, as determined by the appropriate land management decision makers.

**Performance Element R.1.1.1:** Conduct and report on four (4) inter-agency restoration projects that demonstrate the success of information sharing, plant (and animal) materials sharing, techniques for cost-effective modeling, and documentation of results, including decision support tools.

**Leads:** DOI (FWS, BLM, NPS); USDA (NRCS); DOD (COE)

**Participants:** DOI (FWS, BLM, BOR, NPS, USGS); DOD; USDA (APHIS, FS, ARS); EPA

**Performance Element R.1.1.2:** Provide technical assistance on the species and methods to use in restoration projects, including low-impact non-native, or “ecological bridge” species (where appropriate).

**Leads:** DOI (FWS); USDA (NRCS); DOD (COE)

**Participants:** DOI (FWS, NPS, BLM, BOR, USGS); USDA (FS, APHIS, ARS)

**Performance Element R.1.1.3:** Provide technical assistance on site selection, site modification, and prioritization for restoration projects.

**Leads:** DOI (FWS, USGS); DOD (COE)

**Participants:** DOI (FWS, NPS, BLM, BOR, USGS); USDA (APHIS, NRCS)

**Performance Element R.1.1.4:** Conduct at least four (4) information sharing projects with stakeholders about invasive species restoration projects.

**Lead:** USDA (NRCS)

**Participants:** USDA (APHIS, NRCS, ARS); DOD, DOI (USGS); DOC (NOAA)

### **OBJECTIVE R.2: RESTORE HABITAT AT MULTIPLE SCALES TO DEMONSTRATE MODEL APPROACHES THAT ENGAGE LOCAL COMMUNITIES AND THE PUBLIC.**

- **Implementation Task R.2.1:** Coordinate multi-taxa restoration projects at the regional, watershed or landscape level, addressing water quality and fisheries (both fresh and marine), terrestrial plants and plant pests, and zoonotic diseases or plant/animal pathogens in restoration planning.

**Performance Element R.2.1.1:** Work across agencies to create demonstration projects in at least three (3) geographic or regional focus areas over the next three (3) years.

**Leads:** *DOI (FWS, NPS, BLM); DOD (COE)*

**Participants:** *DOI (BOR, USGS); DOC (NOAA); EPA*

**Performance Element R.2.1.2:** Document four (4) successful restoration projects involving recovery from invasive species impacts, for example on private lands or in coastal environments, with nongovernmental cooperators.

**Leads:** *DOI (FWS); DOD (COE)*

**Participants:** *DOI (FWS); EPA; DOD*

**Performance Element R.2.1.3:** Document four (4) successful fire rehabilitation and fuels treatment projects involving recovery from invasive species impacts on public lands.

**Leads:** *USDA (FS); DOI (BLM)*

**Participants:** *DOI (OWFC, FWS, NPS, BIA)*

### **OBJECTIVE R.3: INCLUDE INVASIVE SPECIES CONSIDERATIONS IN FORMAL GUIDANCE FOR RESTORATION PROJECTS.**

- **Implementation Task R.3.1:** Incorporate invasive species concerns in planning for restoration projects in Federal land and water management field and guidance manuals.

**Performance Element R.3.1.1:** Amend existing or develop new land use planning protocols and “Best Management Practices” within Federal agencies to include restoration activities to mitigate impacts of invasive species.

**Leads:** *DOI (NPS, BLM); USDA (FS)*

**Participants:** *DOI (FWS, NPS, BLM); USDA (NRCS); DOD (COE and other agencies); DOC (NOAA)*

**Performance Element R.3.1.2:** Identify sources of native and appropriate non-native materials for restoration projects carried out by Federal agencies.

**Leads:** *DOI (NPS); USDA (NRCS)*

**Participants:** *USDA (FS, CSREES, ARS); DOD (COE and other agencies); DOI (FWS)*

## **Organizational Collaboration**

### **STRATEGIC GOAL #5**

Maximize organizational effectiveness and collaboration on invasive species among international, Federal, State, local and Tribal governments, private organizations and individuals.

### **Strategic Plan for Organizational Collaboration**

#### **OBJECTIVE OC.1: IMPROVE KNOWLEDGE AND UNDERSTANDING OF LEGAL AND REGULATORY TOOLS AVAILABLE TO ADDRESS INVASIVE SPECIES.**

- **Implementation Task OC.1.1:** Complete analysis of current federal laws and regulations dealing with invasive species.

**Performance Element OC.1.1.1:** Complete an abbreviated status report based on the existing legal and regulatory analyses.

**Lead:** *NISC Staff*

**Participants:** *DOI, USDA, DOC and other NISC members as appropriate*

- **Implementation Task OC.1.2:** Provide information and briefings as requested on invasive species issues.

**Performance Element OC.1.2.1:** Respond to all requests for information or briefings within 30 days.

**Lead:** *NISC Staff*

**Participants:** *NISC members*

#### **OBJECTIVE OC.2: EXPAND THE COORDINATION OF INVASIVE SPECIES PROGRAMS AND EXPENDITURES TO LEVERAGE RESOURCES.**

- **Implementation Task OC.2.1:** Update the invasive species cross-cut budget for Federal agency expenditures concerning invasive species, changing its name to the **Invasive Species Inter-Agency Performance Budget** (Performance Budget). Request input from ISAC, ANSTF, FICMNEW, and ITAP on initiatives to be included in future Performance Budgets.

**Performance Element OC.2.1.1:** Complete Performance Budgets for FY's 2009, 2010, 2011, 2012 and 2013 as directed, along with reports on prior year's performance.

**Lead:** *NISC Staff*

**Participants:** *All NISC members*

**OBJECTIVE OC.3: IMPROVE FEDERAL RESEARCH CAPACITY AND COORDINATION TO ADDRESS A BROADER ARRAY OF INVASIVE SPECIES ISSUES.**

- **Implementation Task OC.3.1:** Improve the coordination and effectiveness of Federal research.

**Performance Element OC.3.1.1:** Establish by March 2008 a cross-cutting NISC Science Committee that will develop by December 2008 a plan of action to improve the utility of research, identify and coordinate research needs.

**Lead:** *NISC Staff*

**Participants:** *DOC (NOAA); DOI (USGS)*

**Performance Element OC.3.1.2:** Summarize research results on invasive species and take steps to make information provided by agencies more readily available on a database.

**Lead:** *USDA (ARS, NAL)*

**Participants:** *NISC Staff and All NISC Members*

- **Implementation Task OC.3.2:** Enhance and improve economic modeling of invasive species.

**Performance Element OC 3.2.1:** Improve modeling of invasive species prevention actions to determine their costs and benefits.

**Lead:** *USDA (ERS)*

**Participants:** *EPA*

**Performance Element OC 3.2.2:** Improve economic modeling of control and management actions to determine their costs and benefits.

**Lead:** *USDA (ERS)*

**Participant:** *DOC (NOAA); EPA*

**Performance Element OC 3.2.3:** Develop cost and benefit analysis model of alternative control methods.

**Leads:** *USDA (FS, CSREES, NRCS, APHIS, ERS)*

**Participants:** *None*

**OBJECTIVE OC.4: ENHANCE POLICY AND IMPROVE REGULATORY PROCESSES ON INVASIVE SPECIES.**

- **Implementation Task OC.4.1:** Prepare, in cooperation with the President's Council on Environmental Quality (CEQ), guidance to Federal agencies to prevent and control invasive species that is fully compliant with the National environmental Policy Act (NEPA).

**Performance Element OC.4.1.1:** Preparation of draft NEPA guidance for CEQ consideration by January 2008, and finalizing the guidance by December 2008.

**Leads:** *NISC Staff, CEQ*

**Participants:** *All NISC members*

- **Implementation Task OC.4.2:** Collect, organize and make available Federal agency guidance to prevent, control and manage invasive species.

**Performance Element OC.4.2.1:** Each NISC agency shall make available their existing policies on prevention, EDRR, and control of invasive species.

**Lead:** *NISC Staff*

**Participants:** *All NISC members*

- **Implementation Task OC.4.3:** Develop an improved regulatory process for the development, testing, assessment and approval of biological control agents.

**Performance Element OC.4.3.1:** Implement improved regulatory process.

**Lead:** *USDA (APHIS)*

**Participants:** *USDA (ARS, CSREES, NRCS)*

#### **OBJECTIVE OC.5: STRENGTHEN COORDINATION AMONG FEDERAL AGENCIES TO FACILITATE THE DEVELOPMENT OF INTERNATIONAL PRIORITIES FOR INVASIVE SPECIES.**

- **Implementation Task OC.5.1:** Promote and facilitate communication on international invasive species issues and activities.

**Performance Element OC.5.1.1:** NISC staff prepares the monthly report of upcoming international meetings on invasive species to be distributed to Federal agencies and others.

**Leads:** *NISC Staff; DOS*

**Participants:** *USTR, USAID, DHS, EPA; DOD (COE)*

- **Implementation Task OC.5.2:** Coordinate and consolidate the Federal agencies' input and concerns into the Department of State's official language and talking points, including international agreements as covered by each agency such as the CBD, IPPC, OIE, WHO, FAO, IMO and other relevant global or regional fora.

**Performance Element OC.5.2.1:** In cooperation with Federal agencies, NISC will help identify where U.S. positions on invasives in international agreements are not fully reconciled; and identify measures that will result in a reconciliation of the U.S. position.

**Leads:** *DOS, NISC Staff*

**Participants:** *All NISC members*

- **Implementation Task OC.5.3:** As appropriate, incorporate invasive species language into the Environmental Cooperation Mechanisms of Free Trade Agreements.

**Performance Element OC.5.3.1:** Develop Environmental Cooperation Mechanisms for Free Trade Agreements.

**Lead:** *DOS*

**Participants:** *USTR, EPA, DOI, USDA (FAS, ERS, ARS, APHIS); DOC*

## **OBJECTIVE OC.6: ENHANCE OUTREACH ON INVASIVE SPECIES.**

- **Implementation Task OC.6.1:** Determine approaches regarding pathways for strategic outreach to targeted user groups and businesses.

**Performance Element OC.6.1.1:** Develop outreach materials for target audiences cooperatively with relevant stakeholders and make available through the internet.

**Lead:** *DOC (NOAA); USDA (APHIS)*

**Participants:** *USDA (FS, NRCS, ARS, FAS); DOI (FWS)*

- **Implementation Task OC.6.2:** Work with existing educational organizations to enhance invasive species information delivery to primary and secondary educators.

**Performance Element OC.6.2.1:** Information about at least eight (8) invasive species or Federal invasive species programs provided to nongovernmental educational organizations/ invasive species outreach programs and reported to NISC staff.

**Lead:** *NISC staff*

**Participants:** *All NISC Members*

- **Implementation Task OC.6.3:** Develop basic message points for common general awareness concerning invasive species for NISC member agencies and staff.

**Performance Element OC.6.3.1:** Communicate clear and consistent general message points on invasive species to all NISC agencies so that NISC members may include these points when a new invasive species action, regulation or policy is announced.

**Lead:** *NISC Staff*

**Participants:** *All NISC members*

**OBJECTIVE OC.7: IMPROVE AND STREAMLINE NISC MEMBERS' REPORTING ON INVASIVE SPECIES PROGRAMS AND ACTIVITIES.**

- **Implementation Task OC.7.1:** The following reports are required.

**Performance Element OC.7.1.1:** Each NISC member submits one formal (draft and final) report per fiscal year, tracking the implementation of the NISC 2008 Plan. NISC Staff completes streamlined reporting template in three (3) months. Annual summary report by NISC is available on website by February 28 of each year along with the individual NISC member reports.

**Lead:** *NISC Staff*

**Participants:** *All NISC Members and Staff*

**Performance Element OC.7.1.2:** NISC members provide a consistently formatted written report in response to ISAC recommendations, action items and requests.

**Lead:** *NISC staff (in consultation with ISAC)*

**Participants:** *All NISC Members*

**Performance Element OC.7.1.3:** Report on agency participation in the NISC Invasive Species Performance (Cross-cut) Budget.

**Lead:** *NISC Staff*

**Participants:** *All NISC Members*

**OBJECTIVE OC.8: IMPROVE AND ENHANCE DATA STANDARDS AND QUALITY TO IMPROVE ACCESS AND ABILITY TO SEARCH ACROSS DATA BASES AND FEDERAL DATA SOURCES.**

- **Implementation Task OC.8.1:** Develop and provide portal, gateway and reference information, as well as public access to Federal research data, as appropriate and legally allowed.

**Performance Element OC.8.1.1:** Summarize research results on invasive species and take steps to make it more readily available based on information provided by agencies.

**Leads:** *USDA (ARS, /NAL)*

**Participants:** *NISC Staff; All NISC Members*

**Performance Element OC.8.1.2:** Enhance and maintain the NISC website to provide an overview of Federal invasive species efforts and policies; access to, and information about NISC member agencies and their invasive species programs and information about NISC, its activities, the Invasive Species Management Plan, and the Invasive Species Advisory Committee.

**Lead:** *NISC Staff*

**Participants:** *All NISC Members*

**Performance Element OC.8.1.3:** The Invasive Species Compendium will be developed by interested agencies.

**Lead:** *USDA (ARS)*

**Participants:** *USDA (APHIS, FS, CSREES, NRCS); DOC (NOAA)*

**Performance Element OC.8.1.4:** Share information provided by NISC members on invasive species Federal grant opportunities and programs, providing linkages to grant information on the NISC website.

**Lead:** *NISC Staff*

**Participants:** *All NISC Members*

- **Implementation Task OC.8.2:** Work cooperatively with all Federal, State local and Tribal governments to develop common data standards and enhance databases.

**Performance Element OC.8.2.1:** Improve, enhance and expand participation in the aquatic invasive species NISbase.

**Leads:** *DOI (USGS); DOC (NOAA), Smithsonian*

**Participants:** *DOI (FWS, BLM); DOD (COE); USDA (APHIS)*

**Performance Element OC.8.2.2:** Link and expand databases of invasive plant pathogens.

**Lead:** *USDA (ARS)*

**Participants:** *USDA (FS, APHIS)*

**Performance Element OC.8.2.3:** Develop and implement invasive species pathways database.

**Lead:** *USDA (APHIS)*

**Participants:** *USDA (ARS, FAS); Other NISC agencies*

**Performance Element OC.8.2.4:** Enhance the PLANTS database in regard to invasive species and pollinators.

**Lead:** *USDA (NRCS)*

**Participants:** *USDA (ARS, FS, APHIS)*