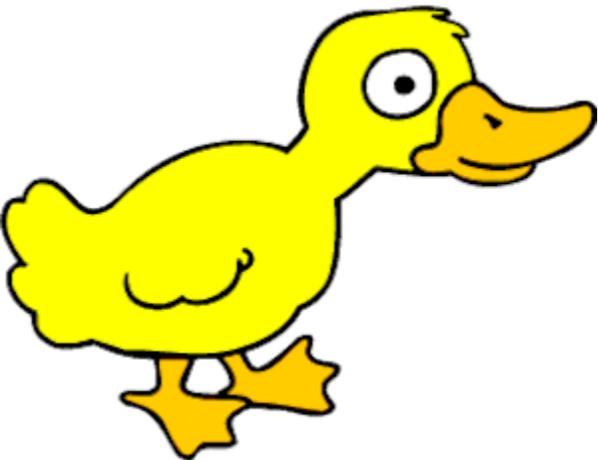


# Getting the Ducks in a Row: Advances in Federal Agency Coordination to Address Invasive Species



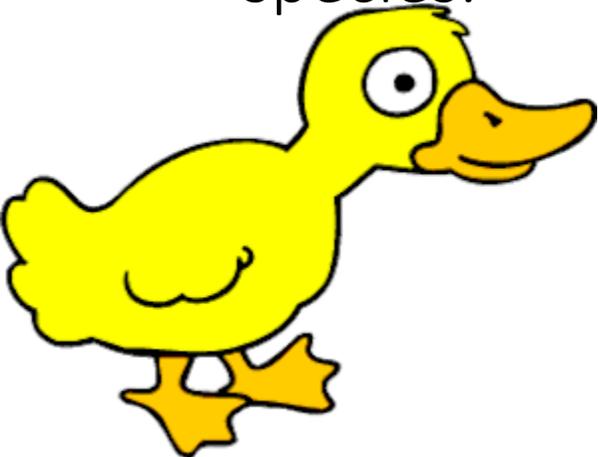
Carol Randall

U.S.D.A. Forest Service- Forest Health Protection

Coeur d'Alene, Idaho

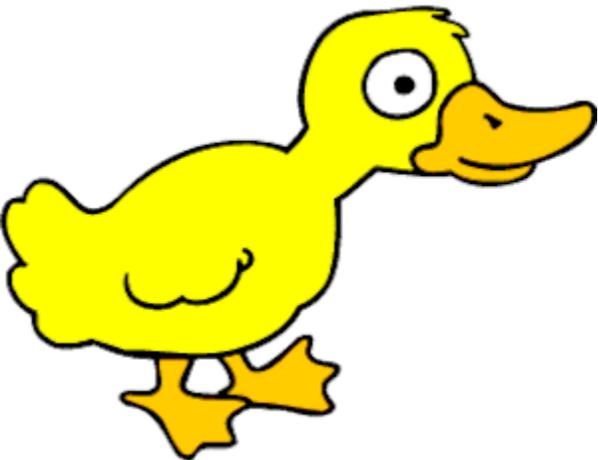
# Federal Agencies and Invasive Species

- Federal government manages approximately 635 million acres in the United States (BLM, USFWS, NPS, USFS, DOD)
- National Oceanic and Atmospheric Administration (NOAA) is responsible for marine sanctuaries
- US Coast Guard enforces laws protecting waters from non native species.
- Bureau of Indian Affairs (BIA) plays an important role as trustee and advisor for tribally owned lands
- Some invasive species cause disease- in humans and in animals, and the CDC, NIH, and PHS (Public Health Services) help with prevention, surveillance & research



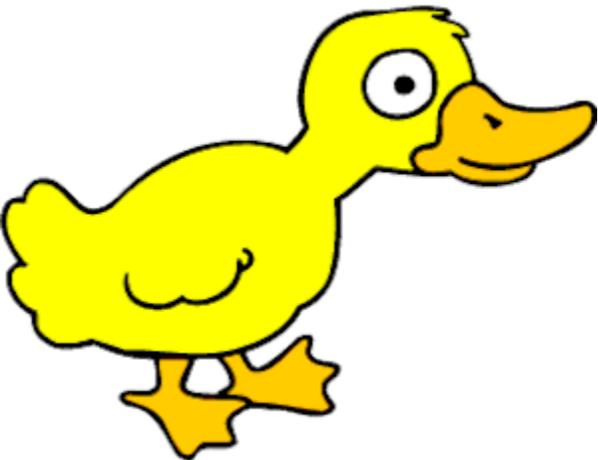
# Federal Regulatory Authorities

- Ability to prohibit the import into the United States and the interstate transport of listed invasive injurious species (e.g. USDA APHIS)
- Approve specific pesticides and their applications (e.g. EPA)
- Engage in emergency response actions (e.g. FEMA)
- Manage risks associated with certain major pathways of invasive species introduction (e.g. CPB)



# Other Federal Invasive Species Activities

- Federal Agencies are key resources for the collection of data regarding invasive species ecology, impact, and geographic distribution.
- Federal agencies also develop and apply tools for invasive species
  - Assessment
  - Detection
  - Reporting
  - Species Monitoring and Surveillance
  - Management
  - Identification

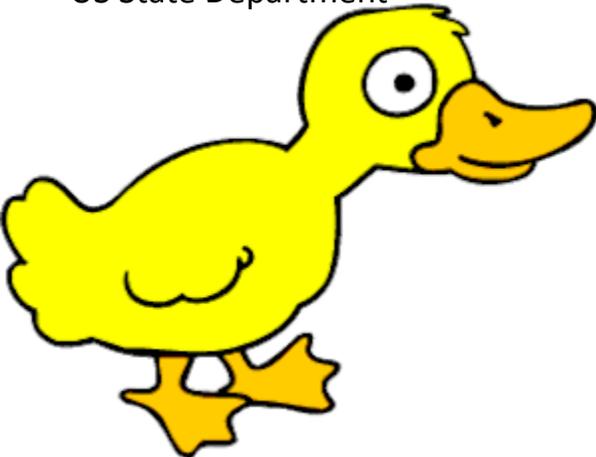


# Meet the Federal Players

- Thirteen Federal Departments and Agencies actively engaged



US State Department



Secretary of Agriculture\*



Secretary of Commerce\*



Secretary of the Interior\*



Secretary of Defense



Secretary of the Treasury



U.S. Trade Representative (USTR)



Secretary of Homeland Security



Secretary of Health and Human Services (HHS)



Secretary of Transportation



National Aeronautics and Space Administration (NASA)



Administrator of the Environmental Protection Agency (EPA)

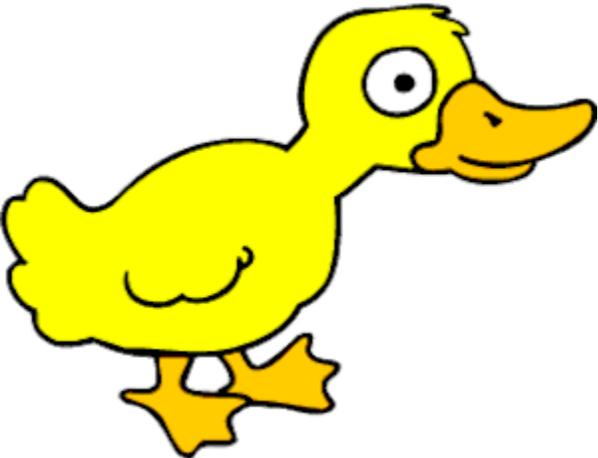


Administrators of the U.S. Agency for International Development (USAID)

# What Drives Federal Invasive Species Policy?

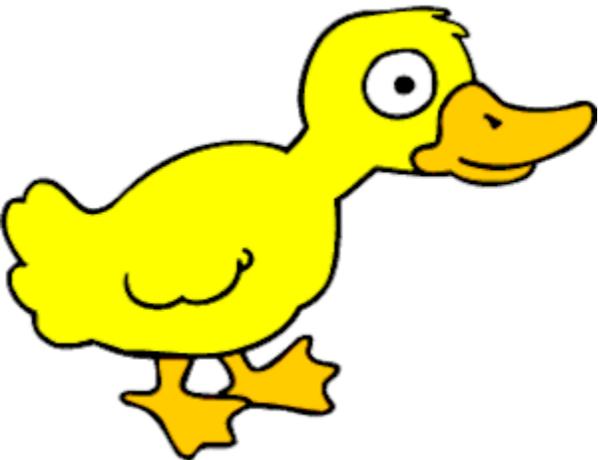
Executive Order 13112- Invasive Species (1999)

“To prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause”



# E.O. 13112 Definitions

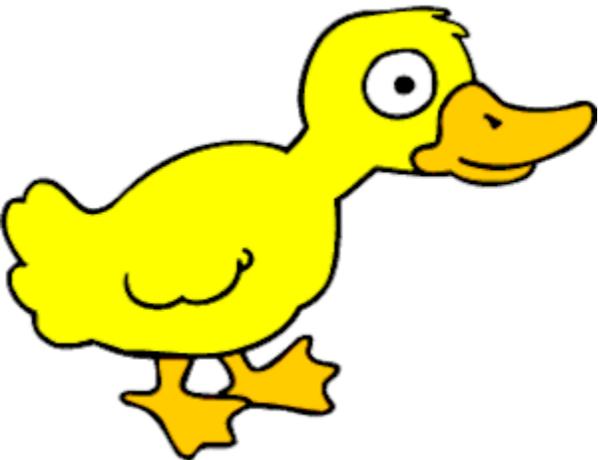
- An Invasive Species means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.
- An Alien Species means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.
- Alien is synonymous with non-native in most federal documents; differs from some state noxious weed list which may have native plants listed.



# Federal Agency Duties- E.O. 13112

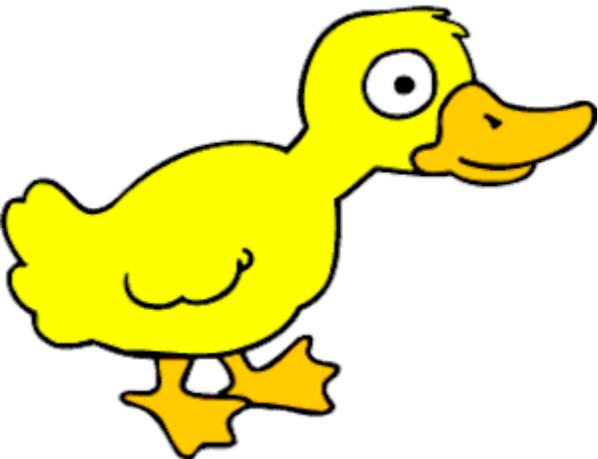
Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, 1) identify such actions 2) subject to [budget, legal limitations] use relevant programs and authorities to:

- Prevent introduction of invasive species
- Detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner
- Monitor invasive species populations accurately and reliably
- Provide for restoration of native species and habitat conditions in ecosystems that have been invaded
- Conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species
- Promote public education on invasive species



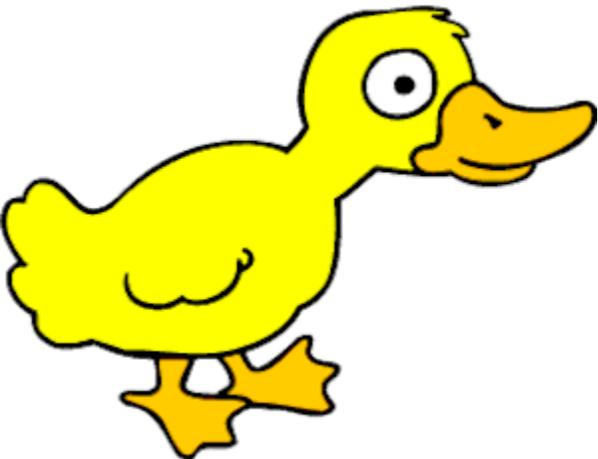
# National Invasive Species Council (NISC)

- Also created by E.O. 13112
- “Shall provide national leadership regarding invasive species”
- “See that the Federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective, relying to the extent feasible and appropriate on existing organizations addressing invasive species. . .”



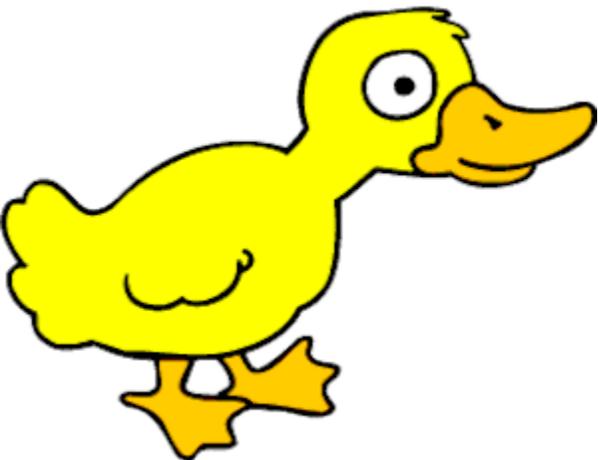
# NISC's Six Focus Areas

1. . . .establish the structures, policy, and planning priorities necessary to enable Federal agencies to effectively prevent, eradicate, and/or control invasive species, as well as restore impacted ecosystems and other assets.
2. Limit the spread and impact of invasive species through high-level policy and planning by strengthening coordination between the U.S. and other governments, across the Federal government, and between the Federal government and non-governmental stakeholders.
3. Raise awareness of the invasive species issue and mobilize the policies, programs, and financial resources necessary to minimize the spread and impact of invasive species.



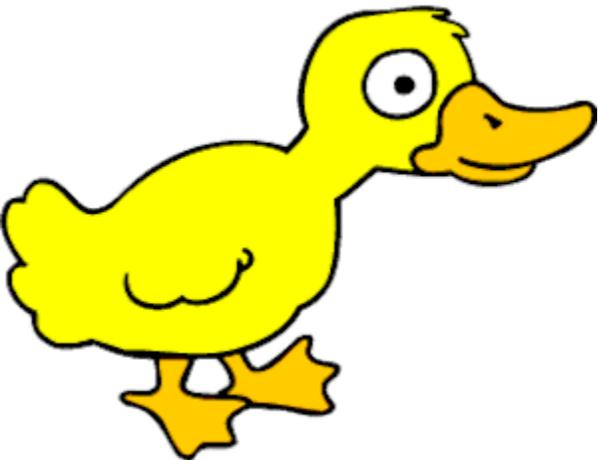
# NISC's Six Focus Areas (continued)

4. Remove institutional and policy barriers to the Federal actions needed to prevent, eradicate, and control invasive species, as well as restore ecosystems and other assets.
5. Conduct assessments of Federal capacities to meet the duties set forth in E.O. 13112, as well as other high-level policy priorities, and build Federal capacities, as needed.
6. Foster the scientific, technical, and programmatic innovation necessary to enable Federal agencies and their partners to prevent and mitigate the impacts of invasive species in a timely and cost-effective manner with negligible impacts to human and environmental health.



# Herding Cats . . .

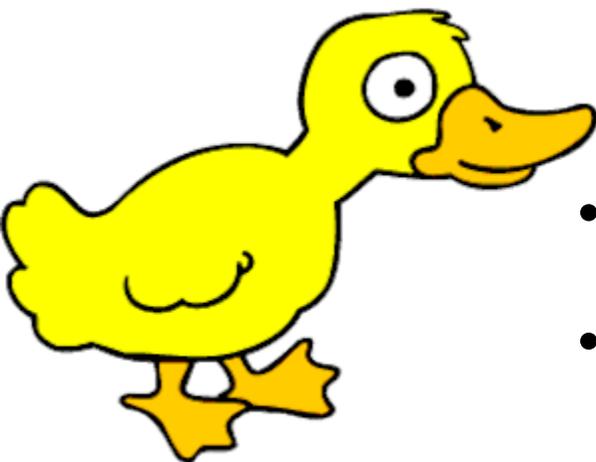
- Lofty goals, but challenging because of the diverse group of federal agencies with invasive species authorities.
- NISC's coordination role extends beyond the Federal Government, so NISC also hosts the Invasive Species Advisory Committee (ISAC).





# U.S. Department of Agriculture

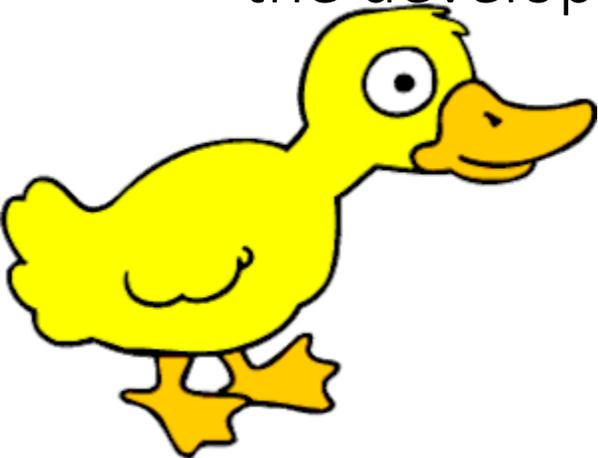
- USDA has the greatest amount of resources devoted to invasive species.
- APHIS is the primary USDA agency charged with preventing invasive species from entering the country; APHIS can prohibit, inspect treat, quarantine or require mitigation measures prior to allowing entry of plant species, plant pests, biological control organisms, animals, animal products and by-products, or their host commodities or conveyances.
- ARS conducts and support research and NIFA supports research concerning invasive species.
  - FS manages invasive species on its 192 million acre national forest and grasslands system, provides assistance to State and private sector land owners, and conducts invasive species research.
  - NRCS with FSA aids in invasive species efforts through their cost-share and conservation technical assistance programs.
  - Foreign Agriculture Service provides invasive species technical assistance to foreign countries.





# U.S. Department of Commerce

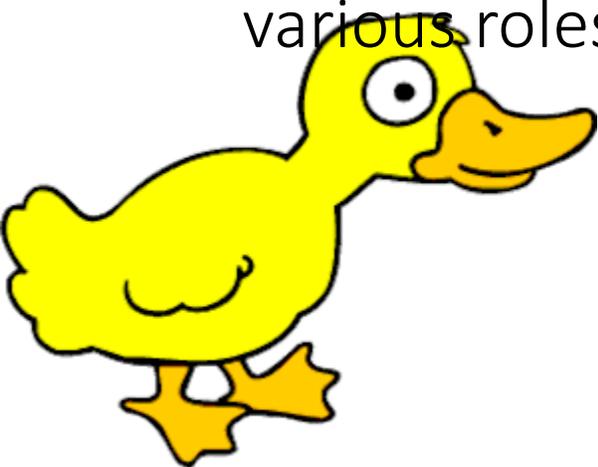
- National Oceanic and Atmospheric Administration (NOAA) has joint responsibility with the U.S. Fish and Wildlife Service (DOI) for control and management of invasive aquatic species.
- NOAA's Sea Grant program manages a competitive research grant program for all aspects of aquatic nuisance species issues, including the development of ballast water technology.
- NOAA is involved with several international conventions as well as certain bilateral efforts.
- NOAA is one of the co-chairs of the Aquatic Nuisance Species Task Force (ANSTF).



# U.S. Department of the Interior



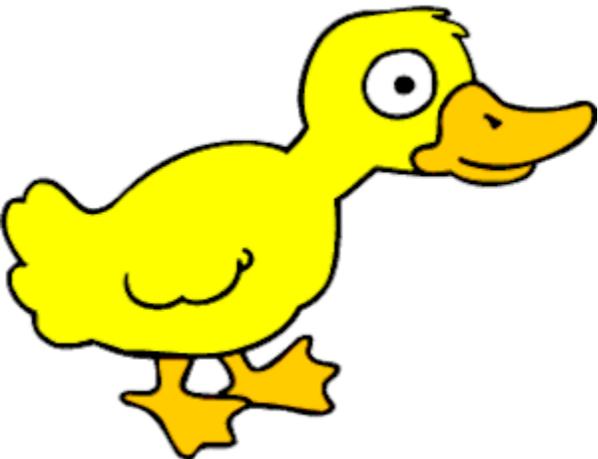
- DOI is the largest land owner and manager in the United States. Invasive species are an aspect of a large proportion of the Department's responsibilities for stewardship of public lands.
- The Bureau of Reclamation (BOR), the Bureau of Land Management (BLM), the U.S. Geological Survey (USGS), the Minerals Management Service (MMS), the U.S. Fish and Wildlife Service (FWS), the Bureau of Indian Affairs (BIA), and the National Park Service (NPS) all have various roles in the science and management of invasive species.
- BOR, BLM, FWS, and NPS are responsible for programs that control invasive species which infest water systems and lands that they manage.



# U.S. Department of Defense



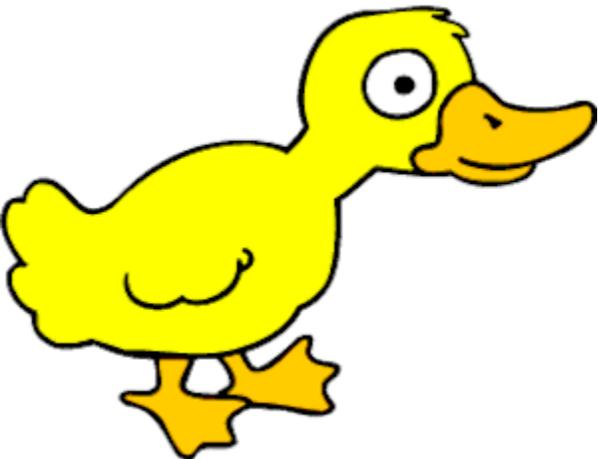
- DOD manages over 25 million acres of lands within military installations. DOD controls and manages invasive species in accordance with individual plans governing each installation or base. The goals of DOD's Invasive Species Management Program are prevention, control of invasive species on military installations, and restoration using native plants.
  - The U.S. Army corps of Engineers(USACE) also has a number of control programs, and is authorized to implement a 50/50 Federal/local cost sharing arrangement with State and local governments for managing nuisance aquatic plants in waterways not under the control of USACE or other Federal agencies
  - USACE also has a number of research programs focused on invasive species.



# U.S. Department of Health and Human Services



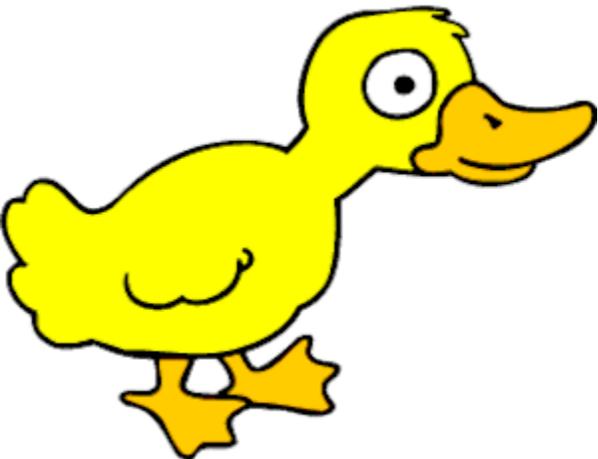
- Certain invasive species impact human health directly. Several agencies within HHS deal with zoonotic diseases. The Centers for Disease Control and Prevention (CDC) address zoonotic diseases, emerging diseases, and those with unknown etiologies.
- CDC provides leadership, expertise, and services concerning epidemiological science, bioterrorism preparedness, applied research, disease surveillance, and outbreak response for infectious diseases.
- The National Institutes of Health (NIH) provide support for zoonotic and bioterrorism preparedness research. The Public Health Service (PHS) is one of seven uniformed services whose officers serve at NPS, NOAA, USDA, EPA and DOD. Their mission includes zoonotic disease surveillance and prevention.



# U.S. State Department



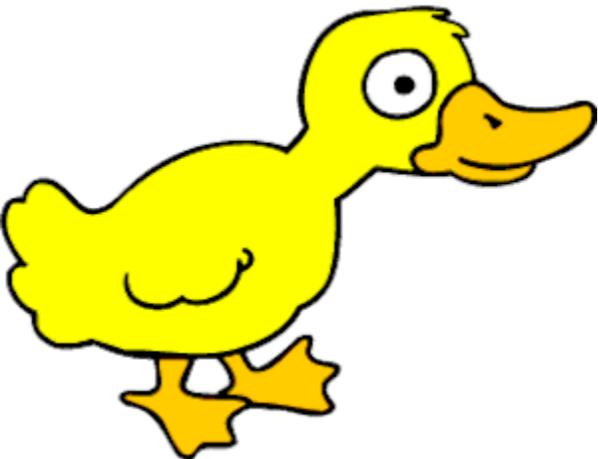
- The Bureau of Oceans, Environment and Science; Office of Ecology and Terrestrial Conservation is the main point of contact within the Department of State for invasive species issues.
- Focuses on terrestrial invasive species as well as marine and coastal invasive species.
- DOS deals with invasive species issues in several contexts, but primarily presenting the U.S. position and policies on invasive species in international forums, such as conventions, regional initiatives and bilateral agreements.



# U.S. Department of Transportation



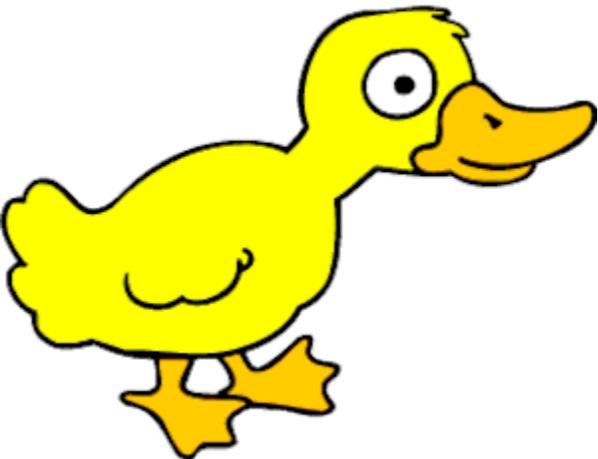
- The Federal Highway Administration's (FHWA) Vegetation Management Program guides State departments of transportation on invasive species issues.
- The Federal Railroad Administration (FRA) promotes safe and environmentally sound rail transportation and supports invasive species control efforts on rail corridors.
- The Maritime Administration (MARAD) promotes development and maintenance of an adequate, well-balanced, U.S. Merchant Marine, and supports the control of aquatic invasive species.



# U.S. Treasury Department



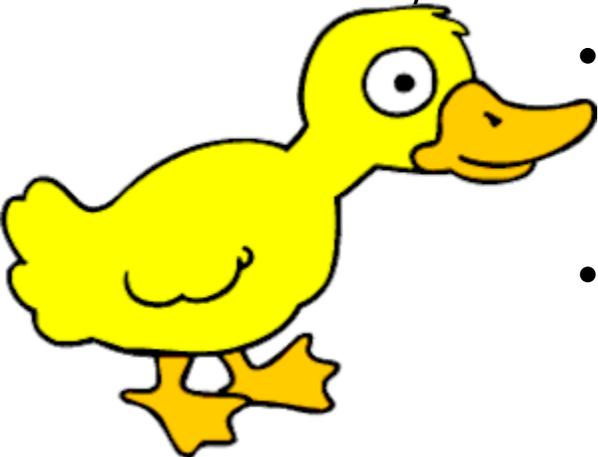
- Treasury advises and assists in the formulation and execution of U.S. international economic and financial policy, including the development of policies with respect to international trade, investment, bilateral aid, environment, and development programs



# U.S. Department of Homeland Security



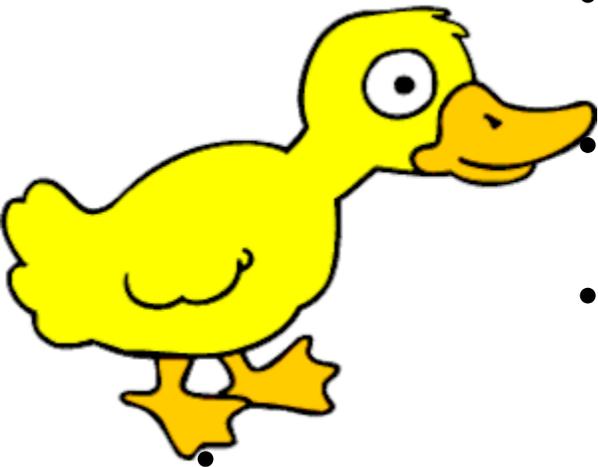
- U.S. Coast Guard (USCG), Customs and Border Protection (CBP), Federal Emergency Management Agency (FEMA), and Homeland Security Advanced Research Projects Agency (HSARPA) have multiple responsibilities that involve invasive species.
- USCG works with other agencies to develop and enforce international fisheries and maritime agreements.
- FEMA works with other Federal agencies to control and eradicate outbreaks of animal/zoonotic diseases, exotic plant pests, or invasive plant pest infestations.
- HSARPA supports research to advance the miniaturization of biological and chemical sensors capable of detecting hazardous biological materials such as disease agents.
- CBP works with APHIS and FWS to enforce laws prohibiting or limiting the entry of invasive species; supports the removal of invasive plants that interfere with border area surveillance; is responsible for inspections at ports of entry.



# U.S. Environmental Protection Agency



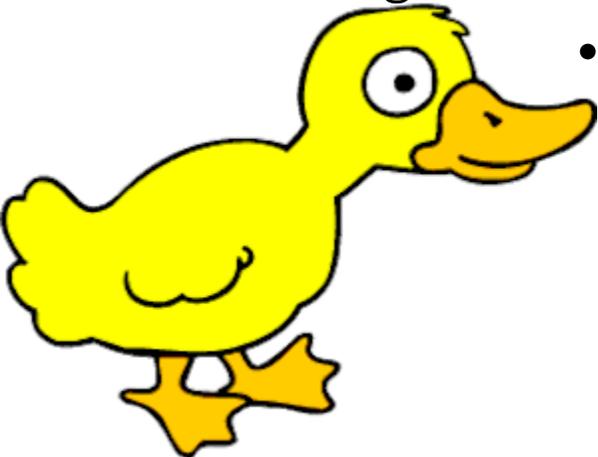
- EPA has regulatory authority over pesticides, and may place limits on the conditions under which they may be used.
- EPA is the lead agency for administration of the National Environmental Policy Act (NEPA), which may require production of an environmental impact assessment document for invasive species control activities.
- EPA's research activities include evaluation of the effects of non–native species on wetland restoration and studies on non–native, submerged aquatic vegetation.
  - When trans–border issues are at hand, EPA offers expert advice, analysis, and risk assessment of potential invasive species issues.
  - EPA provides State Department and other clients with expert advice in international invasive species issues.
  - EPA works extensively with Canada, and bordering states in managing invasive species issues in the Great Lakes region.





# U.S. Trade Representative

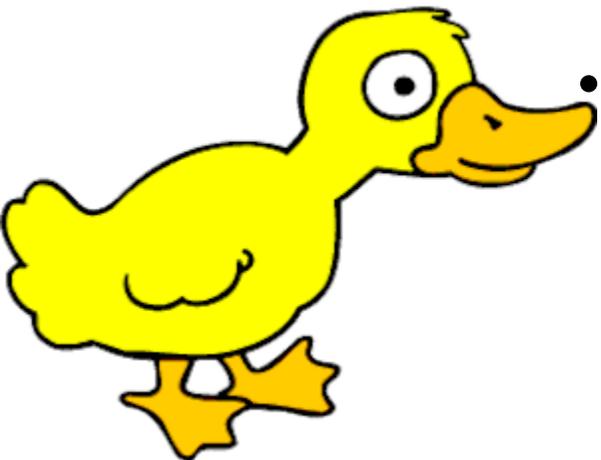
- U.S. Trade Representative (USTR) has lead responsibility for developing and coordinating U.S. international trade, commodity and direct investment policy, and is the lead trade negotiator for the United States in bilateral, regional, and multilateral trade and investment agreements.
- USTR is responsible for developing and implementing trade policies which promote economic growth, support efforts to protect the environment, advance core labor standards, and create new opportunities for U.S. businesses, workers, and agricultural products.
- USTR also leads an interagency process to conduct reviews of the possible environmental effects of trade negotiations, sets and coordinates U.S. international trade, commodity and direct investment policy.



# National Aeronautics and Space Administration



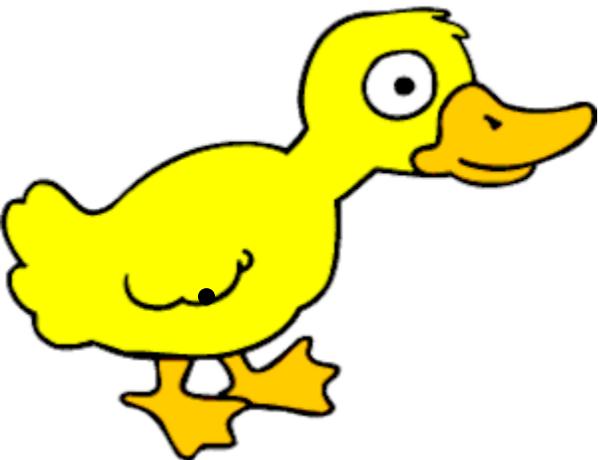
- NASA's remote Earth sensing capabilities are delineating existing and predicting new or current invasive species infestations on both land and in the oceans.
- NASA monitors invasive species farther away, ensuring that the risk of accidental cross-contamination of the planets by hitchhiking life forms during interplanetary missions is kept to a minimum.
  - NASA has been active in meeting treaty requirements specifying that solar system exploration missions should avoid forward and backward contamination of biological material.
  - NASA's current guidance on potential invasive species is derived from international standards for planetary protection, along with recommendations from a number of U.S. National Academy of Sciences and National Research Council studies and the presence of an active Planetary Protection Advisory Subcommittee, which includes international and interagency representation.





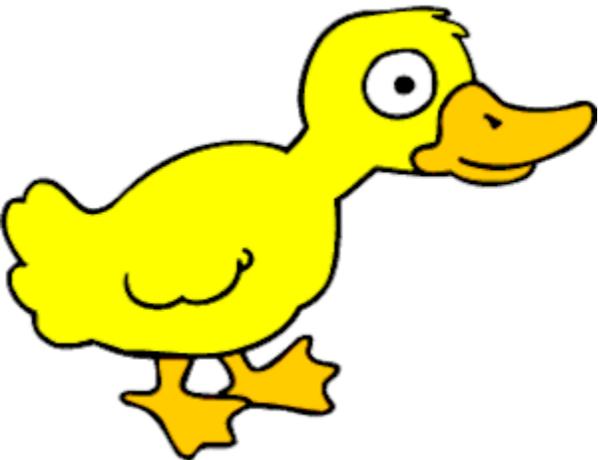
# U.S. Agency for International Development

- USAID is the principal U.S. agency extending assistance to developing countries, and works in four major topical areas: economic growth and agricultural development; population, health, and nutrition; environment; and democracy and governance.
- USAID has responsibility for ensuring that U.S. development of assistance programs do not lead to the introduction of invasive species in other nations.
  - It is well positioned to use its programs to support projects to eradicate and control invasive species where they are already established in developing countries, especially when food, water, and health security are at risk.



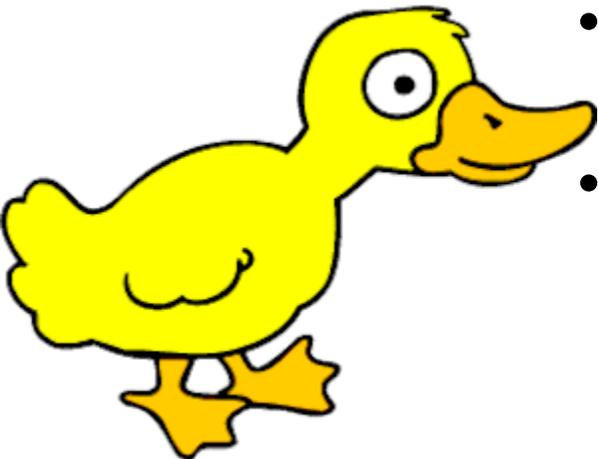
# Invasive Species Advisory Committee (ISAC)

- A group of non-federal experts and stakeholders established to provide advice to NISC on invasive species-related issues.
- ISAC's primary duty is to "recommend plans and actions at local, tribal, state, [territorial], regional, and ecosystem-based levels to achieve the goals and objectives of the NISC Management Plan."
  - ISAC members include representatives of state, territorial, tribal, and local governments, as well as academic institutions, non-governmental organizations, and the private sector.
  - ISAC is chartered under the Federal Advisory Committee Act (FACA) and administered according to its bylaws. ISAC typically holds two meetings per year. All meetings are open to the public, and minutes of each meeting are publicly available.



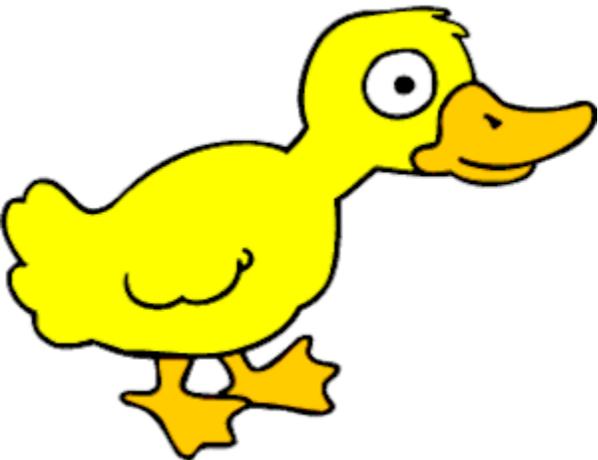
# ISAC (continued)

- ISAC is currently focused on the following topics:
  - Strengthening Federal/State coordination;
  - Strengthening Federal/Tribal coordination;
  - Identifying risks and opportunities for the application of emerging biotechnologies for invasive species prevention, eradication, and control;
  - Assessing the impacts of invasive species on infrastructure; and
  - Assessing the impacts of invasive species on wildlife health.



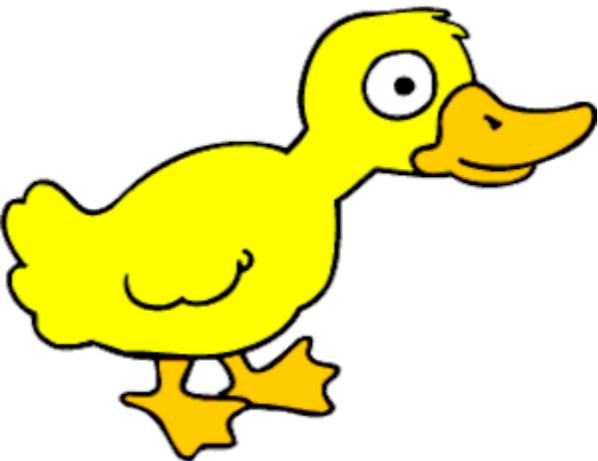
# Lining up ducks . . .

- In October, 2014 the White House Council on Climate Preparedness and Resilience released its *Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources* which identified invasive species as one of the most pervasive threats to ecosystem resilience in a changing climate.
  - *Priority Agenda* called on U.S. Department of Interior, working with NISC, states, and tribes, to develop a framework for a national Early Detection Rapid Response (EDRR) program.
  - Result is *Safeguarding America's Lands and Waters from Invasive Species: A National Framework for Early Detection and Rapid Response* (February 2016).



# SAFEGUARDING AMERICA'S LANDS AND WATERS FROM INVASIVE SPECIES

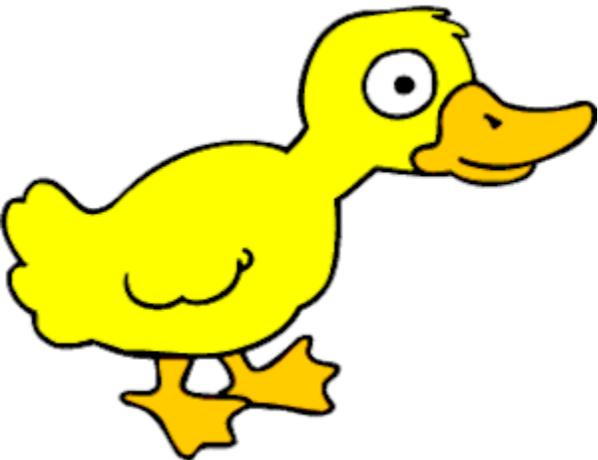
A National Framework for Early Detection  
and Rapid Response



[https://www.doi.gov/sites/doi.gov/files/National\\_EDRR\\_Framework.pdf](https://www.doi.gov/sites/doi.gov/files/National_EDRR_Framework.pdf)

# National EDRR Framework will:

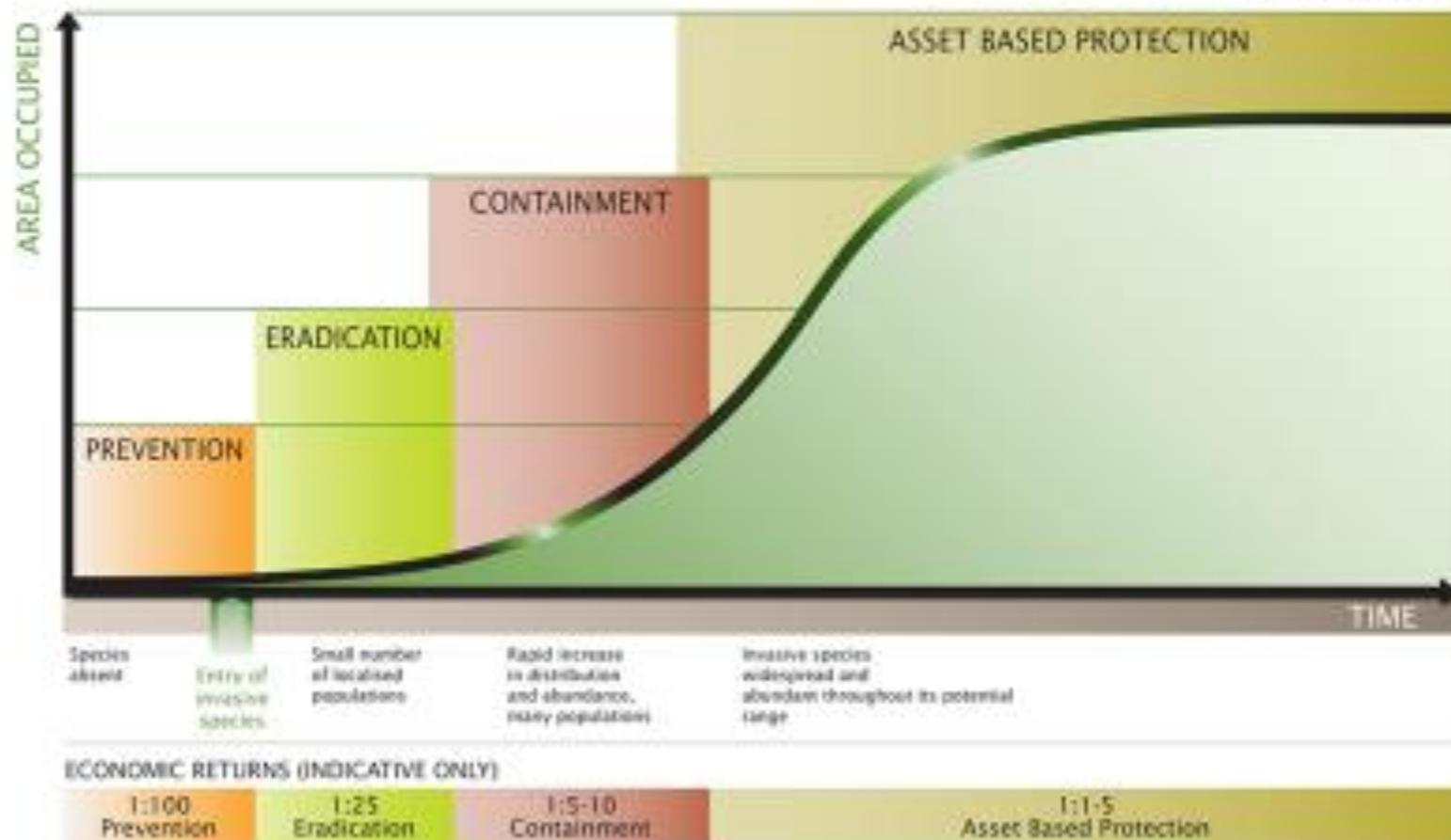
1. Connect and build upon existing initiatives.
2. Identify gaps in EDRR coverage (e.g., taxonomic groups, monitoring programs, and localities) and needs (e.g., tools, techniques, skills, and human and financial resources).
3. Augment Federal, state, and tribal EDRR capabilities, capacities, and partnerships.
4. Establish a coordinated funding process and/or mechanism(s) to support preparedness and response activities.



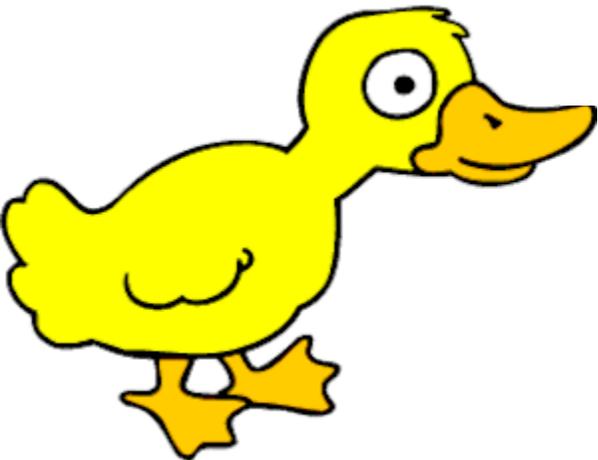
# The Invasion Curve

GENERALISED INVASION CURVE SHOWING ACTIONS APPROPRIATE TO EACH STAGE

Version 1.0: 30 APR 2009



# General Stages of the EDRR Process



## Preparedness

Horizon Scanning and Risk Analysis  
Planning (Leadership, Communications,  
Resources etc.)  
Research  
Tool Development and Sharing  
Monitoring Programs

## Early Detection

Training and Monitoring  
Detection and Reporting  
Identification and Vouchering  
Incorporation and Evaluation of  
"Sight Unseen" Data  
Data Recording and Sharing  
Communications and Outreach

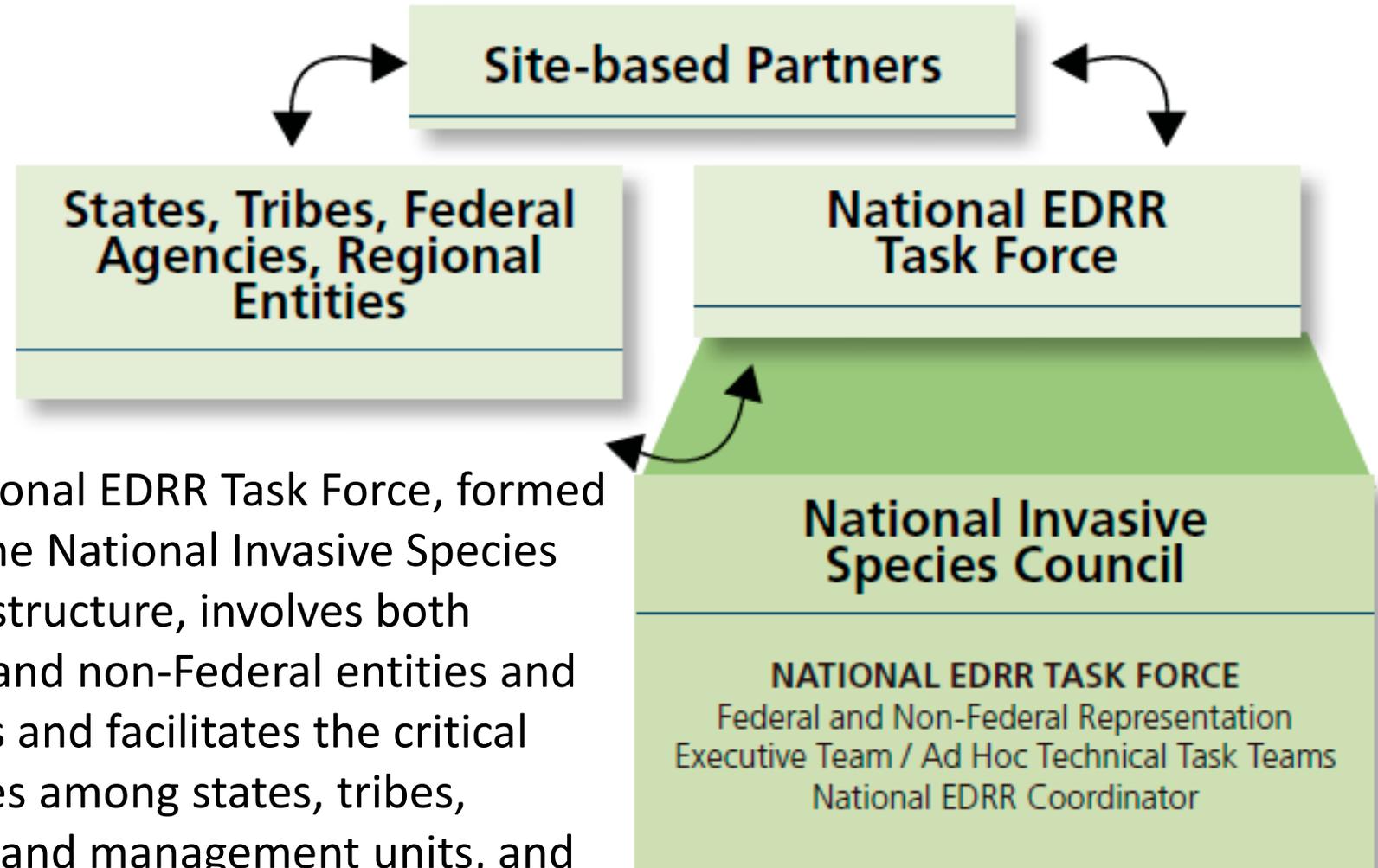
## Rapid Assessment

Rapid Assessment of Species Risks  
Risk Management  
(Options Identified)  
Risk Communications  
(Strategy Developed and Employed)

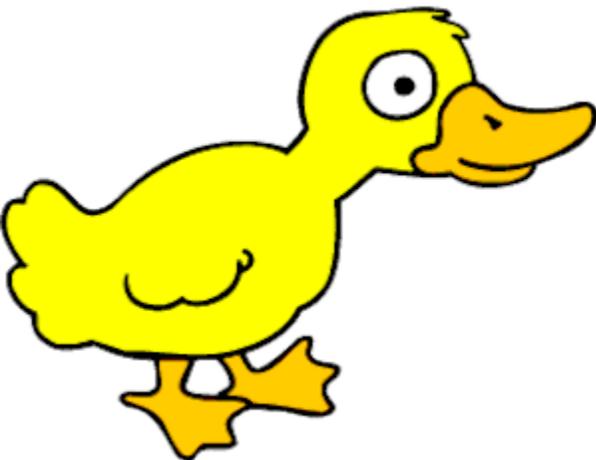
## Rapid Response

Leadership and Coordination  
Emergency Containment and Quarantine  
Treatment (Eradication)  
Monitoring, Evaluation, and Reporting  
Communications and Outreach

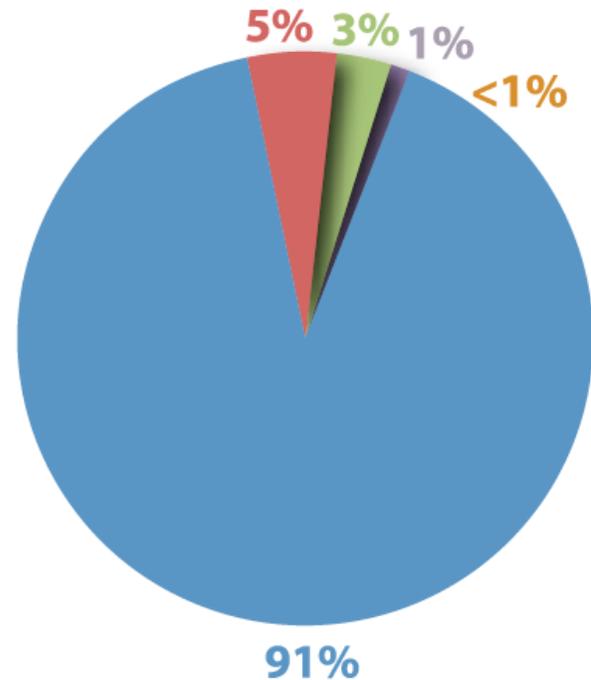
# Proposed Organizational Structure of the National EDRR Framework



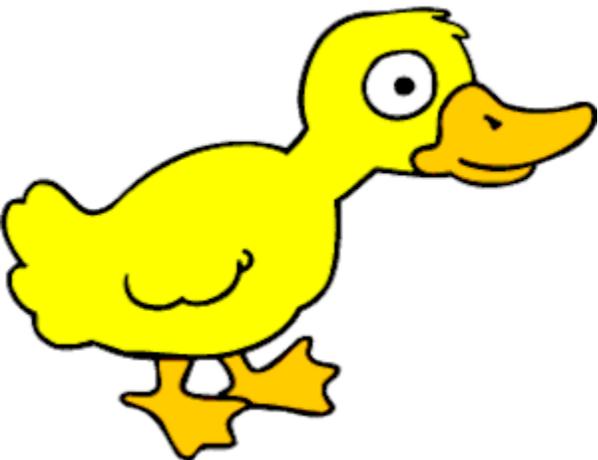
The National EDRR Task Force, formed within the National Invasive Species Council structure, involves both Federal and non-Federal entities and supports and facilitates the critical interfaces among states, tribes, Federal land management units, and other entities.



# FY 2014 EDRR Investments by Federal Agency



- USDA
- DOI
- DOD (USACE)
- Dept. of State
- DOC (NOAA)



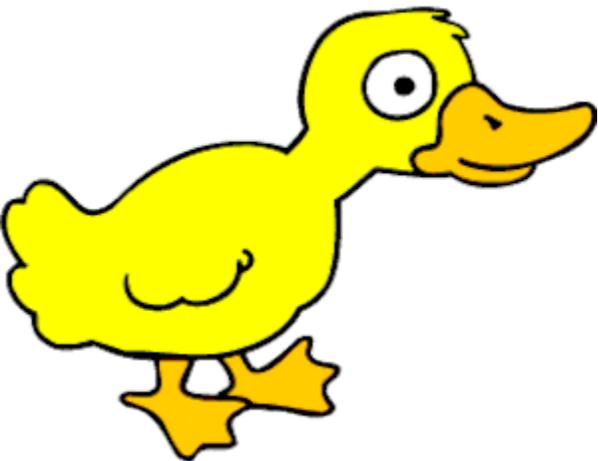
A \$290 million dollar investment in FY 2014, \$265 million from USDA- most allocated to protection of agriculture and livestock

# NISC

NATIONAL INVASIVE SPECIES COUNCIL



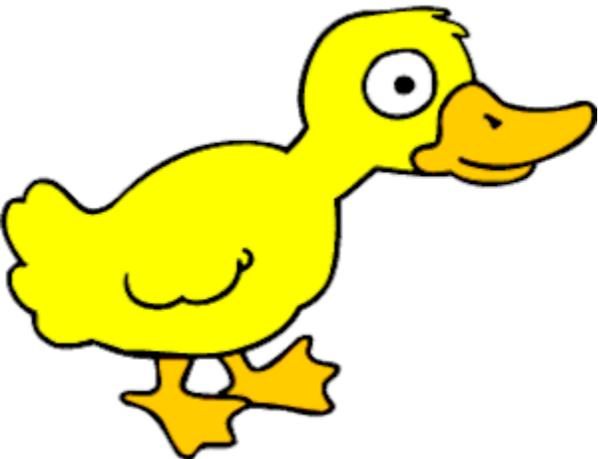
Management Plan · 2016–2018

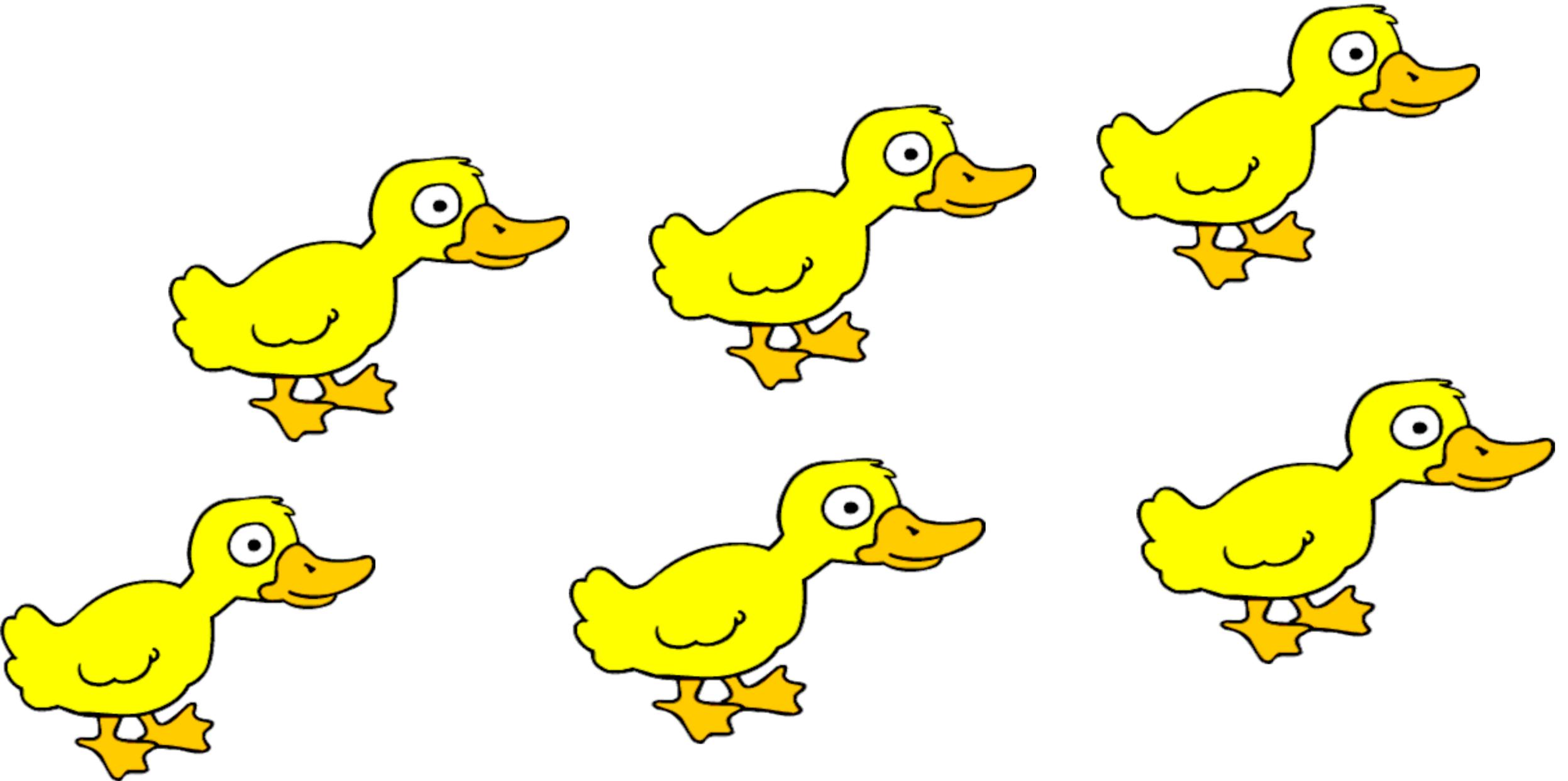


<https://www.doi.gov/sites/doi.gov/files/uploads/2016-2018-nisc-management-plan.pdf>

# The NISC 2016-2018 Management Plan

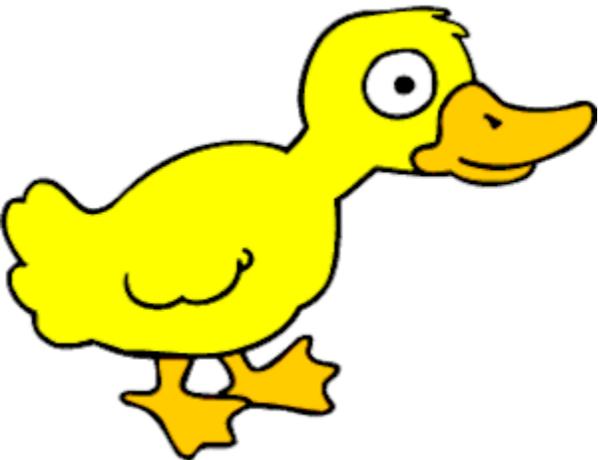
- Doubles down on the National EDRR Framework.
- Recognizes that preventing the introduction of potentially harmful organisms is not only the first line of defense for minimizing the spread and impact of invasive alien species, it is also the most cost-effective strategy.





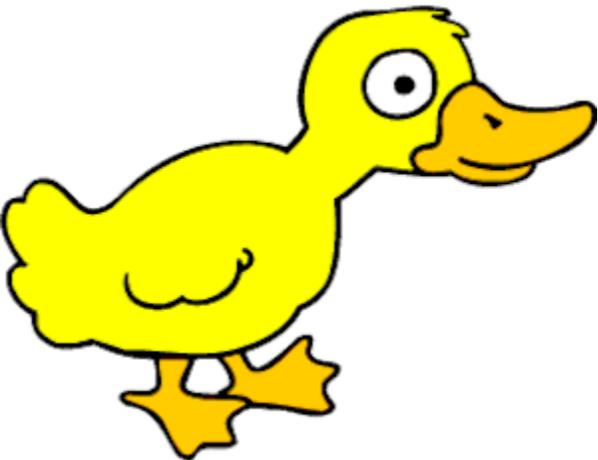
# References:

- <https://www.invasivespeciesinfo.gov/resources/orgfed.shtml>
- <https://www.invasivespeciesinfo.gov/index.shtml>
- <https://www.doi.gov/sites/doi.gov/files/uploads/2016-2018-nisc-management-plan.pdf>
- [https://www.doi.gov/sites/doi.gov/files/National EDRR Framework.pdf](https://www.doi.gov/sites/doi.gov/files/National%20EDRR%20Framework.pdf)



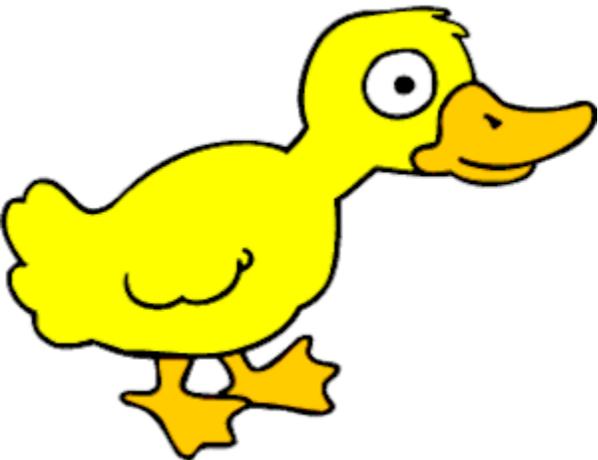
# Selected Technical Reports and Policy Guidance

- Safeguarding America's Lands and Waters from Invasive Species: A National Framework for Early Detection and Rapid Response
- 5-Year Review of Executive Order 13112
- Federal Policy Options: Addressing the Movement of Aquatic Invasive Species Onto and Off of Federal Lands and Waters
- Bioinvasions in a Changing World: A Resource on Invasive Species-Climate Change Interactions for Conservation and Natural Resource Management
- Biosecurity: Moving Toward a Comprehensive Approach
- A Unified Definition of Biosecurity



# NISC Management Plans

- 2016-2018 National Invasive Species Council (NISC) Management Plan
- 2008-2012 National Invasive Species Management Plan
- 2001 National Invasive Species Management Plan





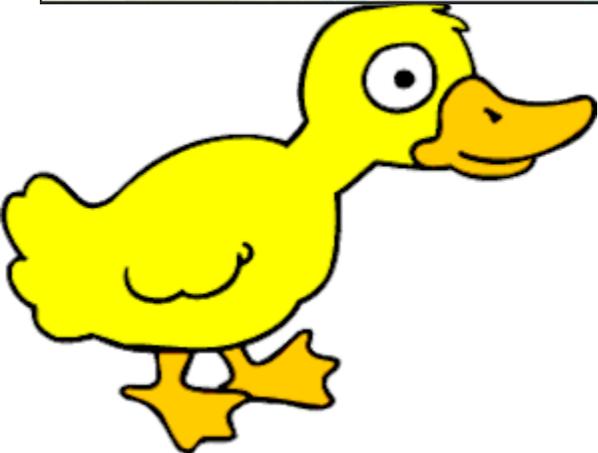
## Five-Year Review of Executive Order 13112 on Invasive Species

Prepared for the Office of Management and Budget  
2005

Meet the Invasive Species Challenge

Know the NISC Plan

Manage the Problem



AQUATIC NUISANCE SPECIES TASK FORCE & NATIONAL INVASIVE SPECIES COUNCIL

## Federal Policy Options

### Addressing the Movement of Aquatic Invasive Species Onto and Off of Federal Lands and Waters

Committee on the Movement of Aquatic Invasive Species  
both onto and off of Federal Lands and Waters  
8/28/2015 FINAL

The United States faces significant economic and environmental threats from invasive species. The prevention, management, and control of invasive species is a cross-cutting issue involving multiple federal agencies and requires a coordinated multi-agency response with tribal, state, and local jurisdictions. This paper provides guidance and policy options to increase coordination among the federal government and state and local partners to strengthen national efforts to prevent and contain the spread of aquatic invasive species (AIS). This paper summarizes a review completed by federal agencies of their current authorities and potential opportunities to prevent and control AIS on federal lands and waters. The paper focuses on AIS but more general authorities may pertain to terrestrial species as well. This summary and the underlying review may serve as an informational guide to identify existing laws, regulations, and policies that can be utilized by agencies or bureaus to address the movement of invasive species both onto and off of federally managed lands and waters; it does not represent a complete or definitive list of all federal legal authorities on invasive species nor is it intended to interpret or amend any federal legal authorities. Additional steps for consideration by participating federal agencies as well as partners within the Aquatic Nuisance Species Task Force and the National Invasive Species Council are identified at the end of this paper.

### Bioinvasions in a Changing World: A Resource on Invasive Species-Climate Change Interactions for Conservation and Natural Resource Management

December 2014

Prepared for

The Aquatic Nuisance Species Task Force (ANSTF) and  
The National Invasive Species Council (NISC)

By the *Ad Hoc* Working Group on Invasive Species and Climate Change