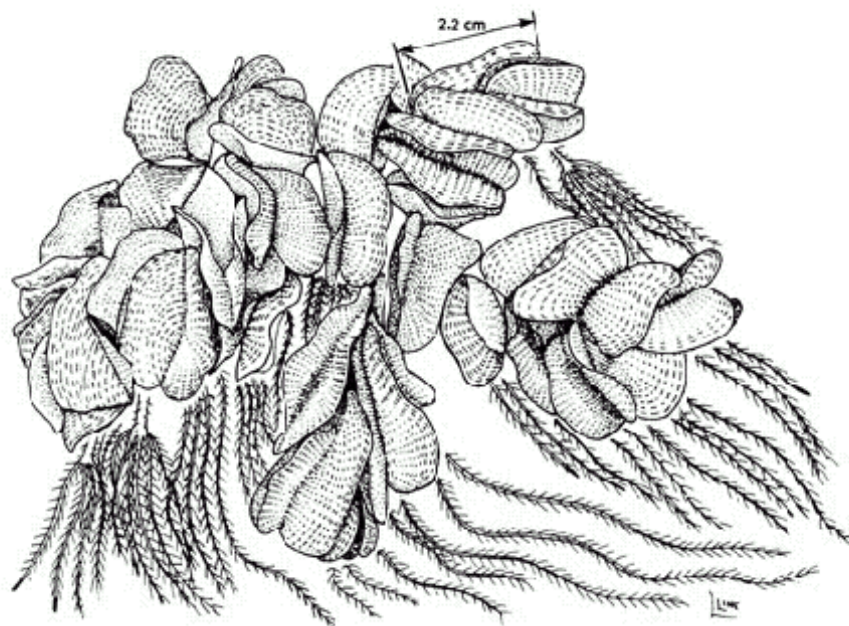


National Early Warning and Rapid Response System for Invasive Plants in the United States.



Giant Salvinia (*Salvinia molesta* D.S. Mitchell),
New Scourge of U.S. Waterways.

(Illustration Courtesy of the University of Florida, Center for
Aquatic and Invasive Plants)

DRAFT ACTION PLAN.

August 28, 2001.

**Federal Interagency Committee for the
Management of Noxious and Exotic Weeds
(FICMNEW), Washington, D.C.**

Background and Rationale. With more and more trade and travel, plants, animals and pathogens are being moved around the globe at an increasing rate. While most of these introductions are not harmful to the American economy or the environment, a small percentage of them become invasive in some habitats. Under the current crop protection system, The USDA Animal and Plant Health Inspection Service (APHIS) and cooperating state agriculture agencies work to protect the nation from economically important plant and animal pests and diseases. However, due to a lack of resources and organized constituencies, new invasive plants (both agricultural weeds and invasive plants of natural areas) are seldom addressed on public or private land until populations become widespread and prevention/eradication becomes impractical. The recent appearance of the Brazilian floating fern giant salvinia (*Salvinia molesta* D.S. Mitchell) in 30+ water bodies in nine states, is a notable example of the problem, and has highlighted the serious need for a new and systematic approach for addressing new invasive species, and, in particular, invasive plants. With this in mind, FICMNEW hosted a workshop in Ft. Collins, Colorado, in June, 2000, on creating a National Early Warning and Rapid Response System for Invasive Plants. Subsequently, the proceedings of the workshop were posted on the FICMNEW Home Page. The Early Warning/Rapid Response Action Plan presented here closely follows major recommendations that were developed at that workshop, as well as relevant recommendations under the National Invasive Species Management Plan, which was approved by the National Invasive Species Council in January 2001. **Attachment A** lists Management Plan action items that are directly supported by this Early Warning Action Plan. Refer to **Diagram 1, Diagram 2, and Diagram 3**, for an outline of system elements and how information is expected to flow in the system.

The overall purpose of the National Early Warning and Rapid Response System will be to provide a coordinated framework of public and private partners at the local, state, regional, and national levels to more effectively address new invasive plants through:

- Early detection and reporting of suspected new plants to appropriate officials
- Identification and vouchering of submitted specimens by designated specialists
- Verification of suspected new state, regional, and national plant records
- Archival of new records in designated regional and plant databases
- Rapid assessment of confirmed new records
- Rapid response to new records that are determined to be invasive.

Once fully implemented across the United States, the proposed early warning and rapid response system will provide an important second line of defense against invasive plants, that will work in concert with federal efforts to prevent unwanted introductions at the ports of entry (the first line of defense). With both systems in place, the nation will be better able to defend against future economic and environmental losses due to “plants out of place”.

Table of Contents:

I. SYSTEM COORDINATION AND OVERSIGHT

II. EARLY DETECTION, LOCAL CONTACTS, SPECIMEN IDENTIFICATION AND VOUCHERING, RECORD VERIFICATION, ARCHIVAL OF INFORMATION, AND REPORTING

III. PARTNERSHIPS

IV. RAPID ASSESSMENT

V. RAPID RESPONSE

VI. INFORMATION MANAGEMENT AND RESEARCH

VII. E-COMMERCE IN INVASIVE PLANTS

VIII. EMERGENCY TREATMENTS.

IX. PUBLIC OUTREACH AND AWARENESS

X. INTERNATIONAL COOPERATION AND DEVELOPMENT OF A GLOBAL EARLY WARNING SYSTEM.

XI. SYSTEM FUNDING

XII. PHASED DEVELOPMENT OF SYSTEM

Attachment A. Support of the National Invasive Species Management Plan.

Diagram 1. Early Detection, Reporting, Identification, Vouchering, and Verification.

Diagram 2. Rapid Assessment.

Diagram 3. Rapid Reponse.

Associated Websites.

FICMNEW Contact Information.

I. SYSTEM COORDINATION AND OVERSIGHT.

[\(Back to Table of Contents\)](#)

As envisioned, the National Early Warning and Rapid Response System will be a complex of intricate, yet independent elements, dedicated to a single purpose... “to detect new invasive plants and address them quickly”. To function properly, the system will require oversight and coordination.

Goal: Establish a national early warning coordination capability for Invasive Plants.

Objective 1: Establish positions and committees, as necessary, to provide system coordination and leadership.

Action 1: Appoint a **National Early Warning Coordinator for Invasive Plants**, with appropriate staff support, administered by a lead department.

Action 2: Establish a National Early Warning Committee for Invasive Plants, with standing and supplemental members, to facilitate an interagency response to new regional and national plant records in the United States.

Standing Members:

- National Early Warning Coordinator for Invasive Plants
- Invasive Species Coordinator, U.S. Department of Agriculture
- APHIS National Weed Coordinator, APHIS National Botanist
- Invasive Species Coordinator, U.S. Department of the Interior
- Program Specialist, U.S. Geological Survey Center for Integration of Natural Disaster Information (CINDI)

Supplemental Members, when appropriate would include:

- Other FICMNEW Representatives, as appropriate
- Early Warning System Regional Coordinators
- Affected State Weed Coordinator(s)
- County Weed Supervisors and other Local Officials

In general, the committee is expected to act in a national advisory and oversight role in the development and operation of the Early Warning System. Another important role for the committee would be to solicit information from numerous sources including designated plant databases and the botanical community at large, to verify whether a new plant is actually a new regional or national record. (*Suspected new state records would be provided to state partner groups for verification*).

Action 3: Designate **Regional Early Warning Coordinators** to serve as liaisons between the state and national level components of the system.

Action 4: Encourage state level interagency partner groups to designate **State Weed Coordinators** to coordinate the development and functioning of the early warning system in each state.

II. EARLY DETECTION, LOCAL CONTACTS, SPECIMEN IDENTIFICATION AND VOUCHERING, RECORD VERIFICATION, ARCHIVAL OF INFORMATION, AND REPORTING ([Back to Table of Contents](#))

The most critical step in addressing new invasive plant problems is to know they exist. In order to detect new invasive plants, we will need the help of thousands of professional and amateur botanists, and interested citizens. In the process of detecting new invasive plants, we will learn even more about the state of our nation's flora and fauna.

Goal: Coordinate the development of a National Early Detection and Reporting System.

Objective 1: Develop mechanisms for early detection and reporting of suspected new plants by the general public and a formal network of amateur and professional collectors.

Action 1: Develop an Early Detection Network of active amateur and professional plant collectors across the United States to assist in detecting and reporting new plant species.

Action 2: Create an Early Detection Network Directory and Listserve for communicating with network members.

Action 3: Develop incentives for collectors to become active in the network.

Action 4: Develop a network volunteer training and certification program.

Action 5: Provide a toll free number and website for the general public to use in seeking information about suspected new plants.

Action 6: Request local offices of agencies such as The USDA Natural Resource Conservation Service, the County Extension Service, the USDA Animal and Plant Health Inspection Service, and county weed supervisors, to act as local contacts for the Early Warning System.

Action 7: Develop brochures and fact sheets to assist local contact agencies in communicating with the public about the Early Warning System.

Objective 2: Develop a standard process for early detection, submission of specimens, identification / vouchering, verification, archiving of information, and reporting of suspected new invasive plants.

Action 1: Develop early detection, identification, reporting and verification guidelines for use by Early Warning Partner Groups¹, such as:

- criteria for identifying sites that are particularly vulnerable to invasion,
- use of taxonomic standards based on the Integrated Taxonomic Information System (ITIS),
- adoption of the North American Weed Management Association (NAWMA) standards for collection of core plant data.

Action 2: Facilitate development of web-based tools to enhance plant identification capabilities with initial emphasis on plants that are known to be invasive in the U.S. and elsewhere.

Action 3: Establish a network of cooperating state and regional herbaria to assist in developing the National Early Detection Network and to identify and voucher plant specimens that are submitted by network members.

Action 4: In cooperation with the Flora of America project, develop a network of recognized plant systematists to assist state botanists in identifying

¹ Early Warning Partner Groups would include local, state, and regional groups such as local weed management areas, state weed teams/state invasive species councils, regional invasive species coalitions, and etc.

difficult plant specimens that are suspected to be new state, regional, or national plant records.

Action 5: Develop a network of professional field botanists and other plant scientists to assist the National Early Warning Committee and state partner groups in verifying whether a newly identified plant is in fact a new state, regional, or national plant record.

Action 6: Designate certain regional and national databases to archive new state, regional, and national plant records that are generated through the Early Warning System.

Action 7: Establish protocols and procedures for submitting new plant records to partner databases.

Action 8: Develop a list of plant databases that should be reviewed by the National Early Warning Committee and impacted state partner groups in verifying whether a newly identified plant is in fact a new state, regional, or national plant record.

Action 9: Develop a nationally based Invasive Species Notification and Tracking System to assist in verifying, reporting, and tracking of new records (USGS Center for Integration of Natural Disaster Information).

III. LOCAL, STATE, AND REGIONAL PARTNERSHIPS. [\(Back to Table of Contents\)](#)

Currently, there are many agencies and organizations in the United States that are engaged in the “war on weeds”. However, invasive plants freely cross jurisdictional boundaries and efforts to address them are often fragmented and piecemeal. In order to effectively address them, we need to marshal and focus the resources and expertise of the nation through a coordinated framework of local, state, regional, and national partnerships.

Goal: Foster Interagency Cooperation and Partnerships.

Objective 1: Encourage local, state, and federal agencies, and appropriate non-governmental organizations to establish local, state, and regional early warning partner groups.

Action 1: Develop and publish models for local, state, and regional partnerships.

Action 2: Develop an Early Warning Partner Listserve.

Action 3: Sponsor or host regional and national meetings of early warning partner groups to encourage information sharing and development of the Early Warning System.

Action 4: Encourage all relevant local, state, and federal agencies to participate in local, state, and regional early warning partner groups.

IV. RAPID ASSESSMENT.

[\(Back to Table of Contents\)](#)

Once a new plant has been identified and then verified as a new state, regional, or national record, a rapid assessment will be undertaken to determine its potential threat to different habitats. Rapid assessment determines what should be done and how to do it.

Goal 4: Ensure accurate and reliable science-based rapid assessments of verified new plants.

Objective 1: Conduct ecological assessments to determine the potential invasiveness of verified new plant species.

Action 1: Develop an ecological assessment process to determine potential invasiveness of new plants and the types of habitats that might be at risk for invasion.

Action 2: Establish a FICMNEW Early Warning Technical Advisory Group (FEWTAG) to conduct the assessments. The FEWTAG would be a sub-group of the National Early Warning Committee.

Objective 2: Determine the appropriate state and federal regulatory status of new state and national plant records.

Action 1: Use the APHIS New Pest Advisory Group process to conduct regulatory risk assessments of all new national plant records.

Action 2: Impacted state partner groups will conduct state level regulatory risk assessments of new state and national plant records.

Objective 3: Develop standardized approaches for determining appropriate regulatory and management actions that should taken against new invasive plants.

Action 1: Use the Ecological and Regulatory Assessment Processes to develop a alpha-numeric classification system for invasiveness, e.g., propensity to do harm (alpha category), and appropriate regulatory action (numeric category) to facilitate rapid response.

Action 2: Build a database of pre-assessed invasive plants, for use by administrators and decisionmakers.

Action 3: Foster cooperation between the APHIS New Pest Advisory Group and the FICMNEW Early Warning Technical Assessment Group in conducting rapid assessments.

Objective 4: Develop regional expertise to provide technical support to early warning partner groups in conducting rapid assessments.

Action 1: Develop **Regional Technical Support Teams** (interagency service centers) (Primarily virtual) to provide on site and distant support on rapid assessment initiatives.

V. RAPID RESPONSE.

[\(Back to Table of Contents\)](#)

Once a rapid assessment has been completed, and action is recommended, impacted land owners and appropriate public officials will be organized to mount an on-the-ground campaign against the invader. Rapid response is where action is taken to contain, deny reproduction, and ultimately eliminate the invader, if possible.

Goal: Ensure rapid response to verified new infestations.

Objective 1: Foster the development of local, state and regional capabilities for rapid response.

Action 1: Develop generic rapid response plans that can be modified for use by local, state, and regional partner groups.

Objective 2: Develop regional expertise on rapid response methods and procedures.

Action 1: Develop **Regional Technical Support Teams** (interagency service centers) (primarily virtual) to provide on site and distant support on rapid response initiatives.

Objective 3: Development improved systems and approaches for identify biologically sound management options and priorities.

Action 1: Develop/modify/adapt web based expert systems to assist land managers in identifying management options and priorities for addressing new invasive plants.

Action 2: Develop an early warning partner listserve for sharing knowledge and management experiences in addressing new invasive plants.

VI. INFORMATION MANAGEMENT AND RESEARCH.

[\(Back to Table of Contents\)](#)

A tremendous amount of information has been developed on invasive species over the past several decades. Putting this information in the hands of land owners and responsible officials through a distributed, web based information management system will give them the knowledge and tools needed to mount an effective and proactive campaign against a new invader.

Goal: Facilitate development of web based information management systems for providing easy access to information on new invasive plants.

Objective 1: Foster the development of a web based distributed information system that provides readily accessible information on the taxonomy, distribution, ecology, biology, classification (regulatory and ecological), impacts, and management of known and potentially invasive plants.

Action 1: Support development of and encourage information sharing between regional, national, and global plant databases such as:

- **Aquatic Nonindigenous Species Database** (U.S. Geological Survey)
- **Global Invasive Species Database** (Invasive Species Specialist Group, World Conservation Union)
- **Global Invasive Species Programme**
- **Invaders Plant Database** (University Of Montana)

- **Invasive Plant Atlas Of New England** (U-CONN)
- **Inter-American Biodiversity Information Network** (IABIN)
- **National Agricultural Pest Information System** (NAPIS) (USDA Animal And Plant Health Inspection Service)
- **Plants Database** (USDA Natural Resource Conservation Service)
- **Southwestern Exotic Mapping Program (SWEMP)** (U.S. Geological Survey)

Action 2: Develop a plant biodiversity information network to link and integrate existing plant databases through a central, searchable internet gateway (e.g., the North American Biodiversity Information Network).

Action 3: Develop an early detection module within the USDA PLANTS database with information on new invasive plants, as well as information about and links to the National Early Warning and Rapid Response System for Invasive Plants.

Action 4: Support continued development of taxonomic standards through the Integrated Taxonomic Information System (ITIS) (Smithsonian Institution and U.S. Geological Survey) and online identification aids.

Action 5: Develop an Early Warning Partner Listserv for sharing knowledge and management experience relevant to new invasive plants.

Action 6: Develop protocols for ensuring the quality of all data entered into the System.

Objective 2: Establish electronic mechanisms to assist the public in learning about the Early Warning System, and in reporting suspected new invasive plants.

Action 1: Establish a toll free number.

Action 2: Develop an Early Warning System Website.

Objective 3: Provide/Develop state of the art technologies to ensure continued effectiveness and efficiency of all system elements.

Action 1: Identify system research needs.

Action 2: Encourage partner agencies such as the USDA Agriculture Research Service, and the USGS Biological Resources Division to provide state of the art technologies for early warning and rapid response activities such as remote sensing, geospatial analysis, GIS, and management.

VII. E-COMMERCE IN INVASIVE PLANTS.

[\(Back to Table of Contents\)](#)

A new mode of spread of invasive plants is through e-commerce. Monitoring of websites that sell regulated noxious weeds and other invasive plants of concern is another important tool in preventing the spread of invasive species.

Goal: Monitor the sale of invasive plants via the internet.

Objective 1: Cooperate with appropriate agencies to develop a web based system for monitoring the sale of invasive plants via the internet.

Action 1: Develop a database of online plant sellers.

Action 2: Develop a database of regulated noxious weeds and other invasive plants of concern.

Action 3: Develop a dedicated web crawler (search engine) to use in monitoring designated websites that sell recognized invasive plants.

Action 4: Develop an interagency program, using the databases and web crawler described above, to monitor the sale of invasive plants on the internet.

Action 5: Provide information on plants of concern to appropriate state and federal agencies.

VIII. EMERGENCY TREATMENTS.

[\(Back to Table of Contents\)](#)

Sometimes, an effective treatment for a new invasive plant will be approved in other countries, but not be available in the United States. Creating mechanisms for rapid approval of emergency treatments will ensure that land owners and officials have access to state of the art technology in dealing with a new invader.

Goal: Develop a system for approval of emergency treatments.

Objective 1: Work with the Council on Environmental Quality (CEQ) to develop an improved mechanism under the National Environmental Policy Act to facilitate rapid assessment and rapid response to new invasive plants.

Objective 2: Work with the U.S. Environmental Protection Agency (EPA) and appropriate state agencies to develop an improved emergency registration process for herbicides to control new invasive plants that are not otherwise covered by existing labels.

IX. PUBLIC OUTREACH AND AWARENESS.

[\(Back to Table of Contents\)](#)

Since only a small percentage of the population is actively engaged in agriculture and land management, it is vital to bring the message about the threat of invasive species to the American people. Success of our current environmental protection programs is due in large part to a well informed and supportive citizenry

Goal: Increase public awareness and understanding of the need for early detection, rapid assessment, and rapid response to new invasive plants.

Objective 1: Develop new outreach strategies.

Action 1: Develop a national early warning awareness strategy for highlights the work of key early warning partner groups.

Action 2: Develop a media campaign to raise general awareness of the problem, and provide early alerts for new invasive plants.

Action 3: Establish outreach and education groups at the national, state, and local level to help raise awareness of the problem and the need for invasive species prevention.

Objective 2: Develop new educational resources for early warning and rapid response.

Action 1: Identify and develop a directory of specialists who can provide information on new species for use in development of weed alerts and other early warning literature.

Action 2: Develop posters, pamphlets, fact sheets, brochures, and etc., that can be used as outreach multipliers to reach the general public through sport/recreation retailers, horticultural plant distributors, national and state parks, national forests, and etc.

Objective 3: Publicize the National Early Warning System.

Action 1: Provide seminars and presentations on the system, upon request.

Action 2: Publish articles on the system in magazines and journals.

Action 3: Produce a documentary on the system.

Action 4: Develop a system website that includes links to all state and local early warning partner groups.

X. INTERNATIONAL COOPERATION AND DEVELOPMENT OF A GLOBAL EARLY WARNING SYSTEM. ([Back to Table of Contents](#))

Since the majority of our invasive species originated in other countries, it is imperative that we begin to explore ways to minimize the global spread of invasive species – including spread of invasive plants from the U.S. to other countries. Ultimately partnering at the international level will improve the effectiveness of our national early warning system here.

Goal: Cooperate with international agencies and organizations to develop early warning and rapid response capabilities in other countries.

Objective 1: Facilitate the development of a North American plan for early warning and rapid response in cooperation with responsible agencies and organizations in Canada and Mexico (e.g., North American Commission for Environmental Cooperation).

Objective 2: In cooperation with international organizations such as the Global Invasive Species Program (GISP), provide technical assistance to other countries in development of early warning and rapid response systems including information management and taxonomic capabilities.

Objective 3: In cooperation with international organizations such as GISP, develop a plan for conducting an global education and awareness campaign on the need to strengthen national and global capabilities for early warning, rapid assessment, and rapid response.

XI. SYSTEM FUNDING.

[\(Back to Table of Contents\)](#)

As envisioned, the proposed system will serve to link together numerous agencies and organizations that already exist. However, resources are needed to provide a national coordination capability and to fund projects that cannot be totally sponsored by local, state, and regional sources.

Goal: Ensure adequate federal funding to support the infrastructure and projects of the National Early Warning System.

Objective 1: System Infrastructure Support. Develop a mechanism within the lead department to provide funding for system coordination and support elements.

Action 1: Conduct an agency cross cut analysis of available funding for early detection, rapid assessment, and rapid response, considering the findings and recommendations in the 2001 United States General Accounting Office report to Congress on invasive species (*Invasive Species. Obstacles Hinder Federal Response to Growing Threat*) (Report #: GAO-01-724).

Action 2: Develop a budget within the lead department to provide funding for system coordination and leadership.

Objective 2: System Project Funding. Develop a mechanism to provide support for system projects.

Action 1: Develop a federal interagency program to provide cost share funding for local and state partner projects.

Action 2: Establish an Early Warning Funding Committee to advise on funding of system projects.

XII. PHASED DEVELOPMENT OF THE NATIONAL EARLY WARNING SYSTEM.

[\(Back to Table of Contents\)](#)

It will take some time to work out all of the unforeseen bugs in the proposed system. However, with commitment, a nationwide early warning and rapid response system should be fully operational within 10 years.

Goal: Develop and implement the proposed National Early Warning and Rapid Response System on a nationwide basis within 10 years.

Objective 1: Implement the system on a limited basis.

Action 1: Conduct a two year pilot project in a few key states that already have organized partner groups.

Objective 2: Based on the results of the pilot project, expand the system, per available funding, to include more states until a nationwide program is established within 10 years.

Attachment A.

Support of the National Invasive Species Management Plan.

[\(Back to Table of Contents\)](#)

This Early Warning Action Plan has been developed in support of the National Invasive Species Management Plan, which was released in January, 2001. Action items from the National Management Plan that are directly supported by this Early Warning Action Plan are as follows:

LEADERSHIP AND COORDINATION.

5. Prepare analysis of barriers to coordinated and joint actions among federal agencies, including legal and policy barriers, and those barriers relating to transfer and pooling of funds for IS projects.
6. Identify at least two major IS issues, regulations, or policies where coordination is inadequate; and will take action to fix them.
7. On annual basis, provide to OMB a proposed cross cut budget for federal agency IS expenditures, especially addressing implementation of Plan's action items.
8. Report on success in achieving goals & objectives of current plan, & issue an updated plan.
9. Assess effectiveness of E.O. & evaluated whether President should expand or propose legislation to expand Council's authorities to carry out the E.O. & Plan effectively & efficiently.
10. Convene a working group of agency leads on international agreements relevant to IS.
11. Pursue a 2 year work plan identifying specific initiatives for presentation to the Council & pursue projects in interim as feasible & appropriate.
12. Prepare and issue guidance to federal agencies based on NEPA for prevention & control of IS.

EARLY DETECTION AND RAPID RESPONSE

21. Improve detection & identification of introduced IS, recognizing the need for jurisdictional coordination.
 - Compile a list of taxonomic experts in the U.S. & other countries, then distribute it widely & post on Council's website; identify current gaps in taxonomic expertise.
 - Institute systematic monitoring surveys of locations where introductions of IS are most likely to occur. Highly vulnerable sites that may warrant more intensive and frequent monitoring than other sites will be identified.
 - Develop a more user friendly means to help identify species and report the occurrence of IS, and provide information about species and invasions to federal, state, tribal, and local agencies. The information will be made available on the Council's website and through publications. Mapping of a limited number of high priority IS will be considered as a component of public-private partnerships.
 - Develop an early detection module available on the World Wide Web within the PLANTS database which provides information on invasive and noxious plants.

22. Expand regional networks of IS databases [e.g., the Inter-American Biodiversity Information Network (IABIN)], and produce associated database products, to cooperate with GISP and other partners to establish a global IS surveillance and rapid response system.
23. Develop a program for coordinated rapid response to incipient invasions of both natural and agricultural areas and pursue increase in discretionary spending to support this program.
 - Establish interagency IS rapid response teams, that include management and scientific expertise. Teams will focus on taxonomic, ecosystem, and regional priorities and coordinate with local, state, and non-government efforts
 - Develop and test methods to determine which rapid response measures are most appropriate for a situation.
 - Review and propose revision of policies and procedures (i.e., advance approval for quarantine actions, pesticide applications, and other specific control techniques, and interagency agreements that address jurisdictional and budget issues) concerning compliance with federal and non-federal regulations that apply to IS response action.
 - Prepare a guide to assist rapid response teams and others that will incorporate the methodology developed for response measures and guidance on regulatory compliance and jurisdictional and budget issues.
24. Within the FY 2003 budget development process, develop and recommend draft legislation for rapid responses to incipient invasions, including possibility of permanent funding for rapid response, and matching grants to states to encourage partnerships.

CONTROL AND MANAGEMENT

26. Identify, and as appropriate, adopt sanitation and exclusion methods for preventing spread of IS (e.g., restrictions on use of contaminated soils and fills, etc.).
27. Develop and propose to the President draft legislation, in full consultation with states, to authorize matching federal funds for state programs to manage IS. It may include tax incentives or other provisions to encourage voluntary participation of private landowners in control programs. Consideration will also be given to extending current federal authority to conduct control activities on state and private lands where invited by the landowner.
29. Develop and provide to the Council a proposal for cooperation with private industry. The proposal will utilize current programs to facilitate development, testing, and training of personnel concerning proper use of environmentally compatible pesticides in controlling IS.
30. Prepare a list of connecting waterways to develop a strategy for preventing movement of aquatic species among watersheds and initiate a research program on methods to prevent such movement.
31. Additional funding will be requested through the annual appropriations process for federal agencies' control and management activities to reduce the spread of IS from federal lands to neighboring areas, and to lessen the impact of IS on natural areas. Consideration should be given within existing authorities to provide additional funding for control work on neighboring state or private lands where invited by the landowners.
32. Develop and issue guidance for ranking the priority of IS control projects at local, regional, and ecosystem based levels. The guidelines will provide for consultation with expert

individuals and organizations (including ANSTF, FICMNEW, CENR, regional, state, local, and tribal agencies, affected industries, and private landowners).

RESEARCH

46. As part of the cross-cut federal budget process, an initiative will be included to adequately fund federal IS research programs. The proposal will address research issues such as:
- Develop and test monitoring and control protocols, methods, tools, and strategies to support the prevention of introduction and spread, rapid response, restoration, and containment strategies, including the evaluation of impacts from management activities.

EDUCATION AND PUBLIC AWARENESS

56. Coordinate the development and implementation of a national public awareness campaign, emphasizing public and private partnerships. The campaign will be initiated after available resources are assessed and target audiences identified, and will include these actions:
- Compile a comprehensive assessment of current IS communications, education and outreach programs. The assessment will evaluate the strengths and weaknesses of the major programs, and identify new initiatives for reaching target audiences more effectively. The information will be disseminated through the Council's website.
 - Develop a model public awareness program that incorporates national, regional, state, and local IS public education activities, including a plan for testing the model over the next year.
57. Coordinate development and implementation of an international education campaign, emphasizing the need to strengthen international policies by governments and voluntary codes of conduct by the industry sector. The campaign will initially focus on these actions:
- Begin to develop a series of educational materials (booklets, fact sheets, etc.) to guide organizations in development assistance, industry, international finance, and government sectors, to write and implement codes of conduct for minimizing the risk of introduction and spread of IS.

Diagram 1. National Early Warning and Rapid Response System for Invasive Plants. Early Detection, Reporting, Identification, Vouchering, and Verification.
[\(Back to Table of Contents\)](#)

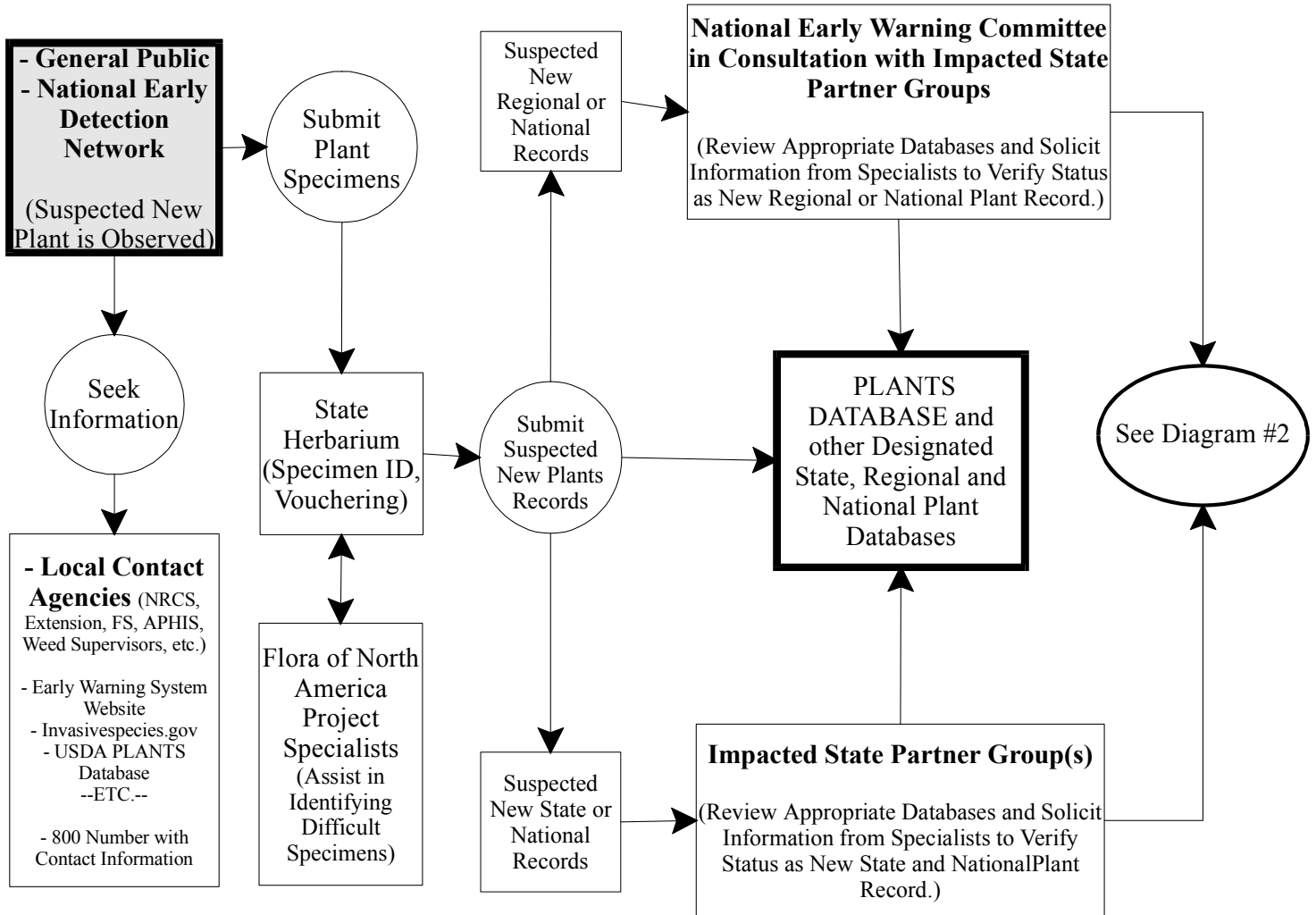
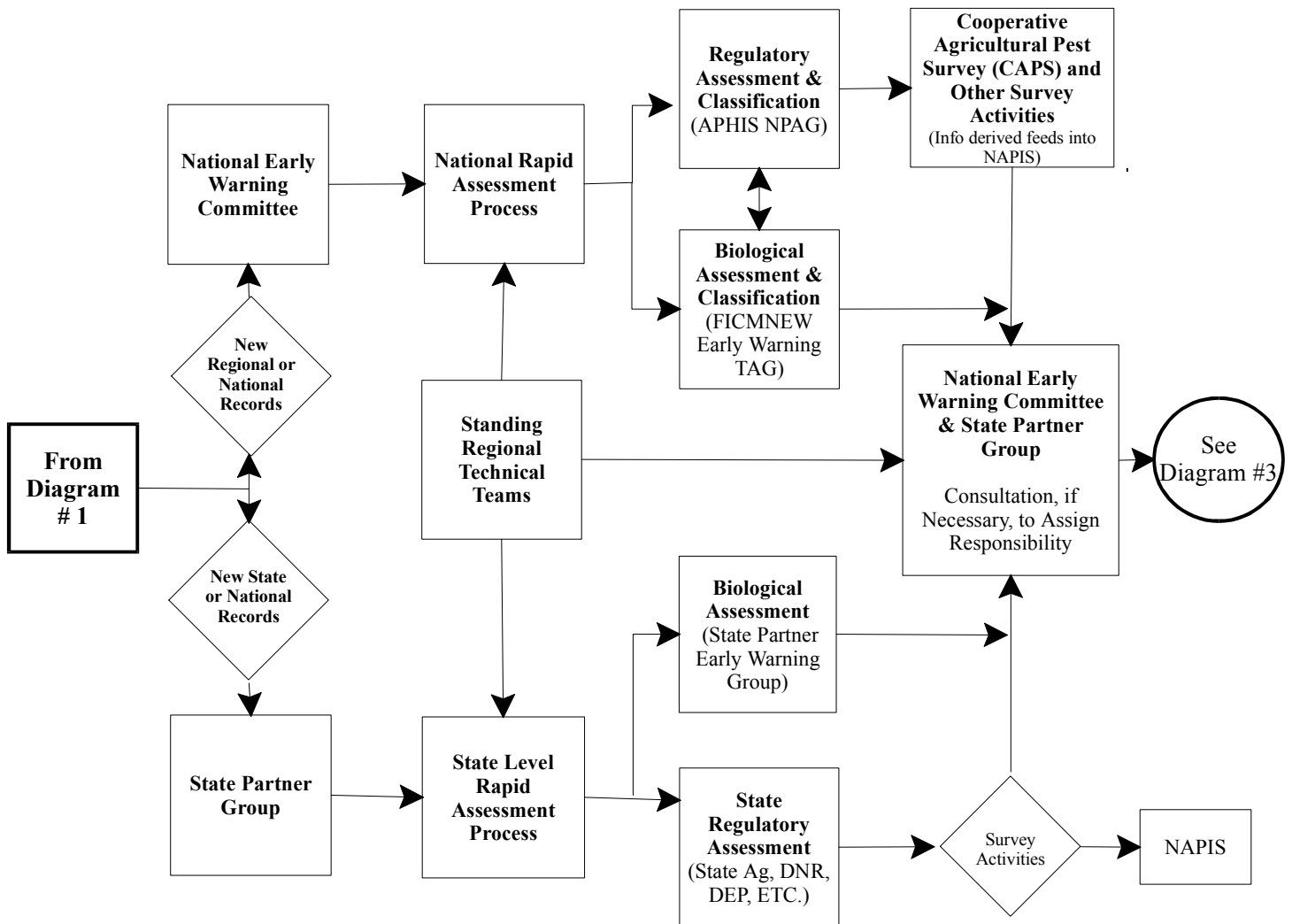


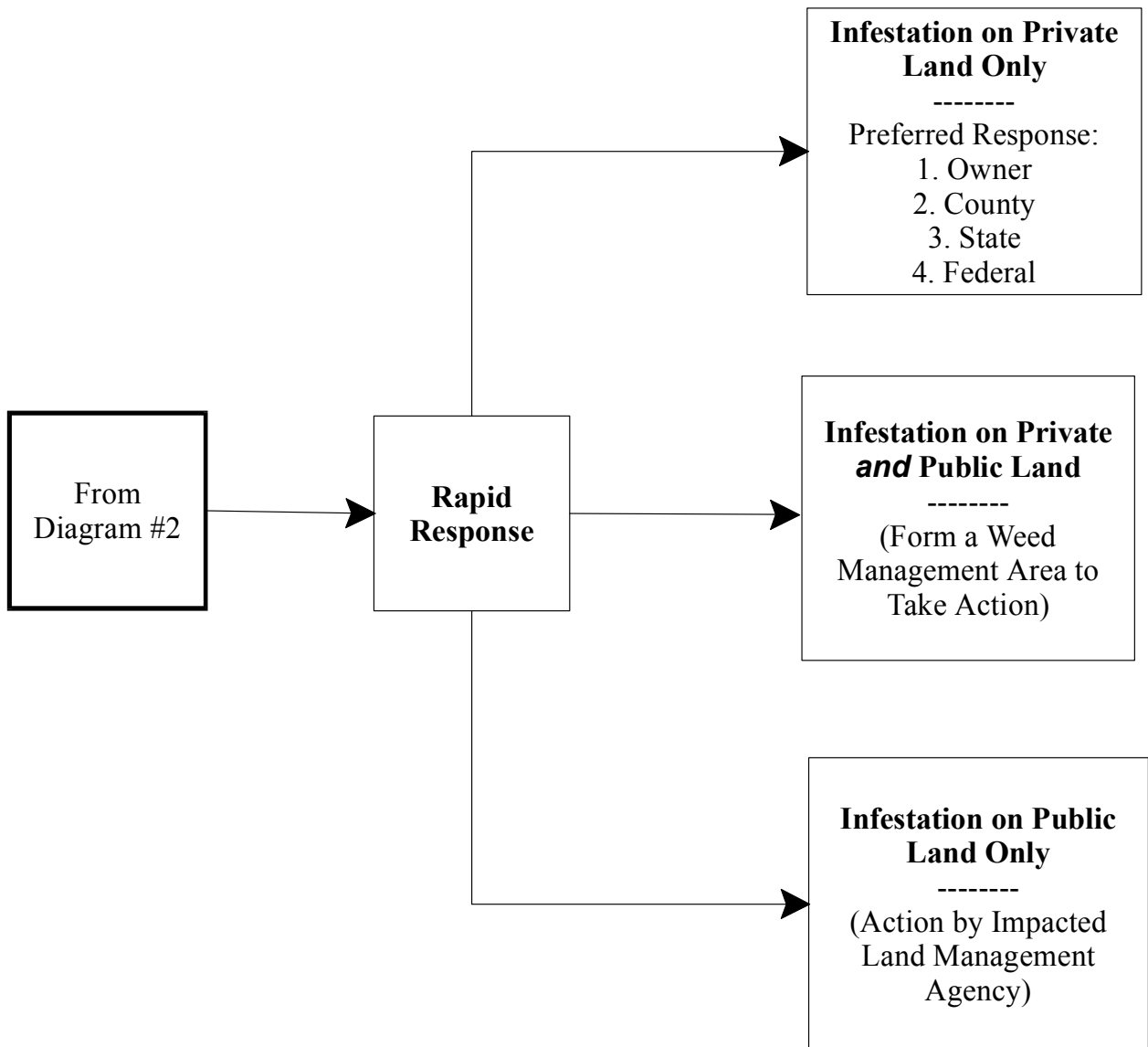
Diagram 2. National Early Warning and Rapid Response System for Invasive Plants. Rapid Assessment.

[\(Back to Table of Contents\)](#)



**Diagram 3. National Early Warning and Rapid Response System for Invasive Plants.
Rapid Response.**

[\(Back to Table of Contents\)](#)



Associated Websites.

[\(Back to Table of Contents\)](#)

Animal and Plant Health Inspection Service (APHIS). <<http://www.aphis.usda.gov/>>

Center for Integration of Natural Disaster Information (CINDI) (U.S. Geological Survey).
<<http://cindi.usgs.gov/>>

Cooperative State Research, Education, and Extension Service. <<http://www.reeusda.gov/>>

Council on Environmental Quality (CEQ). <<http://www.whitehouse.gov/ceq/>>

Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW). <<http://refuges.fws.gov/FICMNEWFiles/FICMNEWHomePage.html> >

FICMNEW Early Warning Workshop Proceedings.
<<http://refuges.fws.gov/FICMNEWFiles/FICMNEWHomePage.html> >

Flora of North America Project. <<http://hua.huh.harvard.edu/FNA/>>

Giant Salvinia (*Salvinia molesta* D.S. Mitchell). Fact Sheet and Distribution Map.
<http://nas.er.usgs.gov/plants/sa_molesta/docs/sa_mol.html>

Global Invasive Species Program (GISP). < <http://jasper.stanford.edu/GISP/>>

Integrated Taxonomic Information System (ITIS). <<http://www.itis.usda.gov/>>

National Invasive Species Council. <<http://www.invasivespecies.gov/council/main.shtml>>

Natural Resource Conservation Service. <<http://www.nrcs.usda.gov/>>

National Invasive Species Management Plan. <<http://www.invasivespecies.gov/council/nmp.shtml>>

North American Weed Management Association (NAWMA). <<http://www.nawma.org/>>

Plant Databases (Web Based)

- **AQUATIC NONINDIGENOUS SPECIES DATABASE** (U.S. Geological Survey)
<<http://nas.er.usgs.gov/>>
- **GLOBAL INVASIVE SPECIES DATABASE** (Invasive Species Specialist Group, World Conservation Union) <<http://www.issg.org/database/welcome/>>
- **GLOBAL INVASIVE SPECIES PROGRAMME**
< <http://jasper.stanford.edu/GISP/>>.
- **INTER-AMERICAN BIODIVERSITY INFORMATION NETWORK (IABIN)**
< <http://www.iabin-us.org/index.html>>
- **INVADERS Plant Database** (University of Montana)
<<http://invader.dbs.umt.edu/>>
- **INVASIVE PLANT ATLAS OF NEW ENGLAND (U-CONN)**
<www.eeb.uconn.edu/invasives/ipane>

- **NATIONAL AGRICULTURAL PEST INFORMATION SYSTEM (NAPIS)** (USDA Animal and Plant Health Inspection Service) <<http://www.ceris.purdue.edu/napis>>
- **PLANTS Database** (USDA Natural Resource Conservation Service) <http://plants.usda.gov/plants/home_page.html>
- **SOUTHWESTERN EXOTIC MAPPING PROGRAM (SWEMP)** (U.S. Geological Survey) < <http://www.usgs.nau.edu/swemp/>>

United States Department of Agriculture (USDA). <<http://www.usda.gov/>>

United States Department of the Interior (DOI). <<http://www.doi.gov/>>

United States Environmental Protection Agency (EPA). <<http://www.epa.gov/>>

United States General Accounting Office (GAO). <<http://www.gao.gov/>>

United States Geological Survey (USGS). < <http://www.usgs.gov/>>

USDA Agriculture Research Service. <<http://www.ars.usda.gov/>>

USDA Forest Service (FS). <<http://www.fs.fed.us/>>

USGS Biological Resources Division. <<http://biology.usgs.gov/>>

FICMNEW Contact Information.

[\(Back to Table of Contents\)](#)

For more information about The Federal Interagency Committee for the Management of Noxious and Exotic Weeds, Contact the current Co-Chairs:

Mike Ielmini

U.S Fish and Wildlife Service
Division of Refuges
4401 N. Fairfax Drive
Arlington, VA 22203
(703) 358-2340
E-mail: Michael_Ielmini@fws.gov

Gina Ramos

Bureau of Land Management
1620 L Street, N.W.
Washington, D.C.
(202) 452-5084
E-mail: Gina_Ramos@blm.gov

For more information about this report and the proposed system contact:

Randy Westbrook

Invasive Plant Coordinator
U.S. Geological Survey
Field Office for Invasive Species
233 Border Belt Drive
Whiteville, NC 28472
(910) 648-6762
E-mail: rwestbrooks@weblnk.net

Deborah Hayes

Invasive Species Coordinator
U.S. Department of Agriculture
Jamie Whitten Building
1400 Independence Avenue, SW
Washington, D.C. 20250
202-720-5827
E-mail: deborah.hayes@usda.gov

[\(Back to Table of Contents\)](#)