



R. Williams



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# New York State Invasive Species Comprehensive Management Plan

DRAFT

# Outline

- **Summarize ISCMP**
  - Background
  - Key initiatives
- **Discussion**



# Need

Invasive species pose a significant threat to the health and well-being of NY's natural and agricultural systems:

- Pests pose current and ongoing threats to the vitality and marketability of crops, a \$1B industry alone for fruits and vegetables in NYS
- Hemlock woolly adelgid is advancing in NYS—this pest has radically altered forest and stream ecosystems throughout the Southeast
- Invasive zebra and quagga mussels seem to facilitate cyanobacteria associated with harmful algal blooms

While NYS is a leader in invasive species management, there many opportunities to continue improving our efforts





# Context

NYS Invasive Species Task Force 2005 report – 12 recommendations, including:

- ✓ Establish a permanent leadership structure to coordinate invasive species efforts
- ✓ Establish a comprehensive education and outreach effort
- Integrate databases and information clearinghouses [Ongoing – significant progress]
- ✓ Formalize New York State policy and practices on invasive species
- ✓ Establish a center for invasive species research
- Prepare and implement a comprehensive invasive species management plan



# Draft ISCMP available for review

The draft plan may be downloaded from the DEC website:

<http://www.dec.ny.gov/animals/265.html>

Comments may be sent to [isinfo@dec.ny.gov](mailto:isinfo@dec.ny.gov) or via mail to NYS DEC, Division of Lands and Forests, Invasive Species Coordination Section, 625 Broadway, Floor 5, Albany, NY 12233-4253

**Public Comment Period Open Until June 1, 2018**



Department of  
Environmental  
Conservation

Agriculture  
and Markets

## NEW YORK STATE INVASIVE SPECIES COMPREHENSIVE MANAGEMENT PLAN [DRAFT]

April 18, 2018



# ISCMP overview

**Scope:** All taxa and habitats

**Purpose:**

1. Provide overarching approach to IS management
2. Guide development of work plans

**Audience:** Agency and partner organizations

**Timeframe:** The ISCMP does not have an associated timeline, however priorities are identified in the metrics section of the plan

**Relationship to other NYS IS plans:** This plan is not intended to supersede existing NYS IS management plans or provide a cookbook for addressing species-specific IS challenges





# Goal and major initiatives

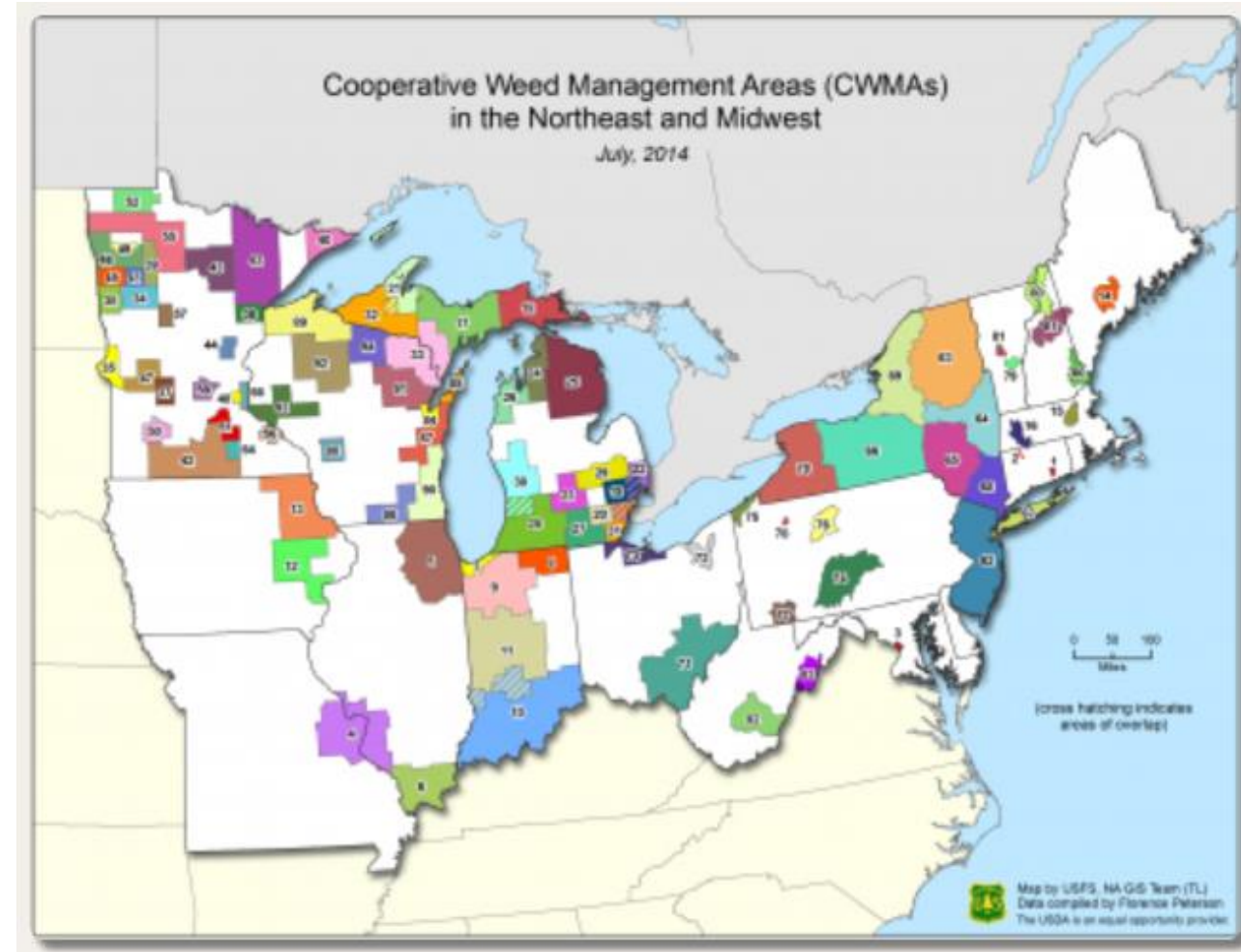
**Help to minimize the introduction, establishment, proliferation, and negative impacts caused by invasive species.**

1. **Continue to build partnerships and capacity, while supporting effective ongoing programs**
2. **Develop a centralized framework for information management**
3. **Set priorities for IS management, and advance preparedness**
4. **Engage and inform the public about IS**
5. **Advance prevention and early detection**
6. **Improve the response to new invasions**
7. **Recover ecosystem resilience and services**
8. **Evaluate and report progress, adapt to evolving circumstances**



## Why these initiatives?

- Build on and strengthen our collective IS response
- Vision: prepared, efficient, responsive, collaborative, educated and resilient
- Continue as a national leader (such as our complete coverage of PRISMs)





# Stakeholder engagement in the planning process

## Key Participants

- Agencies on IS Council
- Groups represented on IS Advisory Committee
- PRISMs, iMapInvasives, NYIS Research Institute

## Methods of Engagement

- Review of previous IS stakeholder surveys
- Questionnaire (July 2017)
- Workshop (Aug. 2017)
- Project team participation in statewide IS meetings, conferences, in-service
- Email and phone consultations to fill identified gaps (e.g., marine, wildlife, IPM experts)



## Key messages (among many)

***There is great opportunity to advance New York's leading IS program by:***

- focusing on **collaboration** and **shared goals** to remove internal silos and increase influence
- maintaining existing programs and making sure IS positions are filled to sustain the foundation of the program
- building networks in the public and private sectors
- leveraging creative procurement and new funding strategies to become more financially robust



# 1. CONTINUE TO BUILD PARTNERSHIPS AND CAPACITY

## Success to date:

- Formation of critical organizations
- Increasing allocation from the EPF
- Demonstrated value in response to critical IS (e.g., *Hydrilla*)
- IS staff and knowledge incorporated into many ISC/ISAC organizations



A. Bowe





# 1. CONTINUE TO BUILD PARTNERSHIPS AND CAPACITY

## Need

Maintaining and incentivizing effective collaboration among a wide range of partners is challenging

Must strive for ongoing improvements to meet stakeholder needs, share expertise and programmatic strengths, use resources efficiently, and connect in ways that enhance ability to overcome IS risks

## Approach

New York's IS leadership should (a) build on existing successful partnerships and processes, while (b) seeking opportunities to engage more fully within NYS and regional stakeholder organizations in IS management



# 1. CONTINUE TO BUILD PARTNERSHIPS AND CAPACITY

## Recommended actions

Maintain the existing IS Council/IS Advisory Committee model with PRISMs, NYISRI and *iMapInvasives* as critical elements to a decentralized program

Incorporate agriculture programs more fully within the IS leadership framework

Engage climate change experts in invasive species collaborations

Increase State agency engagement, and leverage strengths of existing agency programs

Strategically expand stakeholder groups represented within the IS leadership structure

Connect with national IS organizations and neighboring states to leverage knowledge and resources

Work together when pursuing extramural funding



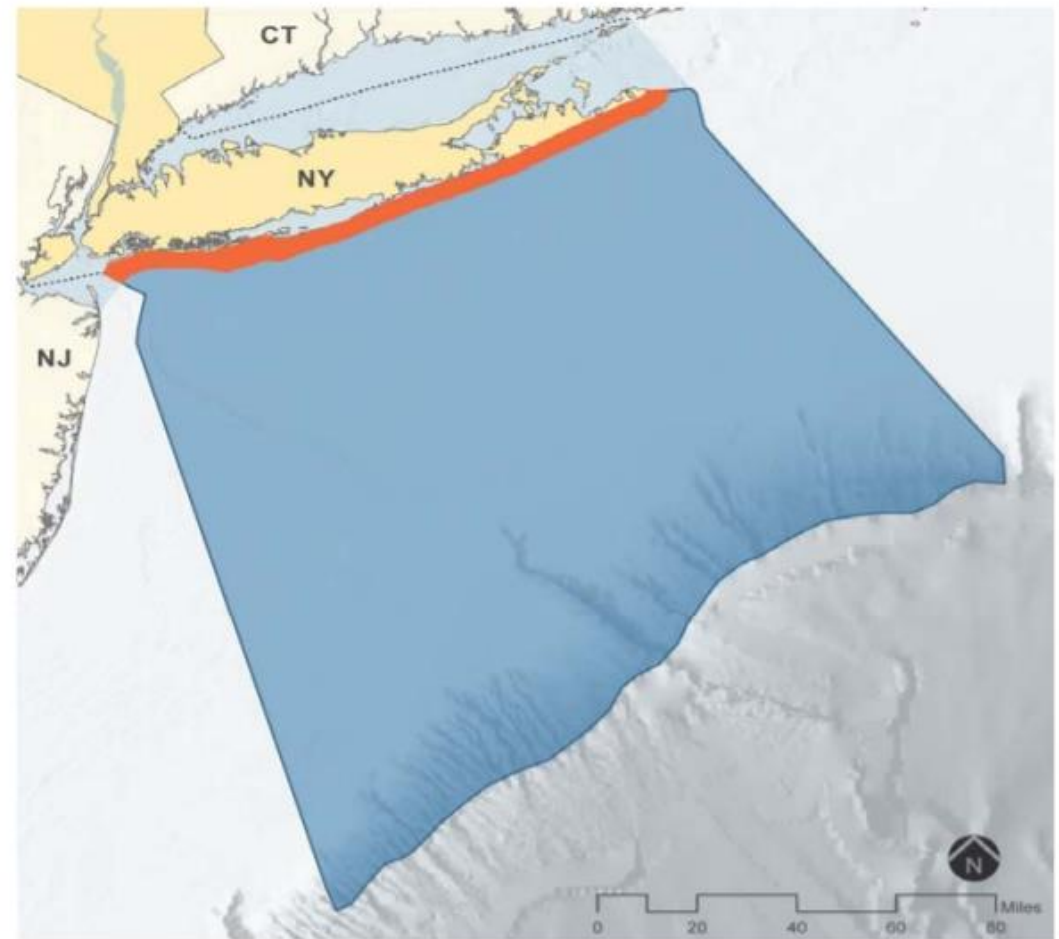
## Example – *Increase State agency engagement, and leverage strengths of existing agency programs*

### Explore involvement of State agencies not currently members of IS Council:

- NYS Department of Health (NYSDOH)
- NYS Office of General Services

### Engage marine experts:

- NYSDEC Division of Marine Resources, New York Sea Grant (NYSG)
  - Collaboration among marine programs and the Lower Hudson and Long Island PRISMs
  - Marine expert on IS Advisory Committee *or* horizon scanning task force to adequately represent perspective(s)



..... state boundaries (offshore)

#### New York State focus areas:

- new york state territorial ocean waters
- adjacent federal ocean waters
- connecting estuaries & embayments



Figure 1. Geographic scope of the OAP. Note: The edge of the continental shelf ranges from 70-100 miles offshore.



Example –  
*Incorporate agriculture programs  
more fully within the IS leadership  
framework*

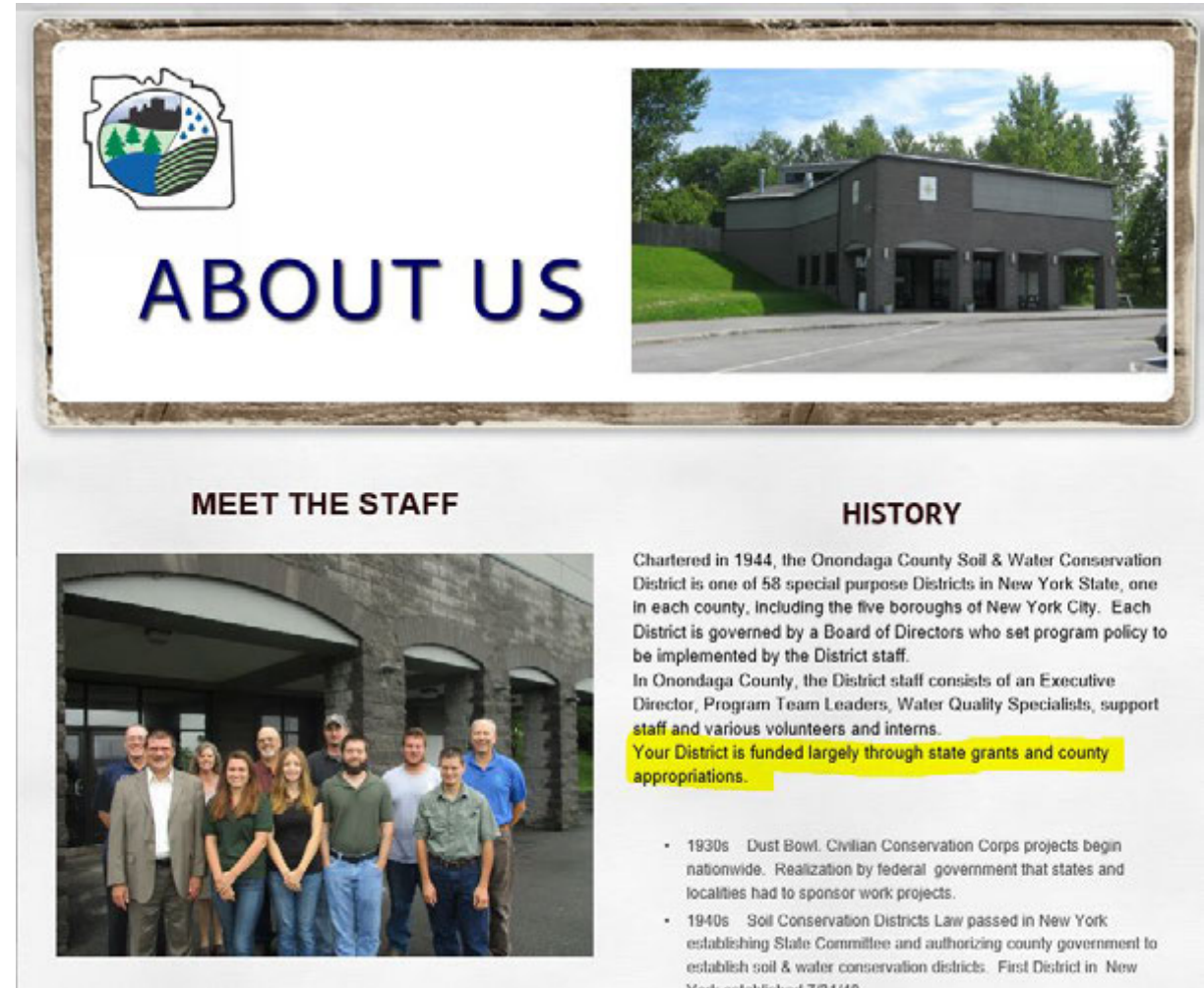
**Reinstate IS Coordinator position within  
NYSDAM**

**Include existing programs into leadership  
structure**

- NYS Integrated Pest Management (NYSIPM)
- Cornell Cooperative Extension's (CCE) Master Gardeners Program
- Diagnostic Laboratories

**Acknowledge need for ongoing support  
of these programs**

**Cost sharing opportunities when  
contribute to the goals of the IS Council**



**ABOUT US**

**MEET THE STAFF**

**HISTORY**

Chartered in 1944, the Onondaga County Soil & Water Conservation District is one of 58 special purpose Districts in New York State, one in each county, including the five boroughs of New York City. Each District is governed by a Board of Directors who set program policy to be implemented by the District staff.

In Onondaga County, the District staff consists of an Executive Director, Program Team Leaders, Water Quality Specialists, support staff and various volunteers and interns.

Your District is funded largely through state grants and county appropriations.

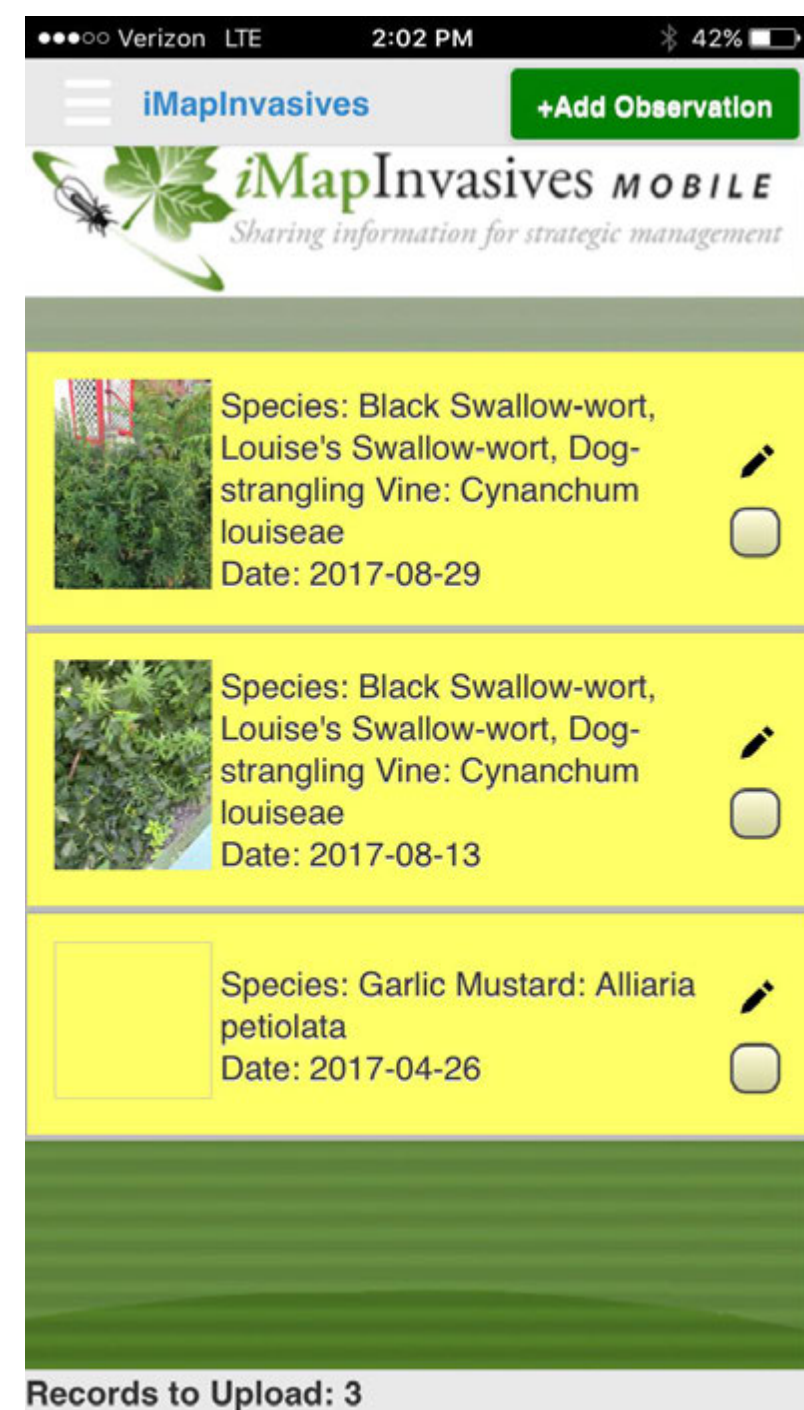
- 1930s Dust Bowl. Civilian Conservation Corps projects begin nationwide. Realization by federal government that states and localities had to sponsor work projects.
- 1940s Soil Conservation Districts Law passed in New York establishing State Committee and authorizing county government to establish soil & water conservation districts. First District in New York established 7/31/40.

<http://www.ocswcd.org/about-us.html>

## 2. COMMIT TO A CENTRALIZED FRAMEWORK FOR SHARING INVASIVE SPECIES INFORMATION

### Success to date:

- Over 180,000 IS observations recorded in *iMap* (since 2010); continued increase in functionality
- NYISRI and PRISM webpages highly functional and attractive
- Social media presence



## 2. COMMIT TO A CENTRALIZED FRAMEWORK FOR SHARING INVASIVE SPECIES INFORMATION

### Need

Audiences seeking IS expertise perceive a scattered array of online resources and potential for conflicting/outdated information (although existing websites provide extensive information)

Likely duplication of effort for programs maintaining informational websites

### Approach

Focus resources on developing and maintaining **one** information clearinghouse that contains (or links to) expert-vetted, up-to-date content from the collaborative network of partners across the State

Launch (or relaunch) of central information clearinghouse should be carefully planned among the IS Council, NYISRI, iMapInvasives, PRISMs, and other involved agencies





## 2. COMMIT TO A CENTRALIZED FRAMEWORK FOR SHARING INVASIVE SPECIES INFORMATION

### Recommended actions

Reduce overlapping online information by advancing one actively managed IS website

Leverage the collective capacity of partner organizations to maintain an active and interesting online presence

Advance the capabilities of *iMapInvasives*



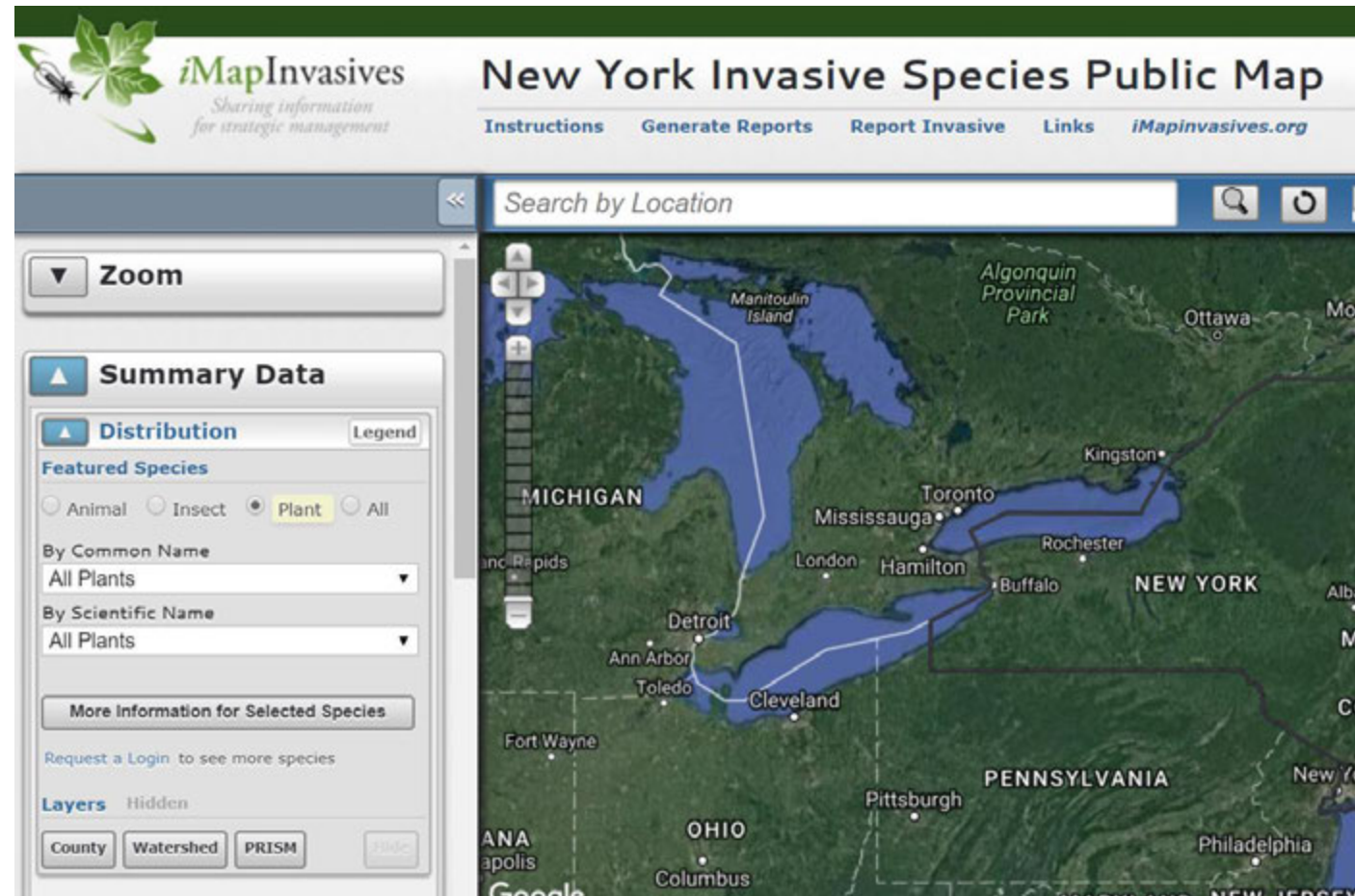
## Example – *Advance the capabilities of iMapInvasives*

### Continue pursuing new sources of data:

- NYSDEC Division Marine Resources, NYSDEC Division of Fish and Wildlife (AVID), CCE, the NYSIPM Program, and Soil and Water Conservation Districts (SWCDs), USDA Forest Inventory and Analysis
- Education/outreach events to evaluate geographic gaps
- Enforcement actions to help identify areas (geographically, commercial sector) that may require targeted education and outreach

### Additional, general improvements:

- Data on invasive marine taxa
- Increased data integration and data standardization
- Advanced data contributions: survey, absence, treatment, status over time
- Embedded analysis and stats: synthesis, dashboard-type views, and GIS analysis of rare species information, risk of spread, and prioritization evaluations





### 3. SET PRIORITIES FOR INVASIVE SPECIES MANAGEMENT AND ADVANCE PREPAREDNESS

#### Success to date:

- Part 575 Prohibited and Regulated Species lists
- Partnership with USDA Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ) program - monitoring objectives with the NYSDAM CAPS program
- Invasivity assessments - nearly 200 animals and 250 plant species, and upcoming assessments for 2018
- Species- and location-based prioritization models within *iMapInvasives*
- Manager scale IS prioritization tool in development (NYISRI and NYNHP)





# 3. SET PRIORITIES FOR INVASIVE SPECIES MANAGEMENT AND ADVANCE PREPAREDNESS

## Need

Provide a structured process to evaluate IS risks, with the goal of identifying the most critical State-level IS priorities (for both species and locations)

Advance preparedness to limit the extent of negative impacts from new invasions

## Approach

Place emphasis on development and implementation of a **State-level priority setting process**, including risk assessments to environmental, economic, and public health. State-level prioritization of **species and locations** would facilitate cooperation among IS Council members, and should consider threats to **both public and private lands**

To the extent possible, priority setting should be tied to preparedness measures in order to avoid or mitigate emergency situations



# 3. SET PRIORITIES FOR INVASIVE SPECIES MANAGEMENT AND ADVANCE PREPAREDNESS

## Recommended actions

Establish a collaborative Task Force focused on prioritization and horizon scanning at the State level

Use the State-level priorities to inform and establish regional/local priorities

Advance preparedness through information gathering and sharing



## Example –

*Establish a collaborative Task Force focused on prioritization and horizon scanning at the State level*

- **Set State-level priorities**
  - *Specific IS and location-based priorities for protection*
- **Inclusive of IS Council members**
  - Information sharing, diverse perspectives, and collaboration
- **Utilize existing information**
  - *iMapInvasives prioritization tools, CAPS data, and USFWS Ecological Risk Screening Summaries (ERSS)*
- **Annual meeting (at a minimum)**
  - Review, add, or modify State-level priorities
- **Development preliminary management plans for new species**
  - Avoidance of emergency situations (e.g., Cayuga Lake *Hydrilla*)



Ecological Risk Screening Summaries  
High Risk FISHES

Ecological Risk Screening Summaries  
High Risk CRUSTACEANS

Ecological Risk Screening Summaries  
High Risk MOLLUSKS

Ecological Risk Screening Summaries  
High Risk PLANTS

Ecological Risk Screening Summaries  
High Risk OTHER VERTEBRATES

Ecological Risk Screening Summaries  
High Risk OTHER INVERTEBRATES

[https://www.fws.gov/fisheries/ANS/species\\_erss.html](https://www.fws.gov/fisheries/ANS/species_erss.html)



## 4. ENGAGE AND INFORM THE PUBLIC

### Success to date:

- IS awareness and perception studies completed with EPF funding
- Publication of *Strategic Recommendations for New York Invasive Species Education & Outreach*
- Statewide initiatives including ISAW, hydrilla hunters, HWA survey teams, iMap trainings, WISP, Don't Move Firewood
- Regional initiatives including APIPP IS Toolkit



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## 4. ENGAGE AND INFORM THE PUBLIC

### Need

Public education and outreach to stress the power of individual and collective actions

Target audiences whose choices and behavior are most likely to have a beneficial influence on IS prevention and management

### Approach

Improve public access to IS information to achieve greater public awareness and engagement – easily find appealing, accurate sources of IS through media most used

New approaches to communicating about IS should tap into the power of partnership networks that have the potential to strengthen outreach and education by providing clear, concrete messages to key public audiences



## 4. ENGAGE AND INFORM THE PUBLIC

### Recommended actions

Establish a centralized statewide branding/marketing initiative

Emphasize behavior change in messaging

Develop campaigns specifically targeted to reach private landowners

Strengthen relationships with local municipalities to foster or improve local engagement and buy-in

Educate future generations by incorporating IS into curricula for grade school and college students

Engage “ambassadors” by formalizing a role for key stakeholders from various sectors





# Example – *Establish a centralized statewide branding/marketing initiative*

- **Unified messaging**
  - Used by Agencies and partner organizations
  - Positive messages leading to unified branding initiative
- **Develop and use consistent logo or slogan**
  - Market research experts
  - Audience testing
- **Promote centralized sources of information**
- **Utilize appropriate media**
  - Targeted to reach audience, based on research to identify preferences



The screenshot shows a webpage header for Bass Pro Shops 1Source with the tagline 'YOUR INSIDE SOURCE FOR OUTDOOR INFORMATION'. Below the header is a large image of a mussel shell. To the right of the image is the article title 'Anglers, Do Your Part To Help Fight Invasive Fishing Species'. Below the title is a box containing the post date 'October 11, 2012' and the category 'Published in News & Tips > Fishing > Fishing Information'. Below this box are social media icons for 'My Favorites', 'Like', and 'Comment', with the number '2505' next to the comment icon. To the right of the article is the Bass Pro Shops 1Source 1Expert logo.

Experienced fishermen are well aware of the dangers of **invasive species** can pose to their **fishing** resources; game fish can be threatened and waters can become difficult -- or worse, impossible -- to navigate.

<https://1source.basspro.com>

## 5. ADVANCE PREVENTION AND EARLY DETECTION

### Success to date:

- 6 NYCRR Part 575 and Sections 59.4 and 190.24
- Aquatic Invasive Species Spread Prevention Program - over \$2 million awarded for boat steward projects (NYSDEC)
- New regulations for ballast water treatment technology, meeting state-specific ballast water discharge standards (2012)
- Firewood regulations (6 CRR-NY 192.5)
- CAPS
- Email alert systems

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# 5. ADVANCE PREVENTION AND EARLY DETECTION

## Need

Because of the potential for new preventative measures to affect commerce and trade, an economic assessment of the risk of harm from specific IS can provide critical information for decision makers

Early detection (and rapid response) of IS infestations is essential

## Approach

Potential new commerce regulations to prevent IS introductions should be evaluated with economic cost-benefit analyses, and debated openly amongst IS Council, IS Advisory Committee, and other involved agencies

iMapInvasives, PRISMs, and other related geographic resources should be used to establish a statewide monitoring network to facilitate early detection of IS by using on-the-ground and emerging technologies



# 5. ADVANCE PREVENTION AND EARLY DETECTION

## Recommended actions

Maintain and expand resources dedicated to prevention and early detection

Conduct economic impact evaluations of IS to support cost/benefit analyses and priority setting

Develop and apply emerging technologies

Establish an IS-specific monitoring network

Support the advancement of an early warning notification system





## Example –

*Conduct economic impact evaluations of IS to support cost/benefit analyses and priority setting*

- **Opportunity for collaboration**
  - Evaluations not done in a vacuum
  - Incentive to *strengthen* shared values
- **Engagement with researchers and trade organizations**
  - Credibility, know-how to conduct unbiased IS economic impact evaluations
- **Start with priority species/challenges**
  - Identified by horizon scanning Task Force



<https://www.safety4sea.com/new-regulation-on-wood-packaging-material-effective-from-february/>



[http://www.ct.gov/deep/cwp/view.asp?a=2697&q=588404&deepNav\\_GID=1631](http://www.ct.gov/deep/cwp/view.asp?a=2697&q=588404&deepNav_GID=1631)





## 6. IMPROVE THE RESPONSE TO INVASIVE SPECIES

### Success to date:

- PRISM, ISC, ISAC structure is vital
- Responses to IS integrated throughout NYS
- Development and release of NYSDEC's *Rapid Response for Invasive Species: Framework for Response*
- Implementation of NYSDEC's Invasive Species Rapid Response and Control Grant Program
- Support for and advancement of biocontrol
- Support for and advancement of the NYSIPM Program and the New York State Agricultural Experiment Station (NYSAES)



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## 6. IMPROVE THE RESPONSE TO INVASIVE SPECIES

### Need

Clarify when an Incident Command System (ICS) is appropriate and when a response action is warranted

Response projects and specific management actions need to be shared among practitioners across the State to increase collective understanding of appropriate actions and their outcomes

Streamlined permitting for IS management actions to increase efficient implementation of appropriate responses, and strategically procuring resources vital to quickly combat new, verified invasions

### Approach

Criteria to implement ICS should be identified, vetted, and adapted

Current or proposed projects (IS Council and partners) should be added to a master schedule and mapped, to identify coordination and knowledge sharing opportunities

Evaluate streamlined permitting, perhaps by issuance of general permits informed by vetted Best Management Practices (BMPs) for IS management actions





## 6. IMPROVE THE RESPONSE TO INVASIVE SPECIES

### Recommended actions

Implement NYSDEC's Rapid Response Framework

Develop criteria to determine when an ICS is needed to govern an IS response

Leverage and develop IS response decision-support tools

Enable visibility across the full scope of IS response actions being implemented

Streamline the regulatory permitting process for IS management response actions

Ensure IS Council staff commitment to rapid response

Advance strategic procurement of resources to respond to IS

Continue to support research and development



## Example –

*Enable visibility across the full scope of IS response actions & Advance strategic procurement of resources*

- **Establish a list and schedule of planned response actions**
  - Who is doing what, where, when, and how
  - Incorporate into *iMapInvasives* in order to convey the relative timing and location of actions

*List/schedule enables:*

- More efficient procurement of resources and more consistent targeting of priorities
- Gaps and opportunities to leverage scale in procurement
- Track costs and outcomes of actions





## 7. RECOVER ECOSYSTEM RESILIENCE

### Success to date:

- Numerous PRISM initiatives including:
  - Western New York PRISM - restoration of vernal pools (partnered with the Buffalo Museum of Science and Tifft Nature Preserve)
  - Capital/Mohawk PRISM - riparian zone planting guide for landowners
  - Partnerships with SWCDs





# 7. RECOVER ECOSYSTEM RESILIENCE

## Need

Global change has reduced the resilience of New York's ecosystems, for example, forest regeneration in portions of NYS is thought to be suppressed by white-tailed deer browsing, IS and other anthropogenic factors

Improving ecosystem resilience throughout New York is a critical component to comprehensively managing IS because major disturbances are likely to occur despite our best efforts

## Approach

Existing NYS ecosystem-based management plans should be evaluated holistically to identify potential opportunities to pool resources and implement projects with broad benefit

In intensively managed systems (e.g., agricultural, urban), advance soil and water conservation BMPs to protect the quality of downstream aquatic resources and help to prevent degraded conditions that may favor IS

Reveal linkages between invasive species, ecosystem resilience and economic vitality by pursuing and implementing IS projects in a broader context of economic and community development



# 7. RECOVER ECOSYSTEM RESILIENCE

## Recommended actions

Broaden collaborations focused on ecosystem restoration and ecosystem-based management

Evaluate creative management opportunities and mechanisms to advance IS management on priority private lands

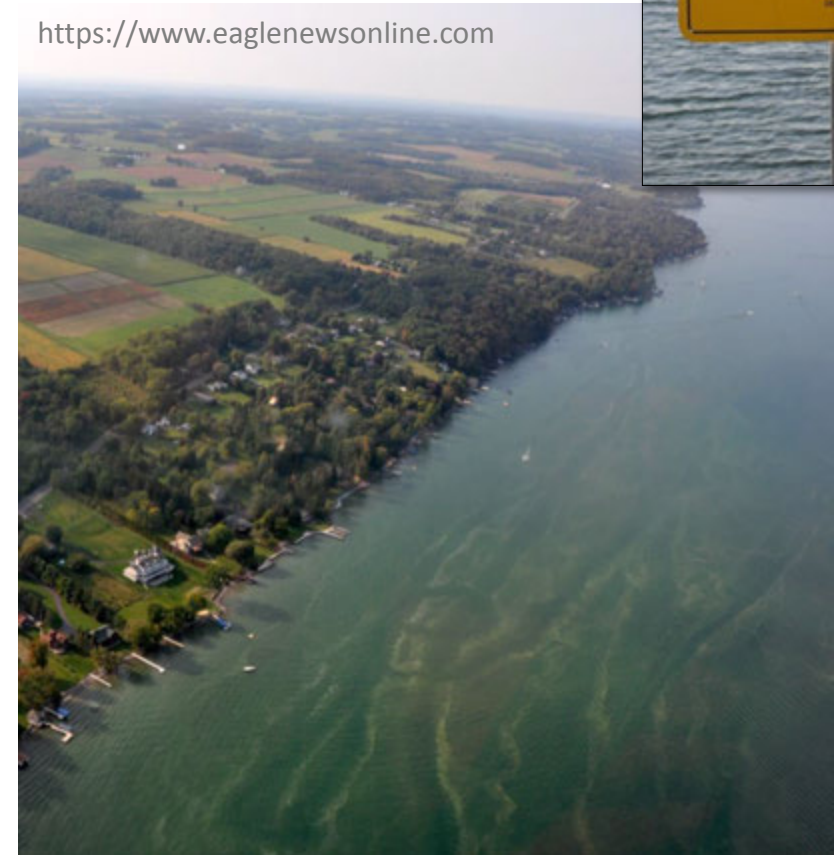
Build ecological restoration planning into IS management projects



## Example – *Evaluate creative management opportunities and mechanisms to advance IS management on priority private lands*

- **Multipurpose landowner cooperatives to meet shared goals**
  - *NYSDEC's Landowner Incentive Program*
  - *Open Space Funding from the Environmental Protection Fund*
- **Encourage IS projects under New York State's Regional Economic Development Council (REDC) awards (WQIP)**
  - Projects included land acquisition to safeguard water quality and aquatic habitat restoration
- **PRISM and SWCD collaboration**
  - Engagement with private landowners to advance actions on priority landscapes

<https://www.eaglenewsonline.com>





## 8. EVALUATE SUCCESS

### Success to date:

- Annual funding levels for IS-related programs tracked through the EPF
- Participation in education and outreach events tracked and reported
- Annual reports of activities (e.g., PRISMs)
- Boat steward programs track and report intercepted aquatic IS at launches
- CAPS results of surveys, inspections, and emergency responses to IS



## 8. EVALUATE SUCCESS

### Need

The success of this ISCMP will, in many ways, be reflected in avoided negative impacts, which are not easily measured or communicated

Despite this limitation, there are measures that will improve NYS's ability to document and quantify the success of IS management efforts

### Approach

Develop and annually update a program report card

Measure and report progress of IS initiatives to centralized clearinghouse



## 8. EVALUATE SUCCESS

### Recommended actions

Develop quantitative metrics designed to evaluate progress and outcomes of key Plan recommendations

Develop a template for cooperators and contract partners to define objectives and measures of success for IS operations

Conduct post-intervention monitoring to evaluate and document effectiveness in accordance with the pre-defined objectives and criteria

Document IS management and outcomes in *iMapInvasives*

Convene an annual meeting to review the outcomes of post-intervention monitoring





# Examples

- **Conduct post-intervention monitoring to evaluate and document effectiveness in accordance with the pre-defined objectives and criteria.**
  - The spatial and temporal scale of monitoring should reflect the nature of the IS and its dispersal patterns
  - Due to the short-term contract period for most IS projects, a phased approach to funding may be needed or permanent and temporary (i.e. interns) NYSDEC staff should be used to perform such monitoring
- **Document IS management and outcomes in *iMapInvasives*.**
  - This recommendation extends to all PRISMs, cooperators, and contract partners involved in IS management
  - Ensure that the updated *iMap3* software includes this capability so that all interested parties can be informed regarding the effectiveness of various interventions



## Key messages (among many)

***There is great opportunity to advance New York's leading IS program by:***

- focusing on **collaboration** and **shared goals** to remove internal silos and increase influence
- maintaining existing programs and making sure IS positions are filled to sustain the foundation of the program
- building networks in the public and private sectors
- leveraging creative procurement and new funding strategies to become more financially robust

