

Strategic Recommendations for New York Invasive Species Education & Outreach 2016-2021



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Table of Contents

I.	Introduction.....	1
II.	Summary of Recent Efforts.....	3
III.	Existing Authorities and Programs.....	7
IV.	Goal.....	9
V.	Objectives and Strategic Action Items.....	9
VI.	Implementation Table.....	12
VII.	Program Monitoring and Evaluation.....	16
VIII.	Acronyms and Definitions.....	17
IX.	References.....	19
X.	Appendices	
	A. Workgroup Agendas and Meeting Notes.....	20
	B. Targeted Stakeholder Survey Results.....	31
	C. ISAW 2016 Results and Recommendations.....	45
	D. National Education & Outreach Campaign Materials.....	60
	E. List of NY Educators Engaged in Invasive Species Projects.....	68
	F. Existing Invasive Species Education & Resources for New York State.....	70

Introduction

An informed public is critical to preventing the introduction and spread of invasive species. It is challenging to galvanize support and leverage resources for invasive species programs and projects when a substantial portion of the public remains unaware of the issue. A 2015 Cornell University survey indicated that about 76% of New York's residents are aware of the term "invasive species," and about one third of New York residents "know something about" invasive species. Current and future generations and stewards of New York State's natural resources need to know about the problems posed by invasive species and be actively engaged in preventing their spread.

In an effort to implement recommendation #4 of the Invasive Species Task Force (ISTF) (*establish a comprehensive education and outreach effort*), the Department of Environmental Conservation (DEC) contracted with Cornell University from 2008 through mid-2015. The deliverables contained in two contracts included the development of an online all-taxa invasive species clearinghouse, identification and prioritization of education and outreach needs and best providers, development of education and outreach materials, and assistance in planning and implementing invasive species conferences for researchers, natural resource managers, Partnership for Regional Invasive Species Management (PRISM) staff, and students.

From 2008 through 2013, initial contracts for funding, administration, and coordination of eight Partnerships for Regional Invasive Species Management (PRISMs) were executed, resulting in enhanced capacity for delivering education and outreach across New York State. PRISMs were established and funded, consistent with ISTF recommendation # 12: *Recognize and fund demonstration projects that "should include the full range of activities" including education and outreach*. Several of the PRISMs are now entering into their second five-year contracts with DEC.

While much has been accomplished in the decade since the Invasive Species Task Force report and the eight years since the DEC's Invasive Species Coordination program began, a clear strategy for the next five years is needed to develop and advance an effective invasive species education and outreach program.

Many existing invasive species management programs have educational components. Such efforts include informational materials including posters, fliers, brochures, identification cards, Public Service Announcements, billboards, agency webpages and other websites like the New York Invasive Species Clearinghouse (www.nyis.info), which was developed under contract with Cornell University. PRISMs and their partner organizations provide technical training for volunteers, especially in identification and management of invasive species.

Other recent efforts include New York's annual Invasive Species Awareness Week (ISAW), initiated in 2014. This annual educational campaign aims to provide New Yorkers with the knowledge, tools, and motivation to take action to prevent the spread of invasive species throughout the state. ISAW includes more than a hundred coordinated invasive species related events hosted by the Invasive Species Council agencies, Advisory Committee organizations, and the PRISMs and their partner organizations, as well as an annual proclamation from the Governor's office. During ISAW citizens

can participate in guided hikes and paddling events, webinars, presentations, film screenings, exhibits and displays, trainings, control and/or restoration projects, etc.

In 2016 the DEC's Invasive Species Coordination Unit augmented its capacity by hiring two new staff; a Response & Management Coordinator and an Education & Outreach Coordinator. The latter was charged with convening a workgroup to make strategic recommendations to the Invasive Species Council and Advisory Committee regarding a five-year education and outreach plan. Over the course of six months, the eight member workgroup (comprised of Council and Advisory Committee representatives) reviewed past education and outreach strategies, conducted a targeted stakeholder survey to gather data that would inform the development of the strategic plan, held four in-person meetings, and drafted six measurable objectives with clear associated strategic action items.

This five-year plan is intended to guide invasive species education and outreach efforts undertaken by the Council, Advisory Committee, PRISMs and partner organizations from 2016-2021. It describes a comprehensive strategy that reaches diverse target audiences. The goal of the plan is to expand New York residents' awareness of invasive species issues and willingness to adopt simple behaviors that prevent the spread of invasive species, thereby minimizing their detrimental impacts to the state's natural communities, wildlife habitats, agricultural lands, and water resources.

The plan was developed over the course of six months by a dedicated workgroup comprised of members from the Invasive Species Council and Advisory Committee, with input from fifty-six targeted stakeholders and the expertise of the staff at the Department of Environmental Conservation. Thank you to the following individuals for their contributions:

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Will Jaacks – State Education Department (NYSED)
Susan Carver – Office of Parks, Recreation and Historic Preservation (OPRHP)
Megan Pistolese – St. Lawrence Eastern Lake Ontario PRISM (SLELO PRISM)
Ed Snizek – Adirondack Park Agency (APA)
Christopher Logue – Department of Agriculture and Markets (NYSDAM)
Meg Modley – Lake Champlain Basin Program (LCBP)
Leigh Greenwood – The Nature Conservancy (TNC)
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Leslie Surprenant – Department of Environmental Conservation (NYSDEC)
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Agendas and meeting notes from the workgroup's meetings can be found in Appendix A.

Summary of Recent Efforts

Invasive Species Advisory Committee Education & Outreach Recommendations – 2013-15

The Invasive Species Advisory Committee (ISAC) provided recommendations for the 2013-15 education and outreach action plan to the Invasive Species Council (ISC) for consideration. These recommendations were accepted and thereby guided the work of both entities over the several year span. The objectives highlighted in these recommendations included the following:

1. Evaluate the current status of New York’s invasive species educational programming and identify opportunities to improve messaging to influence positive change towards protecting our lands and waters from harmful invasive species.
2. All state agencies and invasive species partners utilize consistent invasive species spread prevention messages.
3. Develop an invasive species joint media campaign among ISC, ISAC and other partners to begin in 2014.
4. Enhance messaging targeted towards highest priority target audiences (e.g. boaters, hunters, anglers, foresters, aquarium owners, gardeners, highway crews, campers, etc.) and enable them to teach others.
5. Empower educators and trainers to incorporate invasive species messaging into their coursework and training exercises.

These objectives were met through the efforts of the aforementioned entities as well as the third party contract with Cornell University.

Cornell University Human Dimensions Research Unit Three-Phase Study- 2015

A three-phase study detailing New York resident awareness of invasive species and willingness to adopt proactive behaviors was completed in 2015. A summary of each phase’s findings are included below:

Phase 1: New York Residents’ Awareness of Invasive Species

This phase of the study entailed an initial screening survey to assess New Yorker’s awareness of invasive species statewide and by region, characterize stakeholder groups that have the potential to affect the spread of invasive species, and assess the primary news and information sources utilized by residents. It was found that about 74% of New Yorkers are aware of the term “invasive species” and approximately 1/3 of residents “know something” about invasive species. Awareness varied by PRISM region and by primary residence area (urban, suburban, rural). The most commonly recognized species were wild pigs and water chestnut; and conversely 75% of survey participants had never heard of hydrilla, the invasive aquatic macrophyte whose control costs exceeded hundreds of thousands of dollars in the Cayuga Inlet and Tonawanda Creek alone. The study also found that TV and internet are the primary sources of news and information for New Yorkers.

Phase 2: New York Residents' Perspectives on Invasive Species

The objectives for the second phase of the study were to assess residents' level of concern and knowledge about invasive species, determine the degree to which various stakeholder groups are taking action to prevent their spread, and gauge the willingness of residents to change their behavior to address the problem. The study concluded that residents in the New York City/Long Island part of the state are less likely to be concerned and knowledgeable about invasive species than upstate residents. As a user group, recreational boaters were found to be particularly aware of how their behavior could affect the spread of invasive species. Most survey participants were willing or very willing to change their behavior, with the caveat that the change be practical – not cost prohibitive, overly time consuming, or cumbersome.

Phase 3: Perspectives of New York Farmers, Aquarium Owners, and Water Gardeners on Invasive Species

This phase of the study aimed to characterize the experiences and perspectives of three specific stakeholder groups: farmers, aquarium owners, and water gardeners. It was found that there was a widespread willingness to consider changing behavior if the change had the potential to contribute to reducing the spread of invasive species, however the willingness was conditional and required that the individual be convinced both that the behavior change would address the invasive species issue and that it was feasible (Lauber et. al, 2015).

Many participants were aware of invasive species messages focused on recreational boating and the movement of firewood. These programs may be useful when designing outreach strategies for other target user groups.

Invasive Species Awareness Week

Invasive Species Awareness Week (ISAW) is an annual education campaign whose goal is to engage New Yorkers in a variety of invasive species awareness events and empower them to take action to help prevent the spread by making positive behavior changes in their everyday lives. The first official ISAW was held in 2014, and was accompanied by a proclamation from Governor Andrew Cuomo. Events are coordinated by the Invasive Species Council agencies, Advisory Committee organizations, the eight Partnerships for Regional Invasive Species Management (PRISMs) and their myriad partner organizations, and are advertised on a statewide electronic calendar. These events include everything from iMap Invasives trainings, to invasive species removal and/or restoration projects, survey and mapping efforts, citizen science trainings, guided hikes/paddling events, billboards, radio spots, film screenings, etc.

New York Invasive Species Clearinghouse (NYIS.info)

Founded in 2008, the New York Invasive Species Clearinghouse is an online resource for invasive species information in New York. It was established in response to a recommendation of the 2005 Invasive Species Task Force report to the Governor and Legislature. The site and its content were developed via a contract with the NYS Department of Environmental Conservation (DEC) and have been funded by the Environmental Protection Fund (EPF). The Clearinghouse serves as a centralized hub for New Yorkers to access up to date science and policy information to help them make educated decisions regarding the prevention and control of invasive species. The site also contains information about non-native animal and plant species invasiveness assessments, priority invasive species, the state and federal response to invasive species, invasive species legislation, and links directly to the ISAW blog page (www.nyis.info/blog). Currently, the site is maintained by New York Sea Grant (NYSG).

Annual Invasive Species In-Service

Cornell University hosts an annual Agriculture, Food, and Environmental Systems In-Service each year in November to bring together faculty, educators, and industry professionals to discuss the latest developments in research and practice. The In-Service features a three-day invasive species track, which is currently coordinated by the New York Invasive Species Research Institute. This annual gathering serves as an opportunity for information sharing amongst the Invasive Species Council and Advisory Committee representatives, PRISM leaders and affiliates, natural resource managers, educators, and students.

iMap Invasives Database & Trainings

The New York Natural Heritage Program hosts the iMap Invasives team, which trains users to report invasive species observations and maintains a statewide web-based interactive invasive species database and mapping tool. iMap Invasives supports the statewide invasive species program by providing observation, survey, assessment, and treatment data for distribution and analysis, and also delivers e-mail alerts to allow for early detection and rapid response efforts when a priority species is detected. The following table displays iMap Invasives data taken from annual and quarterly reports.

Year	Accounts Requested	Observation Records (accumulative)	Trainings
2014	797	21,311	31
2015	718	45,960	28
2016 – Q1, Q2, Q3	388	162,507 (Q1-2 only)	20

Invasive Species Legislation & Regulations

Legislation and regulation are critical tools employed by legislators and state agencies for preventing the spread of invasive species in New York State. Coupled with appropriate outreach efforts, laws and regulations can be successful in mitigating the threat that invasive species pose to New York's land and water resources.

A law was passed on October 21, 2013 that made it unlawful to import, breed, or release Eurasian boar within New York State. An addendum was later added in September 2015, which made it illegal to possess, sell, distribute, trade, or transport Eurasian boar as well.

On September 2, 2014, Governor Andrew Cuomo signed legislation prohibiting the launch of watercraft without the boater taking reasonable precautions to prevent the spread of aquatic invasive species (AIS). In the same year the Department of Environmental Conservation adopted regulations (6 NYCRR Section 59.4 and 190.24) prohibiting watercraft from launching or retrieving at state-owned sites without first draining the watercraft and removing any visible plant or animal matter from the watercraft, trailer and equipment. In May 2016, a new statewide regulation (6 NYCRR Part 567) was adopted, which requires that reasonable precautions, including cleaning, draining, and treating are taken to prevent the spread of AIS prior to launching watercraft or floating docks into any public waterbody.

A regulation (6 NYCRR Part 575) prohibiting or regulating the possession, transport, sale, purchase and introduction of select invasive species went into effect in May 2015. Species that are listed as regulated must be tagged as invasive where they are sold commercially to the public. The Department of Agriculture and Markets (NYSDAM) conducts inspections of nurseries and stock growers to ensure compliance with the Part 575 regulations.

There have also been significant efforts to slow the spread of invasive forest pests by regulating firewood movement in New York State. Regulations were adopted in 2009 and revised in 2012 to clarify the requirements for firewood producers, dealers, and purchasers. No firewood may be brought into New York or moved more than 50 miles from its source, unless it is first treated (heated to 160 degrees F for 75 minutes).

Changes were made to the emerald ash borer (EAB) quarantine regulations in spring 2016 which replaced the contiguous quarantine zone that spanned the New York State Thruway from east to west with 14 new "restricted" zones. These zones were created to more tightly encompass the known EAB infestations. Regulated articles, including ash wood, logs, nursery stock, and wood chips (April 15-May 15 only) may not leave a restricted zone without a compliance agreement or limited permit from the Dept. of Agriculture & Markets.

Existing Authorities & Programs

Invasive Species Council

The Invasive Species Council (ISC) is a statutory body that was created in 2008 by Title 17, Section 9 of the Environmental Conservation Law. The purpose of the Council is to coordinate the actions of the nine state agencies named in statute to address the environmental and economic impacts of invasive species and identify research priorities for the New York Invasive Species Research Institute. The Council is co-chaired by the Dept. of Environmental Conservation and the Dept. of Agriculture and Markets, and includes representation from the Dept. of Transportation, the State Education Dept., the Office of Parks, Recreation and Historic Preservation, the Dept. of State, Thruway Authority, Canal Corporation, and the Adirondack Park Agency. This group meets quarterly and regularly consults with the Invasive Species Advisory Committee.

Invasive Species Advisory Committee

The Invasive Species Advisory Committee (ISAC) was also created under Title 17, Section 19 of the Environmental Conservation Law. The Committee is comprised of twenty-five non-governmental organizations, academic institutions, research entities, and trade organizations who provide information and guidance to the Council. This group meets quarterly and occasionally holds joint meetings with the Council.

Partnerships for Regional Invasive Species Management

The eight Partnerships for Regional Invasive Species Management (PRISMs) coordinate invasive species management functions across the state, including but not limited to coordinating partner efforts, recruiting and training citizen volunteers, identifying and delivering education and outreach, establishing early detection monitoring networks and implementing direct eradication and control efforts. The PRISM network is comprised of diverse stakeholder groups, including federal and state agencies, natural resource managers, non-governmental organizations, industry, and New York citizens. These eight Partnerships are funded via contracts with the Dept. of Environmental Conservation utilizing funds from the Environmental Protection Fund.

Dept. of Environmental Conservation Invasive Species Coordination Unit

The Dept. of Environmental Conservation Invasive Species Coordination Unit (DEC ISCU) provides coordination services for the statewide invasive species program. The ISCU is responsible for administration of contracts to fund the eight PRISMs, the Invasive Species Research Institute, the iMap Invasives database, and various additional grant programs, initiatives, and Governor's directives. This unit also works to develop regulations, policies, and strategic plans as necessary. Currently, the unit has four staff; a coordinator/team leader, an aquatic invasive species coordinator, a response and management coordinator, and an education and outreach coordinator.

Dept. of Environmental Conservation Forest Health Section

The Forest Health Section applies research, monitoring, sampling and analytical methods for determining ecosystem health effects on the state's forest lands. The section also maintains a diagnostic laboratory for detecting and identifying terrestrial invasive species and organisms affecting forest health and managed the aviation survey program. In late 2016 the Invasive Species Coordination Unit merged with the Forest Health team to form a new Bureau, the Bureau of Invasive Species and Ecosystem Health.

New York Invasive Species Research Institute

The New York Invasive Species Research Institute (NYISRI) was created in 2008 to coordinate invasive species research to help prevent and manage the impact of invasive species in the state. NYISRI is administered by the Department of Natural Resources at Cornell University's College of Agriculture and Life Sciences. NYISRI maintains an expert database, blog, distributes recent abstracts of interest, and coordinates the invasive species track at the annual In-Service at Cornell. NYISRI staff also collaborate with the ISC and ISAC to identify research priorities and work in concert with the scientific research community to address those priorities and communicate results to resource managers.

iMap Invasives

The iMap Invasives program is managed by the New York Natural Heritage Program through a contract with the Dept. of Environmental Conservation, utilizing funds from the Environmental Protection Fund. The iMap team operates New York's online all taxa invasive species database and mapping tool, and trains hundreds of citizen scientists to identify and report tens of thousands of invasive species observations each year. In addition to reporting observations, users can report survey, assessment and treatment data as well as generate reports for species and geographic areas of interest.

Goal

The overarching goal of the five-year plan is to expand New York residents' awareness of invasive species issues and willingness to adopt simple behaviors that prevent their spread. This goal encompasses six objectives and numerous strategic action items, which are described in the subsequent section of the plan. These actions will serve as benchmarks for measuring progress toward the goal.

This goal aligns with the fourth recommendation from the Invasive Species Task Force, which states that "New York should develop a comprehensive outreach and education program for invasive species. It should do so by coordinating existing efforts but also exploiting opportunities to incorporate invasive species messages into the full variety of educational opportunities."

Objectives & Action Items

The following objectives and associated strategic actions were developed based on feedback from personal interviews with Partnership for Regional Invasive Species Management coordinators, responses from the electronic targeted stakeholder survey (Appendix B), and the priorities of the Invasive Species Council and Advisory Committee.

Each strategic action item corresponds to a line on the implementation table in the subsequent section, which describes the agencies and organizations that may participate in each action, as well as a proposed timeline for completion.

1. Develop messages for target user groups identified in stakeholder survey and Cornell three-phase study
 - a. Prioritize 1-2 user groups from the following target list:
 - i. Highway personnel
 - ii. Municipalities
 - iii. Tourists/tourism industry
 - iv. Pet trade/water gardeners
 - v. Urban communities
 - vi. Direct users of natural resources
 - vii. Elected officials
 - b. Assess which national campaigns might suit outreach needs (Clean/Drain/Dry, Play Clean Go, Don't Move Firewood, Habitattitude, Stop Aquatic Hitchhikers)
 - c. Address any potential branding issues with utilizing materials from national outreach campaigns

2. Develop and provide consistent education and outreach products for statewide use
 - a. Develop a suite of outreach products that meet the following criteria:
 - i. Provide species specific information
 - ii. Span all taxa (plants, animals, insects, pathogens)
 - iii. Tailored to target user groups when possible
 - iv. Available in multiple languages
 - v. Convey management options for landowners and natural resource managers
 - vi. Articulate risk and potential actions
 - b. Update and utilize existing effective products where available
 - c. Determine appropriate medium for each needed education/outreach product or message – brochure, fact sheet, social media, billboard, direct mailing, infographic, podcast, radio ad, etc.
 - d. Utilize user feedback to make improvements to the NYS Invasive Species Clearinghouse website
3. Develop and provide invasive species curriculum units aligned to the new New York State P12 science learning standards
 - a. Convene workgroup of 5-7 members to develop and/or adapt invasive species curriculum units
 - b. Package curriculum information for educators who teach in both formal and informal settings
 - c. Provide training in the form of workshops, webinars, and other formats as needed
 - d. Populate web-based P-12 educator toolbox
4. Promote the integration of invasive species topics into college/university courses and research priorities
 - a. Create network of professors interested in promulgating invasive species related concepts within their courses and research priorities
 - b. Invite students to share invasive species research findings at annual Cornell In-Service, and on monthly PRISM webinars
 - c. Showcase professor/student research via videos, podcasts, other shareable media
 - d. Devise small grants program to fund research priorities
5. Support the incorporation of invasive species concepts into citizen science and other informal education programs (Boy Scouts, 4H, Master Gardeners, etc.)
 - a. Create database of existing citizen science and informal education programs throughout the state
 - b. Work with existing groups to incorporate invasive species information into training where appropriate
 - c. Connect program coordinators with local PRISMs, facilitate service learning and data sharing opportunities

6. Increase resources dedicated to planning, implementation, and evaluation of the annual Invasive Species Awareness Week campaign
 - a. Synthesize metrics from statewide events and future recommendations into annual report, present to Council, Advisory Committee, PRISMs
 - b. Facilitate increased online sharing of ISAW resources
 - c. Sync NY ISAW with the national Invasive Species Awareness Week campaign
 - d. Improve ISAW webpage functionality and organization
 - e. Motivate partner organizations who haven't hosted an ISAW event in previous years to participate by developing an ISAW event toolkit
 - f. Expand statewide efforts including airing IS related content on public TV, radio stations, press releases, popular media, etc.

Implementation Table

ID #	Objective	Action Item	Participants	Timeline				
				2016	2017	2018	2019	2020
1A	Message development	Prioritize 1-2 user groups from target list	ISC, ISAC					
1B	Message development	Assess which existing national campaigns may reach outreach needs	ISAC, DEC, PRISMs					
1C	Message development	Address any potential branding issues with utilizing materials from national outreach campaigns	ISC, ISAC, DEC					
2A	Product development and dissemination	Develop a suite of outreach products that meet specific criteria	DEC, CCE, third party contract					
2B	Product development and dissemination	Update and utilize existing effective products where available	DEC, CCE, OPRHP, PRISMs, DAM, APA, ISAC, ISC					
2C	Product development and dissemination	Determine appropriate medium for each needed education/outreach product or message	DEC, CCE, PRISMs, third party contract					
2D	Product development and dissemination	Utilize user feedback to make improvements to the NYS Invasive Species Clearinghouse website	DEC, NYSG, PRISMs, DAM, third party contract					

ID #	Objective	Action Item	Participants	Timeline				
				2016	2017	2018	2019	2020
3A	Develop P12 invasive species curriculum	Convene workgroup of 5-7 members to develop and/or adapt invasive species curriculum units	NYSED, DEC, SUNY, CCE, STANYS, OPRHP, NYNHP, prof. science leaders orgs					
3B	Develop P12 invasive species curriculum	Package curriculum information for educators who teach in both formal and informal settings	NYSED, DEC, SUNY, CCE, STANYS, NYSOEA, OPRHP, NYNHP, prof. science leaders orgs					
3C	Develop P12 invasive species curriculum	Provide training in the form of workshops, webinars, and other formats as needed	NYSED, DEC, SUNY, CCE, STANYS, NYNHP, prof. science leaders orgs					
3D	Develop P12 invasive species curriculum	Populate web-based P-12 educator toolbox	DEC, DAM, OPRHP, CCE, SUNY, LCBP, third party contract					
4A	Integrate invasive species topics into higher education courses and research	Create network of professors interested in promulgating invasive species related concepts within their courses and research priorities	DEC, NYISRI, SUNY, Cornell, research institutes					
4B	Integrate invasive species topics into higher education courses and research	Invite students to share invasive species research findings at annual Cornell In-Service, and on monthly PRISM webinars	Cornell, DEC, SUNY, NYISRI, research institutes					

ID #	Objective	Action Item	Participants	Timeline				
				2016	2017	2018	2019	2020
4C	Integrate invasive species topics into higher education courses and research	Showcase professor/student research via videos, podcasts, other shareable media	SUNY, NYISRI, Cornell, research institutes					
4D	Integrate invasive species topics into higher education courses and research	Devise small grants program to fund research priorities	DEC, SUNY, ISC, ISAC, Cornell, NYISRI					
5A	Incorporate invasive species concepts into citizen science and informal education programs	Create database of existing citizen science and informal education programs throughout the state	PRISMs, DEC, CCE, TNC, OPRHP					
5B	Incorporate invasive species concepts into citizen science and informal education programs	Incorporate invasive species information into training for aforementioned programs' training where appropriate	PRISMs, DEC, CCE, TNC, OPRHP					
5C	Incorporate invasive species concepts into citizen science and informal education programs	Connect program coordinators with local PRISMs, facilitate service learning and data sharing opportunities	PRISMs, DEC, CCE, TNC, OPRHP					
6A	Increase resources for Invasive Species Awareness Week	Synthesize metrics from statewide events and future recommendations into annual report, present to Council, Advisory Committee, PRISMs	ISC, ISAC, DEC					

ID #	Objective	Action Item	Participants	Timeline				
				2016	2017	2018	2019	2020
6B	Increase resources for Invasive Species Awareness Week	Facilitate increased online sharing of ISAW resources	ISAC, DEC, PRISMs					
6C	Increase resources for Invasive Species Awareness Week	Sync NY ISAW with the national Invasive Species Awareness Week campaign	DEC, DAM, ISC, ISAC					
6D	Increase resources for Invasive Species Awareness Week	Improve ISAW webpage functionality and organization	DEC, third party contract					
6E	Increase resources for Invasive Species Awareness Week	Motivate partner organizations who haven't hosted an ISAW event in previous years to participate by developing an ISAW event toolkit	PRISMs, ISC, ISAC, DEC, OPRHP					
6F	Increase resources for Invasive Species Awareness Week	Expand statewide efforts including airing IS related content on public TV, radio stations, press releases, popular media, etc.	PRISMs, ISC, ISAC, DEC					

Program Monitoring & Evaluation

The Department of Environmental Conservation's Invasive Species Education and Outreach Coordinator (E&O Coordinator) will maintain records of strategic action items that are undertaken by participants identified in the implementation table and will provide annual updates to the Invasive Species Council, the Advisory Committee, and the PRISM coordinators.

Halfway through the life of the plan (mid 2018), the E&O Coordinator will confer with participants and determine whether objectives and/or strategic action items need to be modified in light of new developments in research, policy, or program initiatives. Any modifications will be presented to the Council and Advisory Committee for consideration.

Before the five-year plan was developed, the Cornell University Human Dimensions Research Unit completed a three-phase study to assess New Yorkers' awareness of invasive species issues and willingness to adopt simple behaviors to prevent their spread. The results of this study serve as a baseline snapshot of the public's understanding of invasive species concepts. Upon the completion of the strategic action items proposed in the previous section, it will be necessary to again survey New York residents to gauge whether these actions have had a positive effect on public awareness and behavior change. To ensure that meaningful conclusions can be drawn from the follow-up survey, researchers should employ survey methods and design questions that are comparable to those used in the original survey. The follow-up survey will be designed and implemented by a contractor identified through a competitive procurement process.

Acronyms

APA	Adirondack Park Agency
CCE	Cornell Cooperative Extension
E&O	Education and Outreach
ECL	Environmental Conservation Law
EPF	Environmental Protection Fund
ISAC	Invasive Species Advisory Committee
ISAW	Invasive Species Awareness Week
ISC	Invasive Species Council
ISCU	Invasive Species Coordination Unit
ISTF	Invasive Species Task Force
LCBP	Lake Champlain Basin Program
NYCRR	New York Codes, Rules and Regulations
NYISRI	New York Invasive Species Research Institute
NYNHP	New York Natural Heritage Program
NYOSEA	New York State Outdoor Education Association
NYS DAM	New York State Department of Agriculture and Markets
NYS DEC	New York State Department of Environmental Conservation
NYS ED	New York State Education Department
NYS G	New York Sea Grant
OPRHP	Office of Parks, Recreation and Historic Preservation
PRISM	Partnership for Regional Invasive Species Management
STANYS	Science Teachers Association of New York State
SUNY	State University of New York
TNC	The Nature Conservancy

Definitions

Aquatic invasive species	An aquatic species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (ECL § 9-1703)
Citizen science	The collection and/or analysis of data relating to the environment by members of the public, typically as part of a collaborative project with professional scientists or resource managers.
Early detection	Identification and reporting of an invasive species infestation shortly after its introduction to a site, which greatly increases the success of subsequent management efforts.
iMap Invasives	An online, GIS-based data management and mapping system to assist citizen scientists and natural resource managers working to protect natural resources from the threat of invasive species.
Invasive species	Non-native animals, plants, or pathogens that can cause harm to the environment, the economy, or to human health.
Invasiveness assessments	These assessments rank species' invasiveness based on their potential impacts to the native species and natural ecosystems of New York. The system may be used to assess species that are already established, new arrivals, and species that are not yet present.
Macrophyte	A plant, often aquatic, that is large enough to be visible with the naked eye.
Rapid response	A series of actions undertaken as quickly as possible after the introduction of an invasive species occurs, usually aimed at containment, control, or eradication.
Restoration	The practice of renewing degraded ecosystems and habitats via active human intervention. In many instances, invasive species treatment sites need to be restored to avoid reestablishment of invasive species.

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- Western New York PRISM Annual Report, 2015.

Appendix A:
Invasive Species Education/Outreach
Workgroup Agendas & Meeting Notes

Time	Item	Lead	Outcome
9:00am	Welcome & introductions	Phillips	Everyone introduced, overview of agenda
9:10am	Review work group charge, populate timeline with additional tasks/deadlines	All	Informed of timeline and tasks, now through fall ISC meeting
9:40am	Review electronic survey to stakeholders and draft list of recipients, make edits as necessary	All	Electronic survey ready for distribution
10:10am	Identify potential target audiences for 2016-2021 E/O plan	All	Draft list of target audiences produced
10:25am	Recap of action items, plan for next meeting (venue, date, etc.)	Phillips/All	Action items assigned, week for next meeting chosen

Attachments:

- Link to three-phase Cornell study: http://www.nyis.info/?action=isp_reports
- Work group charge (drafted by Surprenant and McGlynn)
- Draft timeline/List of electronic survey recipients (different tabs in same .xls workbook)
- Link to electronic survey: <https://www.surveymonkey.com/r/GCM88CX>

Phillips, Megan S (DEC)

From: Phillips, Megan S (DEC)
Sent: Thursday, March 31, 2016 1:30 PM
To: Logue, Christopher (AGRICULTURE); Snizek, Edward S (APA); Jaacks, Will; Crotty, Ann; Susan Carver (PARKS); Brady, Erin K (DEC); Surprenant, Leslie J (DEC); 'Meg Modley'; 'Megan Pistolese'
Subject: Notes & Action Items from Invasive Species E/O Workgroup Meeting #1
Attachments: 2016 2 12 Status of Previous Ed and Outreach Action Plan.xlsx; 2016 3 31 Timeline and Survey Recipients.xlsx

Good afternoon team,

Thank you for a productive meeting today! I'm attaching the "ISAC recs for E/O strategy 2013-15 – status update" spreadsheet that we looked at early in the meeting and also an updated timeline and list of survey recipients (2nd tab in same workbook). Also, here's the link to the 3-phase Cornell study that we referenced today:

http://www.nyis.info/?action=isp_reports

Attendees:

Ann Crotty (Dept. of State Education)
Will Jaacks (Dept. of State Education)
Leslie Surprenant (DEC – Invasive Species Coordination Unit)
Megan Phillips (DEC – Invasive Species Coordination Unit – workgroup lead)
Erin Brady (DEC – Outreach)
Susan Carver (State Parks)
Meg Modley (Lake Champlain Basin Program)
Ed Snizek (Adirondack Park Agency)
Chris Logue (Ag & Markets)

Action Items:

- ✓ **Chris** will send out the press release about part 575 regulations compliance (*DONE!*)
- ✓ **Will** will send out links to the statewide strategic plan for science and an inventory of registered higher education programs (*DONE!*)
<http://www.p12.nysed.gov/ciai/mst/sci/strplan.html> and <http://www.nysed.gov/heds/IRPSL1.html>
- ✓ **Meg Phillips** will forward the link to the NYT article "Invasive Species Aren't Always Unwanted" (*DONE!*)
<http://www.nytimes.com/2016/03/01/science/invasive-species.html?emc=eta1&r=1>
- ✓ **Everyone** will submit any additional contacts for the electronic survey recipient list to Meg Phillips no later than Tuesday, 4/5
- ✓ **Meg Phillips** will work with **Meg Modley** to incorporate the team's edits into the electronic survey and send around to the team for final review no later than Friday, 4/15. This action item will also entail proposing some selectable options for survey question #8 - "What would you like to see included in a five year strategic plan for invasive species education and outreach in New York?"
- ✓ **Meg Phillips** will work with **Susan** to determine the appropriate survey vehicle (SurveyMonkey, Fluid Surveys, etc.) and will register for an account if necessary

Next Meeting:

Please complete the Doodle poll to determine the date/time of our next meeting by COB on Monday, 4/4. The venue will likely be the Ag & Markets office at Airline Drive in Albany.

<http://doodle.com/poll/kte8zd2y58h2b9gz>

Please hold the date of Tuesday, 7/12 for an AM workgroup meeting in North Creek, NY with guest speaker Leigh Greenwood from the Nature Conservancy's "Don't Move Firewood" campaign.

Thanks again for your participation! Let me know if you have any questions and/or comments.

Meg Phillips

Education & Outreach Coordinator, Invasive Species Coordination Unit

New York State Department of Environmental Conservation

Division of Lands and Forests

625 Broadway, Albany NY 12233-4250

P: (518) 402-8871 | F: (518) 402-9028 | Megan.Phillips@dec.ny.gov

www.dec.ny.gov |  | 

Time	Item	Lead	Outcome
10:30am	Welcome & re-introductions	Phillips	Everyone re-introduced, overview of agenda
10:40am	Revisit timeline	Phillips	Everyone informed of updates to timeline
10:50am	Targeted stakeholder survey results presentation & discussion	Phillips/All	Everyone informed of survey results and how we intend to use them in the development of the 5-year plan
11:50am	Recap of action items, plan for next meeting (venue, date, etc.)	Phillips/All	Action items assigned, week for June meeting identified

Attachments:

- Updated workgroup timeline
- Targeted stakeholder survey results
- Target audiences brainstorm notes from workgroup meeting #1

SAVE THE DATE: Guest presentation by Leigh Greenwood of the Nature Conservancy’s “Don’t Move Firewood” campaign at our July 12 meeting! The meeting will be held from 9:00-11:00am at the DEC Warrensburg office, located at 232 Golf Course Road, Warrensburg, NY 12885.

Phillips, Megan S (DEC)

From: Phillips, Megan S (DEC)
Sent: Tuesday, May 10, 2016 11:40 AM
To: Logue, Christopher (AGRICULTURE); Snizek, Edward S (APA); Megan Pistolese; Meg Modley; Crotty, Ann; Jaacks, Will; Susan Carver (PARKS); Brady, Erin K (DEC); Surprenant, Leslie J (DEC)
Subject: Notes & Action Items from Invasive Species E/O Workgroup Meeting #2
Attachments: Invasive Species Education & Outreach Survey Results.compressed.pdf

Good morning team,

Thanks for your participation in yesterday's meeting. I've included a summary of the action items below.

Attendees:

Will Jaacks (Dept. of State Education)
Megan Phillips (DEC – Invasive Species Coordination Section – workgroup lead)
Erin Brady (DEC – Outreach)
Susan Carver (State Parks)
Meg Modley (Lake Champlain Basin Program)
Ed Snizek (Adirondack Park Agency)
Chris Logue (Ag & Markets)

Action Items:

- ✓ **Everyone** will revisit the attached presentation of the survey results and be prepared to discuss their “*top three takeaways*” from the survey that should be incorporated into the five year plan at our next meeting
- ✓ **Meg M.** will send out the link to the Northeast Aquatic Nuisance Species Panel template for building one's own aquatic invasive species guide (*DONE!*) <http://www.northeastans.org/online-guide/use-the-guide.html>
- ✓ **Meg P.** will look into whether the Albany Pine Bush Preserve can accommodate us and our web conferencing needs for our next meeting

Next Meeting:

Please complete the poll to schedule our 3rd meeting no later than **COB on Friday, 5/13.**
<http://doodle.com/poll/k3mfniu4dacqyn92>

SAVE THE DATE: We will have a guest presentation by Leigh Greenwood of the Nature Conservancy's “Don't Move Firewood” campaign at our 4th meeting on July 12. The meeting will be held from 9:00-11:00am at the DEC Warrensburg office, located at 232 Golf Course Road, Warrensburg, NY 12885. Your in-person attendance will be rewarded with breakfast treats!

Let me know if you have any questions.

Best,

Meg Phillips

Education & Outreach Coordinator, Invasive Species Coordination Unit

New York State Department of Environmental Conservation

Division of Lands and Forests
625 Broadway, Albany NY 12233-4250

Time	Item	Lead	Outcome
1:00pm	Welcome & re-introductions	Phillips	Everyone re-introduced, overview of agenda
1:10pm	Discussion of “top three takeaways” from targeted stakeholder survey results	All	Prioritization of survey results, group is prepared to solidify objectives for plan
1:50pm	Identify objectives and associated action items for 2016-2021 plan	All	At least 5 objectives, rough list of action items identified
2:20pm	Recap of action items, information about next meeting	Phillips/All	Action items assigned, priorities for next meeting established

Attachments:

- Updated survey results presentation (includes data from 5 additional participants since our 5/9 meeting)
- SMART objectives guidelines

NEXT MEETING: Guest presentation by Leigh Greenwood of the Nature Conservancy’s “Don’t Move Firewood” campaign and program evaluation work session at our July 12 meeting! The meeting will be held from 9:00-11:00am at the DEC Warrensburg office, located at 232 Golf Course Road, Warrensburg, NY 12885.

Phillips, Megan S (DEC)

From: Phillips, Megan S (DEC)
Sent: Friday, June 10, 2016 11:14 AM
To: Jaacks, Will; Susan Carver (PARKS); Snizek, Edward S (APA); Meg Modley; Brady, Erin K (DEC); Crotty, Ann; Logue, Christopher (AGRICULTURE); Megan Pistoiese; Adams, Dave J (DEC)
Cc: Notes & Action Items from Invasive Species E/O Workgroup Meeting #3
Subject: 2016 6 6 EO Objectives and Action Items Draft.docx
Attachments:

Hello E&O workgroup members!

Thanks for your participation in Monday's meeting.

Attendees:

Will Jaacks (Dept. of State Education)
Megan Phillips (DEC – Invasive Species Coordination Section – workgroup lead)
Erin Brady (DEC – Outreach)
Susan Carver (State Parks)
Meg Modley (Lake Champlain Basin Program)
Ed Snizek (Adirondack Park Agency)
Chris Logue (Ag & Markets)
Megan Pistoiese (St. Lawrence Eastern Lake Ontario PRISM)

Action Items:

Everyone will provide comments on the attached objectives and action items draft. **Please either relay your comments via e-mail or use track changes and return the document to me no later than Wednesday, July 6.** I will incorporate your feedback and provide a new draft for our meeting on 7/12, during which we will populate the performance measures column of the table. Reminder – the performance measures column is intentionally blank. We'll focus on populating it at our 7/12 meeting.

Announcements:

From Will Jaacks –
The State Education Department has posted a set of revised NYS P-12 Science Learning Standards for Board of Regents' consideration. The revised set of science learning standards may be accessed online at <http://www.p12.nysed.gov/ciai/mst/sci/nyssls.html>. This revised set of NYS P-12 Science Learning Standards has been proposed as a discussion item for the June 2016 meeting of the Board of Regents. Please note that this set of revised science learning standards has not yet been adopted by the Board of Regents.

Next Meeting: We will have a guest presentation by Leigh Greenwood of the Nature Conservancy's "Don't Move Firewood" campaign at our next meeting, followed by a focused discussion on the program evaluation component of the five year plan. The meeting will be held from 9:00-11:00am on July 12 at the DEC Warrensburg office, located at 232 Golf Course Road, Warrensburg, NY 12885. I'll send out an agenda in July.

Let me know if you have any questions.

Best,

Meg Phillips

Time	Item	Lead	Outcome
9:00am	Welcome & Introductions	Phillips	Everyone re-introduced, overview of agenda
9:10am	Don't Move Firewood campaign plan development and program evaluation	Greenwood	Everyone ready to use new knowledge to develop program evaluation framework for 5-year invasive species E&O plan
9:50am	Brainstorm performance measures for draft objectives/action items	All	Performance measures column populated
10:50am	Recap of action items, information about next meeting	Phillips/All	Action items assigned

Attachments:

- Updated draft invasive species education/outreach objectives and action items for five-year plan
- Conservation Action Planning – Chapter 7: Measurable Results

WebEx info:

<https://meetny.webex.com/meetny/j.php?MTID=m33ff2cb820883f850279688cdeef1ac8>

Meeting # 649 071 901

Password: invasives123

Phone: Local: 1-518-549-0500

Toll Free: 1-844-633-8697

Phillips, Megan S (DEC)

From: Phillips, Megan S (DEC)
Sent: Tuesday, July 19, 2016 1:11 PM
To: Crotty, Ann; Jaacks, Will; Brady, Erin K (DEC); Susan Carver (PARKS); Snizek, Edward S (APA); Meg Modley; Megan Pistolese; Logue, Christopher (AGRICULTURE); Adams, Dave J (DEC); Leigh Greenwood
Cc: Notes & Action Items from Invasive Species E/O Workgroup Meeting #4
Subject: Invasive Species Awareness Week Proclamation - 2016.pdf; 7 11 16 Statewide Invasive Species Awareness Week to Be Held July 10-16.pdf; 2016 7 19 List of Educators
Attachments: Utilizing IS in Classroom_Dean.pdf; 2016 7 19 EO Strategic Plan Draft_MASTER.docx

Hello E&O workgroup members,

Thank you for your participation in last week's meeting! I hope you all had a great Invasive Species Awareness Week. There were over 120 events statewide – awesome! If you hosted an event, please complete the [organizer survey](#). If you attended an event, please complete the [participant survey](#).

Below are the meeting notes and action items from our meeting on 7/12:

Attendees:

Will Jaacks (Dept. of State Education)
Ann Crotty (Dept. of State Education)
Megan Phillips (DEC – Invasive Species Coordination Section)
Erin Brady (DEC – Outreach)
Susan Carver (State Parks)
Meg Modley (Lake Champlain Basin Program)
Ed Snizek (Adirondack Park Agency)
Chris Logue (Ag & Markets)
Leigh Greenwood (TNC - Don't Move Firewood campaign)

Action Items:

Everyone will highlight 1-2 action items from each objective that should be prioritized in the five-year plan. This exercise will help us to develop an implementation table and establish benchmarks. **Please send your priority action items to me via e-mail no later than Friday, August 5.**

Meg P. will refine the content in the performance measures column based on the input from the meeting on 7/12 and send out a draft for the group to review in the next few weeks. She will also begin working on an implementation table.

Announcements:

I'm attaching a list of educators who are involved in invasive species related projects that Jennifer Dean at iMap provided. This is a good jumping off point for fulfilling objective #4 – "promote the integration of invasive species topics into college/university courses and research priorities."

I'm also attaching a PDF of the press release and Governor's proclamation that accompanied ISAW – someone requested these items at our last meeting.

Next Meeting:

We decided as a team that we can accomplish the next tasks via conference call and e-mail. There is no scheduled upcoming meeting at this time.

Let me know if you have any questions!

Best,

Meg Phillips

Education & Outreach Coordinator, Invasive Species Coordination Unit

New York State Department of Environmental Conservation

Division of Lands and Forests

625 Broadway, Albany NY 12233-4250

P: (518) 402-8871 | F: (518) 402-9028 | Megan.Phillips@dec.ny.gov

www.dec.ny.gov |  | 

Appendix B: Targeted Stakeholder Survey Results

INVASIVE SPECIES EDUCATION & OUTREACH SURVEY RESULTS

Updated May 31, 2016

PARTICIPATION

- 56 responses
- 180 contacts on distribution list
- 31% response rate
- Average response rate for e-mail surveys = 24.8%

	Not effective	Somewhat effective	Very effective	Not applicable	Total
Citizen science monitoring and/or survey programs	3.64% 2	29.09% 16	21.82% 12	45.45% 25	55
Public presentations and webinars	1.79% 1	39.29% 22	48.21% 27	10.71% 6	56
Social media and blogging	5.56% 3	50.00% 27	9.26% 5	35.19% 19	54
Billboards and other advertising	7.41% 4	12.96% 7	9.26% 5	70.37% 38	54
Watercraft inspection steward programs	1.89% 1	9.43% 5	16.98% 9	71.70% 38	53

Q3: What types of tools and/or metrics has your organization developed to gauge the effectiveness of your education and outreach efforts?

(For example, # of educational materials handed out, # of boats inspected, # of workshop participants).

MOST COMMON RESPONSES

- # of event attendees and/or volunteers
- # of materials handed out
- # of watercraft inspected
- Participant feedback surveys
- # of page hits for blogs
- # of Facebook page views and/or “likes” and “shares”
- Pounds of invasive species removed

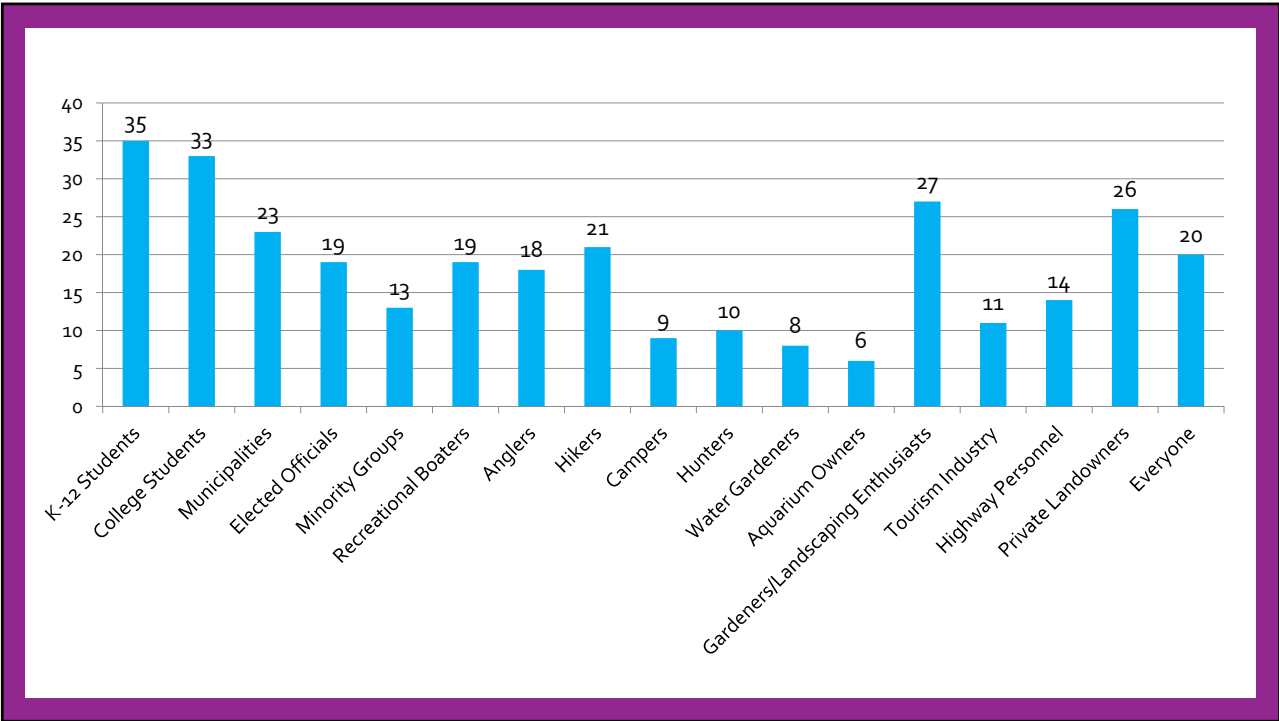
Q4: What gaps and/or needs has your organization identified with regard to invasive species outreach and education?



Answer Choices	Responses
Consistent outreach products (brochures, factsheets) for statewide use	57.14% 32
Website and social media content development	48.21% 27
Development of effective messaging for targeted user groups	55.36% 31
Strategic planning and program evaluation	42.86% 24
Training opportunities for staff and volunteers	37.50% 21
Broaden and/or build local and statewide partnerships	32.14% 18
Other (please specify)	23.21% 13
Total Respondents: 56	

Q5: To which user groups does your organization's education and outreach strategy apply?





OTHER USER GROUPS

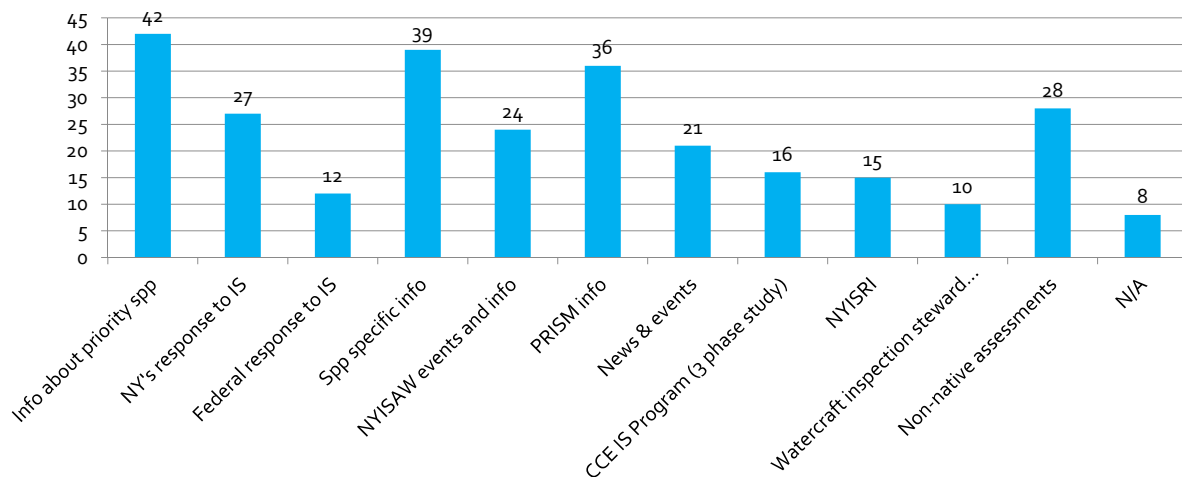
- Lake users
- Private forest product industry
- Natural resource professionals
- Researchers/scientific community
- Military
- Retirees
- Loggers
- Professional horticulturalists



Q6: Has your organization utilized the New York State Invasive Species Clearinghouse website (NYIS.info)?

Answer Choices	Responses	
Yes	85.71%	48
No	14.29%	8
Total		56

Q7: If yes, what type(s) of information have you accessed on NYIS.info?



Q8: Can NYIS.info can be improved in terms of content and functionality? If so, how?

- Updated news/events
- More educator resources
- Best mgmt. practices for control
- Site is too Cornell-centric
- PRISM pages need to redirect to actual PRISM websites
- Organize site by target audience
- EDRR case studies
- Opportunities for citizen scientists
- More AIS info
- Updated EAB maps
- Emerging IS of concern, broader range of spp in general
- Downloadable PDFs
- Increase font size!

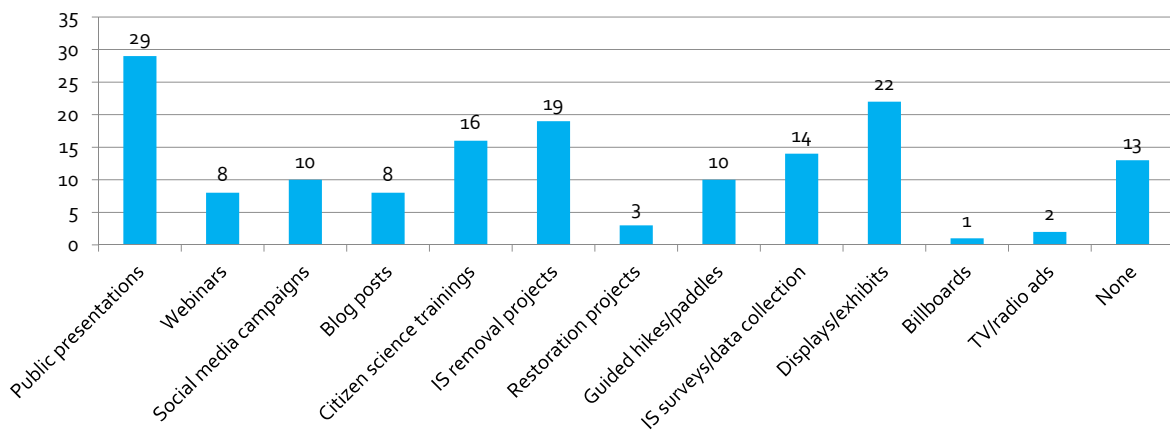
Q9: Has your organization utilized the Dept. of Environmental Conservation invasive species webpage(s)?

Answer Choices	Responses	
Yes	91.07%	51
No	8.93%	5
Total		56

Q10: If yes, what type(s) of information below were you looking for, and were you able to find it easily?

	Easy to find	Difficult to find	Not applicable	Total Respondents
Nuisance species	64.86% 24	0.00% 0	35.14% 13	37
Aquatic invasive species (AIS)	78.57% 33	2.38% 1	19.05% 8	42
Terrestrial invasive species	67.50% 27	12.50% 5	20.00% 8	40
Invasive species regulations	68.18% 30	18.18% 8	13.64% 6	44
Invasive Species Council	23.53% 8	32.35% 11	44.12% 15	34
Firewood regulations and information	62.50% 25	10.00% 4	27.50% 11	40
AIS management plan	37.14% 13	25.71% 9	37.14% 13	35
Check/clean/drain/dry/disinfect recommendations for boaters	50.00% 17	8.82% 3	41.18% 14	34
Boat washing station information	31.43% 11	11.43% 4	57.14% 20	35
Species specific information	59.46% 22	21.62% 8	18.92% 7	37
Not applicable, I haven't used the DEC invasive species webpage(s).	0.00% 0	0.00% 0	100.00% 15	15

Q11: What types of events and/or activities has your organization hosted or participated in for New York Invasive Species Awareness Week (ISAW)?



Q12: What type of data did you gather to gauge the effectiveness of ISAW events?

- Change in invasive species awareness
- # of target users reached
- # of impressions (billboard)
- Acres of invasive species removed
- # of attendees
- “Likes” and “shares” on social media

Q13: Does your organization have plans for ISAW 2016, which will be held July 10-16? If so, please describe the nature of the event(s) you plan to host.

- Tabling @ farmer’s market
- Water chestnut pulls
- Restoration projects
- Forest Pest Summit
- Newspaper articles
- EAB workshop
- iMap Invasives trainings
- Blockbuster survey
- Training for highway workers
- Social media outreach
- Public presentations/webinars
- Guided invasive plant walk
- Not this year, plan to do something in 2017

Q14: Please rate the following elements according to their importance for inclusion in a five year strategic plan for invasive species education and outreach in New York?

	High Priority	Medium Priority	Low Priority	N/A
Identify needs and develop statewide IS E/O publications	57%	36%	5%	2%
Continue to develop/enhance messaging for target user groups	55%	38%	7%	0%
Populate K-12 educator toolbox	44%	42%	13%	2%
Utilize user feedback to improve NYIS.info	20%	50%	27%	4%
Conduct annual assessments to determine whether objectives have been met, adaptive mgmt	34%	54%	11%	2%
Work with professors to engage students in IS research priorities	55%	33%	11%	2%
Continue annual ISAW campaign	57%	39%	4%	0%
Integrate IS into informal science learning environments	61%	34%	4%	2%

How do we incorporate this information into our five-year plan?



Appendix C:

ISAW 2016 Results & Recommendations

INVASIVE SPECIES AWARENESS WEEK 2016

Results & Recommendations

Meg Phillips
Invasive Species Education & Outreach Coordinator
NYS Department of Environmental Conservation



Department of
Environmental
Conservation

BACKGROUND

- Recommendation from the NY Invasive Species Taskforce
- First official ISAW in 2014
- Goal is to promote knowledge and understanding of invasive species and the harm they can cause by engaging citizens in a variety of activities and empowering them to take action to help stop the spread
- www.nyis.info/blog



JULY 10-16, 2016

DATA COLLECTION

- 2 Survey Monkey online surveys
 - Event organizer – 48 respondents
 - Event participant – 61 respondents
 - *49 respondents willing to participate in follow-up survey within next 6 mos.*
- Developed by ISAW 2016 chair & PRISM leaders
- Ideas for improving survey response rate?



THE RESULTS

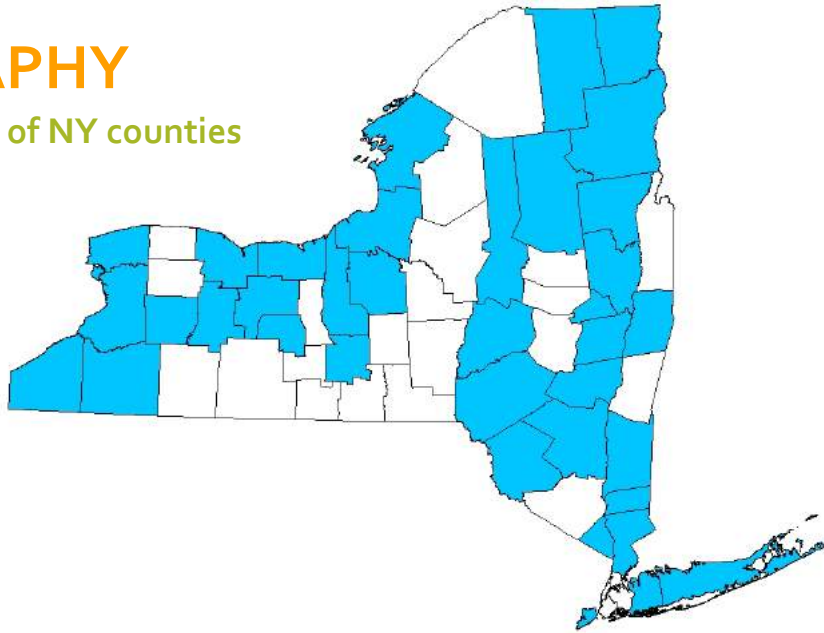
8 PRISMs, the Invasive Species Council agencies, Advisory Committee organizations, and partner orgs hosted **120 EVENTS** over the course of **7 DAYS** with more than **2,000 PARTICIPANTS** in attendance.



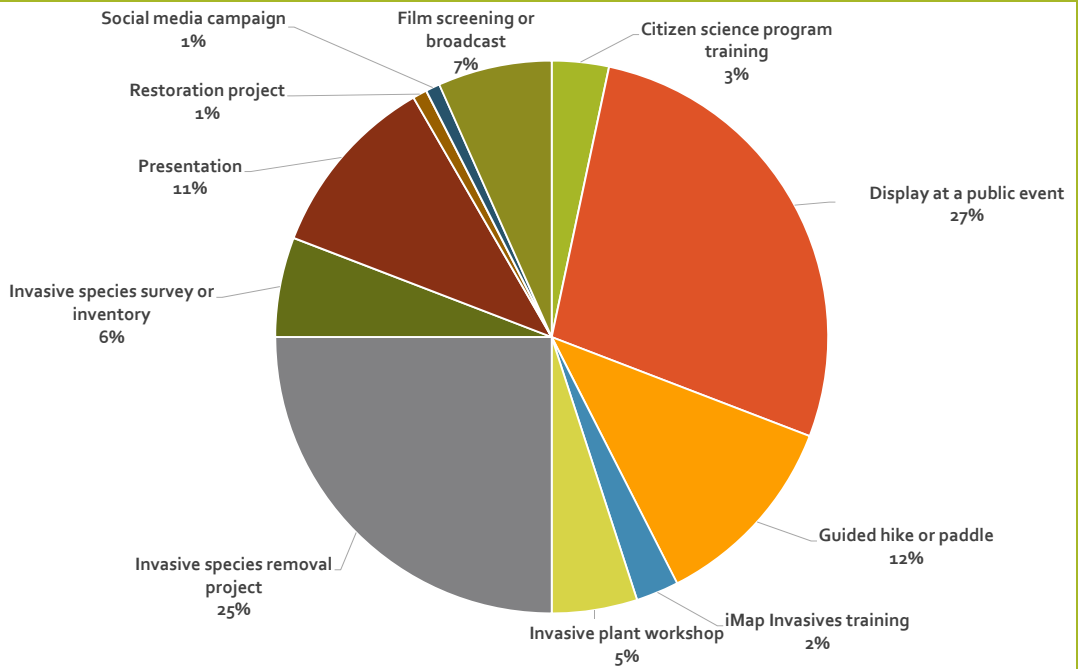
63% of these events were created especially for ISAW.

GEOGRAPHY

Events in ~60% of NY counties



EVENT TYPE



STATEWIDE EFFORTS

- Water chestnut chasers project
 - 28 records total
 - Capital Mohawk PRISM had greatest # of total records
 - Daniel Langer from Kinderhook Lake Corp. reported most individual records
- Hemlock woolly adelgid documentary aired on 4 PBS TV stations



Meg Wilkinson (right) presents Water Chestnut Chaser award to Laurel Gailor of the CapMo PRISM.

SURVEY, REMOVAL, RESTORATION PROJECTS

- >4 acres surveyed
- ~20 acres controlled and/or restored
- ~255 trash bags (55 gallon size) of material removed
- ~25% of projects reported to iMap Invasives database



Top: DEC staff haul water chestnut removed from the Seneca River, photo by Jim Eckler.



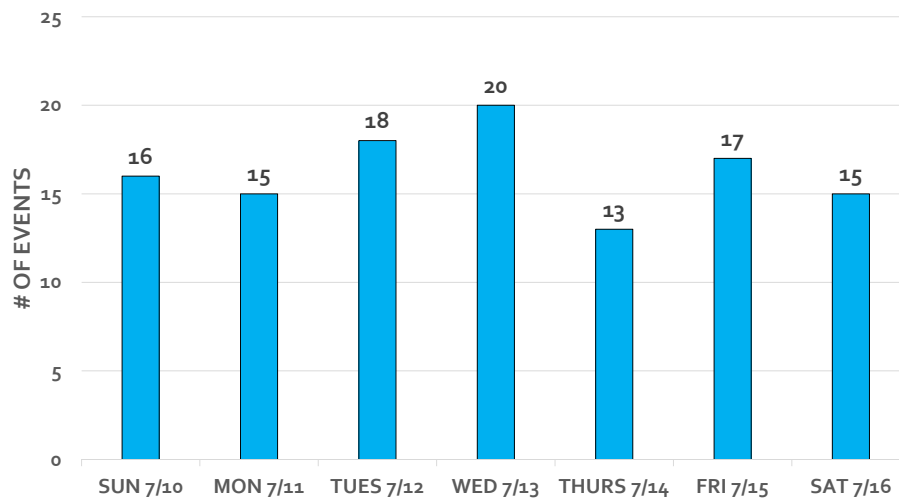
Bottom: Volunteers pull mile-a-minute on the Jones Bike Path in the LH PRISM, photo by Christine O'Neill.

REPORTED & CONTROLLED SPECIES

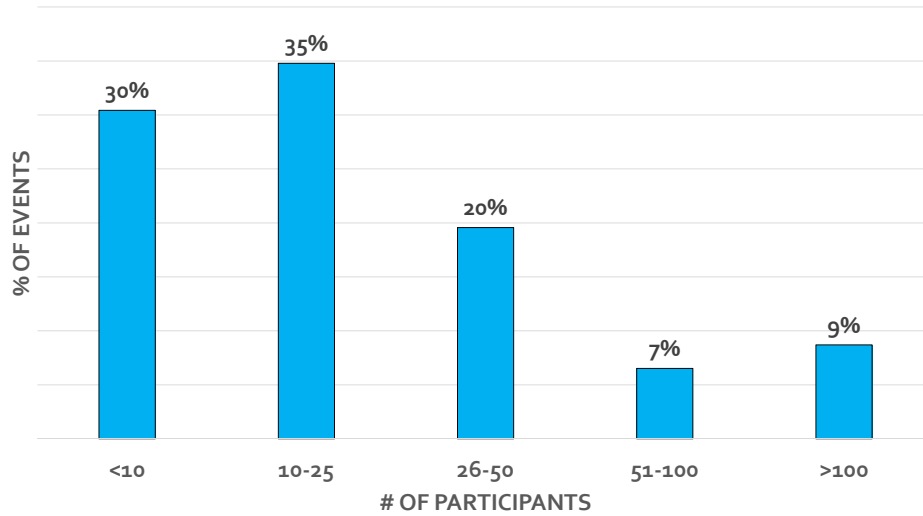
- Japanese barberry
- Oriental bittersweet
- Honeysuckle
- Japanese knotweed
- Common buckthorn
- Multiflora rose
- Black locust
- Phragmites
- Mugwort
- Spotted knapweed
- Garlic mustard
- Porcelain berry
- Mile-a-minute
- Water chestnut
- Asian clam
- Sweet autumn virginibower



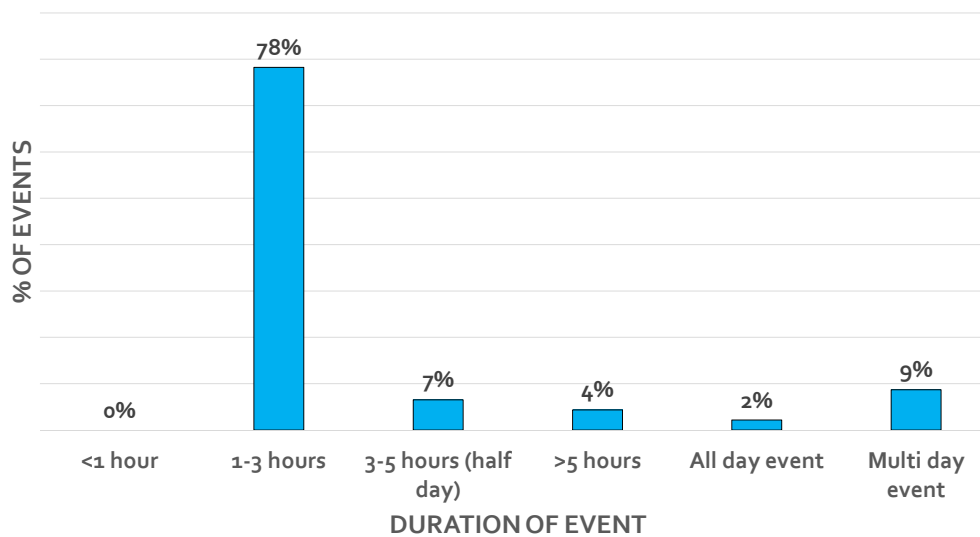
DAY OF THE WEEK



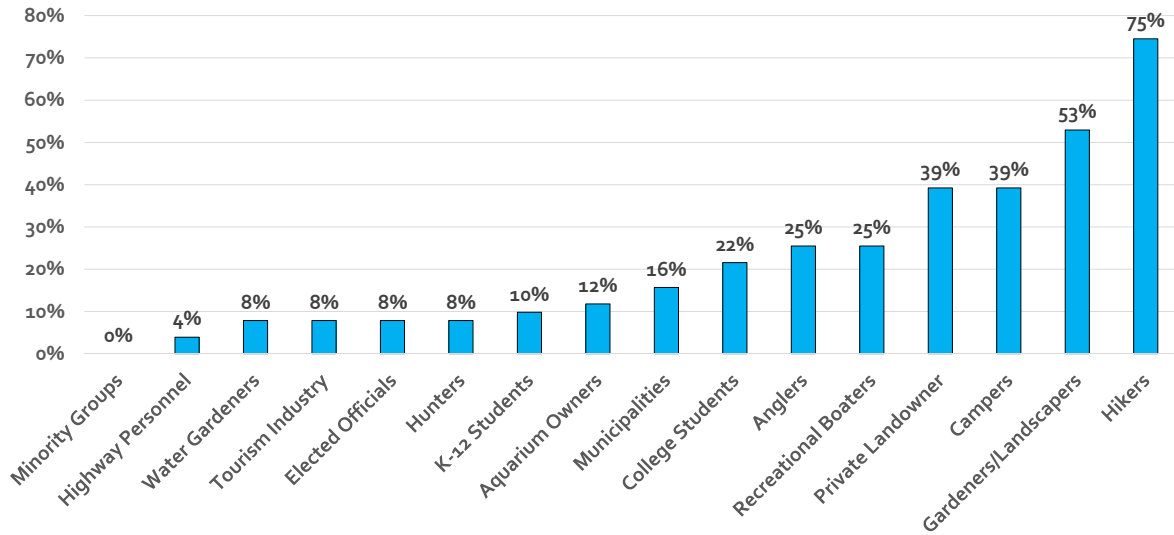
PARTICIPATION



DURATION OF EVENT



PARTICIPANT USER GROUP AFFILIATION



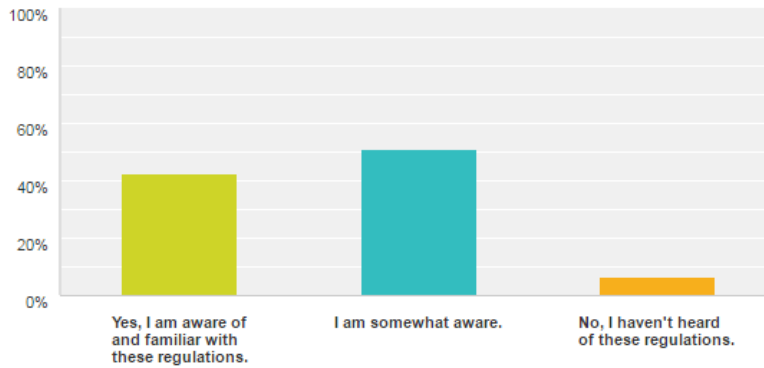
PARTICIPANT SKILL LEVEL

Participants were asked to rate his or her knowledge before and after attending the event. 1 = no knowledge or skill, 5 = very knowledgeable or skilled.

Skill	Before	After	% Change
Understanding of what an IS is	4.21	4.63	9%
Understanding of the impacts of IS	4.14	4.63	11%
Ability to identify a new IS	3.05	3.93	22%
Knowledge of methods of surveying, mgmt and removal of IS	3.22	3.89	17%
Understanding of what actions you can take to prevent the spread of IS	3.63	4.26	15%

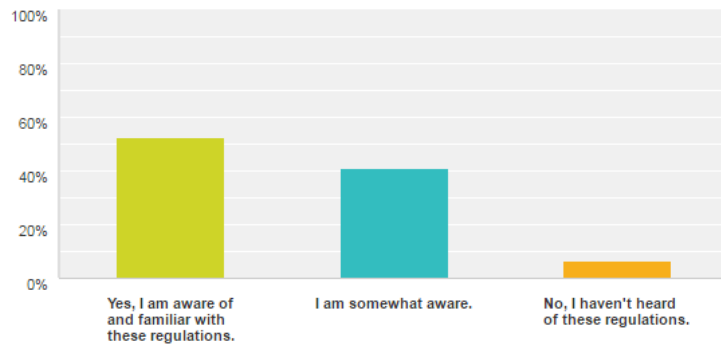
Are you aware of Part 575 regulations, which prohibits or regulates the possession, transport, importation, sale, purchase and introduction of select invasive species?

Answered: 61 Skipped: 0



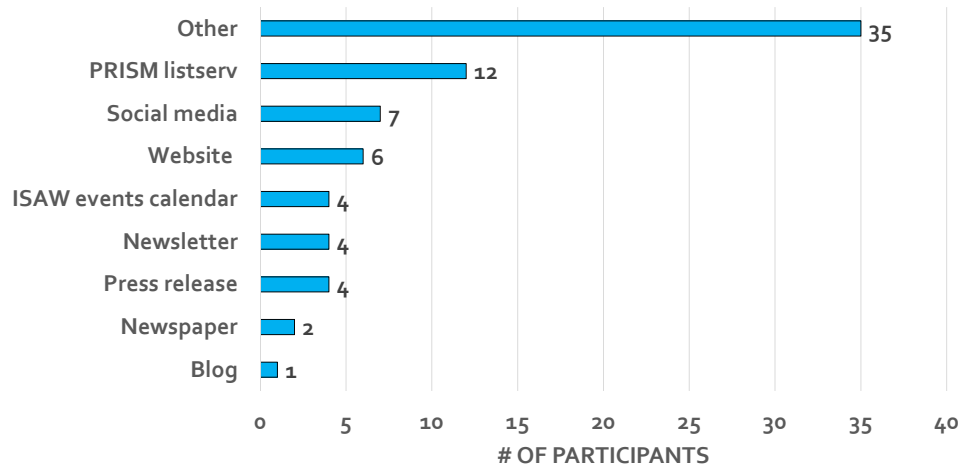
Are you aware of Part 576 regulations, which require that boaters take reasonable precautions to prevent the spread of aquatic invasive species before launching a watercraft or floating dock into public waters of the state?

Answered: 61 Skipped: 0



UGA2122081

HOW DID PARTICIPANTS LEARN OF EVENTS?

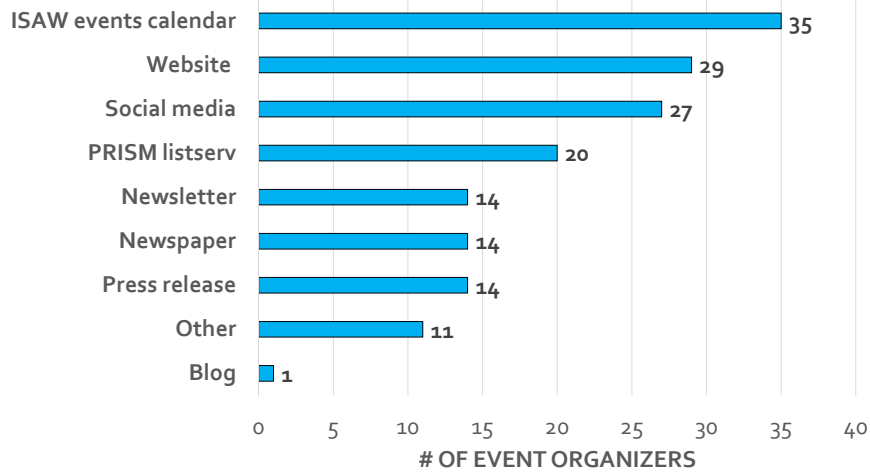


“OTHER” WAYS PARTICIPANTS HEARD OF EVENTS INCLUDED:

- Direct e-mail invitation
- Conservation association meeting
- Word of mouth
- Co-workers/friends
- Organization’s website
- Cornell Cooperative Extension office



WHERE DID ORGANIZERS ADVERTISE?



OUTREACH MATERIAL

- At 80% of events, outreach material was distributed
- What types of materials would be helpful for next year?

2016 New York Invasive Species Awareness Week FACT SHEET

What is NY ISAW?
The mission of the New York Invasive Species Awareness Week (ISAW) is to promote knowledge and understanding of invasive species and the harm they can cause by engaging citizens in a wide range of activities across the state, and empowering them to take action to help stop the spread.

When is NY ISAW?
The third annual NY ISAW is July 28 - 31, 2016. Visit www.nyisaw.info/about for event times and locations.

What is an invasive species?
An invasive species is a non-native species (plant, animal, insect, or disease) that is accidentally or intentionally introduced and causes harm, or has the potential to cause harm, to the environment, the economy, or human health.

Why are invasive species a problem?
Invasive species cause harm because of their ability to reproduce quickly, outcompete native species, and adapt to new environments. Because invasive species did not evolve with the other species in their new location, they often do not have natural predators and diseases that would normally control their population within their native habitat. Economists estimate that invasive species cost the United States more than \$120 billion in damages every year.

Which invasive species are of concern in NY?
NY has a number of invasive plants, animals and diseases. Visit www.nyisaw.info, <http://dohes.ny.gov/dohes/ifa/ifa.html> or <http://www.agriculture.ny.gov/PRISM.html> for specific species.

STOP THE INVASION
PARTNERSHIPS FOR REGIONAL INVASIVE SPECIES MANAGEMENT
New York State PRISMs

What are PRISMs?
Partnerships for Regional Invasive Species Management (PRISMs), comprising diverse stakeholder groups, were created to address threats posed by invasive species across New York State. PRISMs are key to New York's integrated approach to invasive species management. Partners include federal and state agencies, resource managers, non-governmental organizations, industry, municipalities, and interested citizens. The New York State Department of Environmental Conservation provides financial support, via the Environmental Protection Fund, to the best organizations that coordinate each of the eight PRISMs, resulting in statewide coverage.

What Do PRISMs Do?

- Plan regional invasive species management activities
- Implement invasive species prevention programs
- Conduct surveillance and mapping of invasive species infestations
- Detect new infestations early and respond rapidly
- Implement control projects
- Implement habitat restoration and monitoring
- Educate stakeholders on invasive species and their impacts
- Coordinate PRISM partners
- Recruit and train volunteers

HYDRILLA IDENTIFICATION

- Whorls of more than 3 leaves
- Leaves often have visibly toothed edge
- Leaf vein often has small visible spines

Notice the toothed edges and whorls of more than three leaves.

Think you've found hydrilla? Email us a picture of the plant stem against a light-colored background. If you can't send a digital picture, email us at isinfo@dec.ny.gov and we'll contact you.

SOCIAL MEDIA



Today at the Doctorow Center for the Arts, a FREE screening of Hemlock Woolly Adelgid: A Film about the Loss of an Ecosystem. Our friends from the Catskill Center will be on hand with experts for a Q&A session!

#NYInvasiveAwareness



SenecaParkZoo @SenecaParkZoo · Jul 8
Register by noon for #MapInvasives training and a guided hike with @FLPRISM July 13. [ow.ly/1aOT3021LpW](https://www.facebook.com/FLPRISM)



NYS Department of Environmental Conservation July 16 · 🌐

Invasive species negatively impact our ecosystems. You can help stop their spread by learning about the invasive species present in your area.

For more information visit: <http://www.dec.ny.gov/animals/1056650.html>
#NYInvasiveAwareness #NYISAW



Audubon Society of the Capital Region added 3 new photos July 16 · 🌐

the lunchtime crowd on the Empire State Plaza to learn about our many invasive species. We also had a great turnout for our important Bird Areas as well as checking out our new Invasive Species Awareness Week. NY Invasive Awareness Week, Cornell Cooperative Extension Albany County Public Library this past Wednesday!



WOULD YOU ATTEND A SIMILAR EVENT IN THE FUTURE?

"Absolutely, I love learning and making a difference!"

"Yes, this was the third year that I have participated in this event."

"Yes, this type of activity is something that I am passionate about and can help prepare me for experiences as both a student and a future member of the work force."

"Yes. The event was relevant, interesting, and actionable."

"Yes, and I'd like my kids to attend as well."

RECOMMENDATIONS

- Include trainings/activities that qualify for DEC pesticide applicator education credits
- Reach a larger audience with messages by utilizing radio spots and op-eds
- More media coverage at events
- Advertise events further in advance
- Working with non-traditional partners can help organizations reach a broader audience

FUTURE TOPICS

- Restore areas where invasive species have been removed
- Water chestnut statewide survey and reporting effort
- Lobbying visits in district and state offices
- Wild parsnip/giant hogweed
- Showcase success stories, restored sites
- Chemical controls for invasive species and public perception
- Biocontrol research and applications
- Invasive species related films/documentaries
- BMPs for landowners



ISAW 2017

- Summer dates TBD – syncing up with national campaign
- NISAW “in the capital” – February 26 – March 4
- Themes?



QUESTIONS?



Megan.Phillips@dec.ny.gov

(518) 402-8871

Appendix D:
National Education/Outreach
Campaign Materials



Home > About

About Don't Move Firewood

The 'Don't Move Firewood' website was developed building on conversations under the auspices of the Continental Dialogue on Non-Native Forest Insects and Diseases. The Continental Dialogue is a group of organizations and individuals that cultivates and catalyzes collaborative action among diverse interests to abate the threat to North American forests from non-native insects and diseases. The website is owned by The Nature Conservancy as part of its efforts to support the actions of the Continental Dialogue.



For more information on the Dialogue please go to: <http://www.continentalforestdialogue.org/>

The Dialogue's mission, vision, and agenda were developed by a group of leaders in diverse industries, universities, non-profit groups, and government agencies. The 'Don't Move Firewood' website has developed through the work of a Dialogue subgroup focused on the objective: "Communicate and Market Key Ideas about Protecting Forests." The Continental Dialogue Steering Committee approved development of the website. The following organizations formally support the website and play an on-going role in overseeing the content:

- Alliance for Community Trees
- American Forest Foundation
- American Nursery & Landscape Association
- National Association of State Foresters
- Partnership for Saving Threatened Forests
- Pennsylvania Department of Agriculture
- Purdue University, Department of Entomology
- Society of American Florists
- Society of American Foresters
- The Nature Conservancy
- US Forest Service, Northeastern Area

The 'Don't Move Firewood' website is owned by The Nature Conservancy and operates under the auspices of the Continental Dialogue on Non-Native Forest Insects and Diseases. The 'Don't Move Firewood' website follows the website privacy policy of The Nature Conservancy and the organization's terms of use and legal disclosures.

If you have a question, please email the website coordinator, Leigh Greenwood. Her email is LGreenwood "at" TNC "dot" org. Thanks!

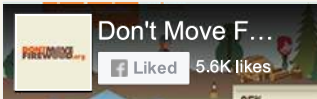
About

- Awards & Honors
- Funding
- Privacy & Terms of Use

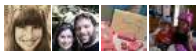
VIEW THE GALLERY



Get to know the pests that are destroying our forests.



You and 1 other friend likes this



Protect your #trees - learn to #TreeCheck2016 w/ this quick vid about the Asian longhorned beetle!
<http://ow.ly/mzmf302O3sh>

Share    

SIGN UP TO RECEIVE OUR NEWSLETTER



Firewood Professional Community Newsletter:

Monthly updates on firewood outreach, regulation, and industry

Email address

Tell us about yourself

- Please select -

Math question *

9 + 0 =

Solve this simple math problem and enter the result. E.g. for 1+3, enter 4.

Habitattitude | Protect Our Environment | Do Not Release Fish and Aquatic Plants

[Home](#) [Resources](#) [Activities](#) [News](#) [About the Partnership](#) [Become a Partner](#) [FAQs](#)



Habitattitude – Adopt a conservation mentality. Protect our environment by not releasing unwanted fish and aquatic plants.

Welcome to a site for aquarium hobbyists, backyard pond owners, water gardeners and others who are concerned about aquatic resource conservation. Americans enjoy a diversity of hobbies, many of which involve our natural environment. And protecting these resources is an important part of our overall enjoyment.

A concern we must all address is the expansion of harmful plants, fish and other animals throughout our country. Representing one of our greatest natural resource challenges, stopping the spread of these species appears simplistic, but global economic linkages complicate the issue. A variety of commercial and governmental activities have accidentally introduced aquatic invasive species and various aquatic resource users and consumers unknowingly spread them to other waters. If these species become established, they can wreak environmental havoc, degrade aquatic resources and make waters unusable for recreation.

This issue is relevant to everyone, but especially to those who enjoy aquaria, backyard ponds and water gardens. Increased scrutiny on our activities and their perceived linkages with the growing challenge known as invasive species requires us to show how we value and protect the environment.

If you have acquired an undesirable aquatic plant or fish species for your aquarium or water garden, it is important not to release these plants or animals into the environment. While most of these organisms will die, some may be able to survive. And a smaller number of those that do survive have the potential to create negative impacts on our natural environment and our wallets and misperceptions about our hobbies.

So, if you are faced with the situation of having an undesirable species, what can you do? By choosing between several alternatives, you can properly dispose of these unwanted aquatic plants or fish.

Prevention

- [Educate yourself about your hobby's potential environmental consequences](#)
- [Adopt these Alternatives to Release as responsible consumer behaviors](#)
 - [Contact retailer for proper handling advice or for possible returns](#)
 - [Give/trade with another aquarist, pond owner, or water gardener](#)
 - [Donate to a local aquarium society, school, or aquatic business](#)
 - [Seal aquatic plants in plastic bags and dispose in trash](#)
 - [Contact veterinarian or pet retailer for guidance about humane disposal of animals](#)

- [Model and promote these behaviors within your peer groups as ways for aquarium hobbyists and water gardeners to show our environmental values](#)
- [Become involved with policy solutions](#)

Become Informed and Take Action!

We can also become more informed about the invasive species issue. As hobbyists who appreciate the challenge of managing artificial micro-environments, it is important for us to understand the larger, potential consequences of our hobbies and how we can minimize them. This site is designed to help us learn about these potential impacts, particularly the risks associated with released or escaped aquatic plants and animals. Navigate through this site to get:

- [The latest news about the growing invasive species problem](#)
- [Alternatives to releasing unwanted aquatic plants and animals](#)
- [Impacts caused by these species](#)
- [Facts about the more common escapees or unintentionally released species](#)
- [Resources and ideas for you or your club to get involved with prevention efforts](#)
- [Support materials to help you understand and get involved with modeling and promoting responsible behaviors](#)

Impacts -- Why is it Important to Use These Alternatives to Release?

Because these unwanted aquatic plants and fish can:

- [Reduce natural biodiversity and native species](#)
- [Degrade ecosystem functions](#)
- [Damage commercial and recreational equipment](#)
- [Make lakes/rivers unusable for recreational and commercial activities](#)
- [Dramatically increase the operating costs of drinking water plants, power plants, dam maintenance, and industrial processes](#)
- [Affect human health](#)
- [Reduce property values](#)
- [Affect local economies of water-dependent communities](#)

Explanation of the Campaign - It's Not About the Fish and Plants, It's About the Behaviors!

Habitattitude™ is about consumer awareness and responsible behaviors. By drawing attention to the potential environmental ramifications of the aquarium and water garden hobbies while promoting responsible consumer behaviors, Habitattitude™ avoids the definition debate surrounding "invasive species." Ultimately, the campaign seeks to eliminate the transfer and survival of any species outside of your enclosed, artificial system, which has the potential to cause the loss or decline of native plants and animals.

Web Site Still Under Construction

The Habitattitude™ campaign was recently unveiled at the first joint trade show between the pet and aquarium industry and the nursery and landscape industry. This site came online during the unveiling. Currently, many links are not active. Over the next couple of months, these links will become active and various new features will be added to the site to enhance its value as the central resource for the Habitattitude™ campaign.

[Resources](#) | [Activities](#) | [News](#) | [About the Partnership](#) | [Become a Partner](#) | [FAQs](#)

The Habitattitude™ web site is part of the [ANS Task Force](#) public awareness campaign and is sponsored by the [U.S. Fish and Wildlife Service](#)



Protect Your Waters

STOP AQUATIC HITCHHIKERS!

[Hitchhikers](#) [Impacts](#) [Prevention](#) [Resources](#) [News](#) [Activities](#) [About Us](#)

[Contact Us](#)
[FAQ](#)

About Us

- [Background](#)
- [National Campaign: Call to Action](#)
- [Campaign Outreach](#)
- [Campaign Sponsors](#)
- [Clarification of Terms](#)
- [Historical Emergence of ANS](#)
- [The Response](#)

Background of the Aquatic Hitchhiker problem:

Intentional Introductions. Throughout history, man has experimented with intentional introductions of exotic plant and animal species for a variety of reasons. While many introductions have produced beneficial results, a very small minority has created significant negative impacts.

- **Positive Example:** The rainbow trout were once only native west of the continental divide. Today they provide countless hours of enjoyment throughout the country. However, even the rainbow trout is not welcome everywhere. If introduced into waters with a native cutthroat population, rainbow trout can cause a decrease in the cutthroat population.
- **Negative Example:** The common carp was first brought to the U.S. in the late 1800's as an easily domesticated food fish. They have since spread throughout the U.S. causing problems for waterfowl and native fish and vegetation. Carp browse on submerged vegetation - uprooting plants on which ducks feed, muddying the waters and destroying vegetative foods and cover needed by other fish.

Unintentional Introductions. On the other hand, unintentional species introductions are increasing and have created tremendous problems. The negative impacts are affecting our natural resources, our economy and in some instances human health.

- Zebra mussels were accidentally released via ship ballast water and into the Great Lakes. From there they have begun to spread around the eastern half of the country causing extreme economical and ecological damage.

Spread increasing: Regardless of intent, the introduction of non-native, harmful plants and animals to unspoiled saltwater and freshwater areas has increased dramatically in recent years. With the recent expansion of our global economy, transoceanic ships have inadvertently increased the movement of non-native, harmful aquatic species into this country. So, while water-based recreation users are not the primary problem, studies have shown that various recreational activities have unintentionally contributed to the spread of these species around the country. Hundreds of these potential hitchhikers, such as zebra mussels, hydrilla, sea lamprey, whirling disease, and purple loosestrife are making their way into precious and quality lakes and streams across the U.S. Once established, these non-native species can create negative impacts.

Water-based Recreation Impacts: As a highly mobile society that enjoys water sports, we travel extensively in pursuit of new recreation areas. Millions of people annually participate in boating, fishing, sailing, swimming, SCUBA diving, jet skiing, windsurfing and other water sports. Alone, these activities and people's pursuit of them produce significant positive impacts to our society and economy. But, when combined with a lack of awareness about aquatic hitchhikers and a lack of action that prevents their potential negative impacts, our country is facing a serious problem. Ultimately, this predicament could cost us millions of dollars and devastate the areas where we recreate.

Recreational users can accidentally pick up aquatic hitchhikers and spread them to other lakes, and rivers. Studies show that participants in these activities will take action to prevent introductions if they know what to do.

Conversely, without proper information, they will do nothing to prevent this problem. The "**Stop Aquatic Hitchhiker!**" campaign and web site were developed to keep the recreational user informed.

[Top of Page](#)

National Campaign - A Call to Action:

The "**Stop Aquatic Hitchhikers!**" campaign and this web site empower recreational users to become part of the solution in stopping the transport and spread of these harmful hitchhikers. You can help by taking the following actions:

- Understand the basic problem and solutions
- [Follow the recommended procedures](#) for cleaning items used in the water



Like SAH! and Share

Partnership Opportunities

[Become a Partner](#)

[Current Partners](#)

State Info Pages

[New Hampshire](#)
[Missouri](#)
[South Carolina](#)
[Arizona](#)

News

Check out the [Latest News](#) about the Stop Aquatic Hitchhiker Campaign and the aquatic hitchhiker problem.

Common Hitchhikers

[Zebra Mussels](#)
[Hydrilla](#)
[Whirling Disease](#)
[Spiny Water Fleas](#)
[Round Gobies](#)
[Water Hyacinth](#)

Video Clips

[Asian Carp in the Upper Mississippi River](#)
(Real Video format)

[Round Goby](#)
(Quicktime Format)

New Audio Messages for Traveler Information Systems

[Zebra Mussel](#) (mp3)
[Zebra Mussel#2](#) (mp3)

- [Avoid releasing fish/animals/plants](#) into waters.
- [Help inform others](#)
- [Get involved in policy and legislative solutions](#)

[Top of Page](#)

[Campaign Outreach:](#)

Campaign sponsors will use a variety of means, such as public service announcements, stickers, posters, magazine and newspaper articles, television and radio programs to make the public aware of this issue. Most material and announcements will include this web site address to direct individuals to visit and learn about how they can become part of the solution.

Individuals and clubs/organizations are being called upon to spread the message. [Support materials](#) will be available to help those who want to get involved.

[News](#) will be disseminated to the press and will be available to the public and press through this web site.

Media interested in running public service ads can ["Contact Us"](#) and the campaign sponsors will provide you with the appropriate formats.

[Top of Page](#)

[Campaign Sponsors:](#)

The national Aquatic Nuisance Species (ANS) Task Force, the U.S. Fish and Wildlife Service and the U.S. Coast Guard are the primary sponsors of this campaign.

[Top of Page](#)

[Clarification of Terms:](#)

For the purposes of this campaign and the related materials, Aquatic Hitchhikers are defined as non-native, harmful aquatic plants, animals or microscopic organisms that can readily be transported to other waters via popular recreational activities. Also, different terms will be used interchangeably throughout the campaign to describe aquatic hitchhikers. These terms include: *aquatic nuisance species*, *ANS*, *aquatic invasive species* and *non-native, harmful aquatic species*. Campaign sponsors use these multiple terms to facilitate a better understanding about the issue and to assist with the ease of your reading.

[Top of Page](#)

[Historical Emergence of the Aquatic Hitchhiker Issue:](#)

The U.S. has a long history of dealing with various kinds of harmful, invasive species. Our nation's agribusiness sector has waged an expensive war to address the impacts of terrestrial invasive species on production agriculture. However, in the late eighties, the Great Lakes zebra mussel invasion renewed the focus on aquatic invasive species. These introduced shellfish elevated the larger aquatic hitchhiker issue amongst resource conservation professionals due to their impacts on native, recreational and commercially valuable species. Also, the economic impacts incurred by Great Lakes power plants, drinking water facilities and other industrial water users created the political will to mount a national response.

While zebra mussels have received the most recent attention and have become the aquatic nuisance species poster child, the sea lamprey was the first high-profile aquatic nuisance species. Like zebra mussels, sea lampreys were introduced into the Great Lakes via trade and transportation expansion and were discovered in the mid-1800s. Over the past thirty years, the U.S. and Canadian governments have collectively spent millions of dollars to control sea lamprey impacts on the region's multi-million dollar commercial and recreation fishery resources.

[Top of Page](#)

[The National Response:](#)

The Great Lakes zebra mussel invasion hit home with many people and the 101st Congress responded by passing the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. This landmark piece of legislation created the **ANS Task Force** to coordinate the national response and provided a management

framework and additional guidance to federal resource agencies about specific introduction pathways. Essentially, this law set the course of action for the national response for the next ten years.

The creation of the new National Invasive Species Council has generated some attention for the larger invasive species issue (terrestrial and aquatic species). While the Council will elevate the issue throughout the entire federal government, the **ANS Task Force** remains the only legislatively authorized body that focuses solely on aquatic invasive species. As a catalyst that brings federal, state and private sector interests together, the Task Force focuses these interests on regionally significant issues. Comprised of seven federal agencies and eleven Ex Officio member organizations, the Task Force works through federal agencies and a regional panel and committee structure to conduct on-the-ground prevention and control activities. The Fish and Wildlife Service and NOAA are Task Force co-chairs and under their leadership, the Task Force implements a comprehensive approach to prevent and control ANS.

Known as the **ANS Program**, this approach contains the following elements. Please note that while each element is portrayed as a stand-alone focus area, effective prevention and control efforts require an integrated effort that combines all focus areas listed below.

- **Prevention** - As the central element of the ANS Program, prevention activities focus on developing and using risk identification and assessment processes.
- **Control** - Activities focusing on control include the suppression of ANS, reductions in populations to an acceptable level, and the adaptation of human activities and/or facilities to adapt to these invasions. The ultimate desire of these activities is to minimize harm to the environment and the public health and welfare.
- **Detection and Monitoring** - This element focuses on tracking all non-native aquatic species rather than just actual or potential nuisances, because it oftentimes takes many years for the impacts of a non-native species to be characterized as a nuisance. Thus, detection and monitoring activities have and will continue to focus on the big picture:
 - Developing and maintaining a comprehensive information system,
 - Coordinating input from multiple levels including federal, regional and state resource agencies, and
 - Ensuring that the field study capability is developed at all levels to assist with the verification of these non-native species.
- **Research** - Timely, pertinent research is essential to the success of the ANS Program. Scientifically valid information about the taxonomy, life history and physiology of non-native aquatic species, their effects on the environment and human activities, and their potential for becoming a nuisance is required for the multitude of decisions needed to refine and implement the Program. Also, biologically sound information is necessary to identify effective techniques for prevention, detection, monitoring, and control. The focus of the Research Element involves three components - (1) coordinating research activities, (2) developing and using research protocol, and (3) disbursing competitive research grants.
- **Education** - This element has two focus areas: (1) to support the core ANS Program elements, and (2) to engage targeted populations to become part of the solution in preventing the continued spread of ANS. Lack of awareness about ANS is only part of this complex issue. People need to know that their behavior can make a difference. For the initial outreach activities that are coordinated on a national level, decision-makers in all levels and branches of government will be one focus and other activities will focus on specialized user groups. Currently, activities concentrate on:
 - Facilitating initiatives by others
 - Assisting with identification of potential audiences,
 - Developing appropriate education materials and curricula,
 - Making cooperators aware of available educational resources,
 - Leading efforts to engage target audiences to become involved as part of the solution to the growing ANS problem.
- **Technical Assistance** - Providing assistance to states and local governments and other entities to help them minimize the environmental, public health, and safety risks associated with ANS is the focus of this element. More specifically, effective ANS management activities require coordination between many water users and multiple governmental authorities, ranging from sportsmen to municipal and industrial interests. The Task Force provides technical assistance to inform managers about impending or potential problems; access to the best technology and information available to minimize economic impacts and prevent further spread; an early warning capability; evaluative information about prevention and management programs; and synthesizes available scientific information into forms that can be best utilized by managers and decision-makers.

[Top of Page](#)

[Home](#) [Search](#) [Link to Us](#) [Site Map](#)



THE SPREAD OF INVASIVE SPECIES STOP HERE.



ABOUT

Working with a group of interagency partners, including the [University of Minnesota Extension](#), [Minnesota departments of Agriculture and Transportation](#), and [Explore Minnesota](#), the [Minnesota Department of Natural Resources](#) has launched **PlayCleanGo**, an education and outreach campaign for outdoor recreationalists. The goal is to encourage outdoor recreation while protecting valuable natural resources. The objective is to slow or stop the spread of terrestrial invasive species (those that occur on land) through changes in public behavior. The campaign is designed to foster active participation in actions designed to interrupt recreational pathways of spread for invasive species. **PlayCleanGo** promotes awareness, understanding, and cooperation by providing a clear call to action to be informed, attentive and accountable for stopping the spread of terrestrial invasive species.

We invite others with similar goals to utilize our materials. For more information on how to do become a **PlayCleanGo partner**.

The **PlayCleanGo** website is sponsored by the [USDA Forest Service](#) and the [Minnesota Department of Natural Resources](#), equal opportunity employers.

[Disclaimers and Policies](#)

Appendix E:
List of NY Educators Engaged in
Invasive Species Projects

Last Name	First Name	Organization	Grade Level	Data	Project Description	Class	PRISM
Berner	Kevin	SUNY Cobleskill	College	Y	EAB - working w/ Molly from CRISP, veg mapping project (2015)	Terrestrial Ecology	CRISP
Corbin	Jeff	Union College	College	Y	Mapping along Mohawk bikepath	Plant Ecology	Capital Mohawk
Pagano	Susan	RIT	College	Y	Capstone project - waterbodies	Ecology	Western NY
Korfmacher	Karl	RIT	College		Capstone project - waterbodies	GIS	Western NY
Folta	Beth	SUNY ESF	College		Lecture. Potential outreach by students to younger students.	Technology for Biology	Finger Lakes
Vogler	Donna	SUNY Oneonta	College	Y	Summer research for students and teacher data collection on marsh thistle	Field station	CRISP
Wong	David	SUNY Oneonta	College		Lecture	Lake Management graduate program	CRISP
Gooble	Marc	Cornell	College	Y	Mapped veg around Cornell Plantations	Field Biology	Finger Lakes
Kolozsvary	Mary Beth	Siena College	College		Lecture. Class will be monitoring for HWA and entering data. Garlic mustard management experiment.	Invasive Species, Environmental Science	Capital Mohawk
Brown	Bill	SUNY Potsdam	College	Y	Field mapping	Environmental Science	SLELO
Hargrave	Rebecca	SUNY Morrisville	College	Y	Field mapping	Invasive Species Mgmt	Finger Lakes
Parry	Dylan	SUNY ESF	College		Lecture	Invasive Species Mgmt	Finger Lakes
Amatangelo	Kate	SUNY Brockport	College	Y	Field mapping	Plant Biology	Finger Lakes
Penniman	Leah	Tech Valley High	High School	Y	Mapping at Schodack Island SP	Biology	Capital Mohawk
Nichol	Malynda	BOCES	High School	Y	Mapped marine invaders		LIISMA
Dickinson	Jamie	Hamilton/Fulton/Montgomery BOCES - PTECH	High School		Japanese knotweed in ADKs and Mohawk region		APIPP/Capital Mohawk
Dunn	Maureen	Ward Melville Heritage Organization	High School	Y	Perennial pepperweed mapping project	Summer Camp	LIISMA
Harvieux	Nadia	Finger Lakes Community College	College		Teacher training for highschool teachers		Finger Lakes
Slyer	John	Shaker Jr. High School, North Colonie Schools	Middle School	Y	Mapped invasive species on school grounds and around homes	Science (6th grade)	Capital Mohawk
Gailor	Laurel	4H Clubs	Middle/High School	Y	Common plants		Capital Mohawk
Berkowitz	Alan	Cary Institute	High School		Teacher training		Lower Hudson

Robinson	George	SUNY Albany	College		Working with ISCU to develop internship program, various graduate projects	Biodiversity, Conservation & Policy graduate program	Capital Mohawk
Cosgrove	Mary	St. Rose College	College		Graduate students in science education, looking for projects		Capital Mohawk
Daley	Michael	University of Rochester	College		Requested iMap account, exploring tools for possible use in class		Finger Lakes
Sebert	Stacey	Sand Creek Middle School	Middle School		Stacey hosted Project Learning Tree teacher training that featured invasive species topics (2016)		Capital Mohawk
Cassidy-Hanley	Donna	Cornell	K-12	Y	Collecting eDNA samples with K-12 students		Finger Lakes
Evans	Celia	Paul Smith's College	College		Working with AWI on the response of invasive and native aquatic plants to dessication during transport	General Ecology, Ecosystem Ecology	APIPP
Milbrath	Lindsey	Cornell	College		Research on swallowwort tolerance to defoliation and clipping	Entomology, Soil and Crop Sciences	Finger Lakes
Titus	Jonathan	SUNY Fredonia	College		Studies EAB in ash forest swamps, works with graduate students on oriental bittersweet and knapweed research	Environmental Biology, Ecology and Evolution	Western NY
O'Neal	Dawn	SUNY Albany Adjunct Professor/Huyck Preserve Exec Director	College, K-12		Fill in post phone call on 12/15	?	Capital Mohawk
King	Julie	North Country Community College	College		Surveyed host trees for HWA in Oct. 2016, students obtained iMap log-ins and class project	Environmental Science Lab	APIPP

Appendix F:
Existing Education & Outreach Resources
for New York State

Web Pages

New York State Department of Environmental Conservation:

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

New York State Department of Agriculture and Markets:

http://www.agriculture.ny.gov/PI/invasive_species.html

New York State Invasive Species Clearinghouse:

<http://www.nyis.info/>

Reports

State of Invasive Species Outreach and Education in New York: 2013-2014:

[http://www.nyis.info/user_uploads/files/State%20of%20NY%20IS%20Education%20and%20Outreach%202013-14%20FINAL%20062315\(1\).pdf](http://www.nyis.info/user_uploads/files/State%20of%20NY%20IS%20Education%20and%20Outreach%202013-14%20FINAL%20062315(1).pdf)

Final Report of the New York State Invasive Species Task Force, 2005:

http://nyis.info/pdf/NYS_ISTF_Final_Report.pdf

Surveys

Cornell Human Dimensions Research Unit – Invasive Species Awareness Study (Phases 1-3):

http://nyis.info/?action=isp_reports

Cornell Human Dimensions Research Unit – Assessing Capacity for Aquatic Invasive Species Outreach in Recreational Communities:

<https://ecommons.cornell.edu/bitstream/handle/1813/40340/HDRUReport15-7.pdf?sequence=2&isAllowed=y>

Cornell Human Dimensions Research Unit – Aquatic Invasive Species Outreach to Boaters and Anglers in the Lake Ontario Basin:

<https://ecommons.cornell.edu/bitstream/handle/1813/40360/HDRUReport14-05.pdf?sequence=2&isAllowed=y>

Brochures

Stop the Spread of Terrestrial Invasive Species:

http://www.dec.ny.gov/docs/lands_forests_pdf/stopspreadtterr.pdf

Beware Giant Hogweed:

http://www.dec.ny.gov/docs/lands_forests_pdf/ghbrochure.pdf

What You Need to Know about New York's Invasive Species Regulations:

http://www.dec.ny.gov/docs/lands_forests_pdf/is575regbrochure.pdf

Help Stop the Hemlock Woolly Adelgid:

http://www.dec.ny.gov/docs/lands_forests_pdf/hwabrochure.pdf

Plant Wise New York:

http://www.dec.ny.gov/docs/lands_forests_pdf/plantwisebrochure.pdf

Fact Sheets

Eurasian Boar:

http://www.dec.ny.gov/docs/lands_forests_pdf/eurasianboarfact.pdf

Hemlock Woolly Adelgid:

http://www.dec.ny.gov/docs/lands_forests_pdf/hwafactsheet.pdf

Hemlock Woolly Adelgid (Spanish):

http://www.dec.ny.gov/docs/lands_forests_pdf/eshwafactsheet.pdf

Hydrilla:

http://www.dec.ny.gov/docs/lands_forests_pdf/hydrillafactsheet.pdf

Wild Parsnip:

http://www.dec.ny.gov/docs/lands_forests_pdf/wildparsnipfact.pdf

Booklets

New York State Prohibited and Regulated Invasive Plants:

http://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf

New York State Prohibited and Regulated Animals:

http://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedanimals.pdf

Alternatives to Ornamental Invasive Plants

Tip Strips

Attention Boaters: Aquatic Invasive Species Regulations:

http://www.dec.ny.gov/docs/lands_forests_pdf/2016aistipstrip.pdf

Stop Aquatic Hitchhikers:

http://www.dec.ny.gov/docs/fish_marine_pdf/stopaqhhtip.pdf

Audio/Visual

The Hemlock Woolly Adelgid: A Film about the Loss of an Ecosystem by Chris Foito:

<http://thehemlockwoollyadelgid.com/>

Clean Drain Dry billboards

Trailhead kiosks

Boat launch signage:

http://www.dec.ny.gov/docs/fish_marine_pdf/invpanel18x24.pdf

http://www.dec.ny.gov/docs/fish_marine_pdf/invstandardsign.pdf

Curricula

Cornell Scientific Inquiry Series: Invasion Ecology:

<http://ei.cornell.edu/pubs/ie-2.html>

LEAF Anthology – Citizen Science: Invasive Species Tracking:

<http://www.nature.org/about-us/careers/leaf/invasive-species-tracking.pdf>

Project Learning Tree Pre K-8 Environmental Education Activity Guide – Invasive Species:

<https://www.plt.org/curriculum/environmental-education-activity-guide/>

Blogs

New York State Invasive Species Research Institute:

<http://www.nyisri.org/category/blog/>

New York State Integrated Pest Management Program:

<http://blogs.cornell.edu/nysipm/>