CRISP
Catskill Regional Invasive Species Partnership

2014 Annual Report

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CRISP Coordinator

CRISP is the Catskill Partnership for Regional Invasive Species Management (PRISM) and is hosted by The Catskill Center for Conservation and Development, Arkville, NY
www.catskillinvasives.com

Mission

To promote education, prevention, early detection and control of invasive species to limit their impact on the ecosystems and economies of the Catskills.

Background

The Catskill Regional Invasive Species Partnership (CRISP) made a serious impact in 2014. The program's newly fledged biological control program continued to grow and expand with the development of a new arm devoted to hemlock woolly adelgid assessment and control. CRISP's flagship early detection rapid response (EDRR) network with Cornell Cooperative Extension (CCE) collected hundreds of new invasive species data points and continued to educate the public on the threats of invasive species. The CRISP watershed steward program with SUNY Oneonta entered its third season, covering the major lakes, reservoirs and rivers across the Catskills. Additionally, outreach, education, and control projects by led CRISP staff and partners bolstered important activities taking place throughout the region. Forest pests remained a priority for the partnership this year as infestations of hemlock woolly adelgid (HWA) and emerald ash borer (EAB) continued to spread.

Many programs successfully undertaken in 2014 will continue into the future. As CRISP enters an interim 'extension' year between five year contracts CRISP partners have the opportunity to reflect on the last five year's work, and think strategically about future efforts. Despite the closure of the first five year contract, CRISP will continue to connect with new partners and seek effective ways to work on the gamut of invasive species issues. As we look ahead we can expect to see an increased awareness among our citizenry, a greater level of protection from new introductions, a decrease in spread of existing species, and more effective management of problem populations as a result of CRISP efforts.

CRISP Partners

Affiliate Organizations and Agencies	*CRISP Executive Committee Members*
SUNY College at Oneonta SUNY ESF New York Forest Owner Association Trout Unlimited NYS Department of Parks and Recreation NYS Department of Environmental Conservation	**2013 -2014** **Ethan Angell** New York State Department of Agriculture and Markets **Meredith Taylor** New York City Department of

Catskills Native Plant Nursery
Mountain Top Arboretum
Upper Delaware Council
Society of American Foresters
Hartwick College
Frost Valley YMCA
New York New Jersey Trail Conference
Catskill Mountain Club
Farm Bureau
Institute of Ecosystem Studies
Olive Natural Heritage Society
NRCS County Staff
Delaware River Basin Commission
Friends of the Beaverkill
Sullivan County Master Gardeners
Delaware Highlands Conservancy
Callicoon Creek Park Committee
Upper Susquehanna Coalition
Otsego Lake Association
Catskill Watershed Corporation
USGS
US Forest Service
USDA APHIS, ARS
Catskill Landowners Association
Ulster County Department of the Environment
Delaware County Planning Department
Catskill Clean Water Fund
Mine Kill State Park
Catskill Forest Association
Ashokan Stream Management Program

Environmental Protection

Kris Gilbert
New York State Department of Transportation

Karen Rauter
Sullivan County Soil and Water Conservation District
Rondout Neversink Stream Program

Tom Pavlesich
Watershed Agricultural Council

Ryan Trapani
Catskill Forest Association

Donna Vogler
SUNY Oneonta

Alan White
The Catskill Center for Conservation and Development

Jeff Wiegert
New York State Department of Environmental Conservation

Marilyn Wyman
Cornell Cooperative Extension of Greene County

Chris Zimmerman- Chair
The Nature Conservancy

CRISP Staff

Molly Marquand

CRISP Coordinator

Daniel Snider

Biological Control Assistant (SCA/AmeriCorps)

Lucy Potter

Outreach and Education Assistant (SCA/Americorps)

Accomplishments

Prevention

CRISP Watershed Stewards

In May, 2012, CRISP and the Biological Field Station at SUNY Oneonta launched a pilot Watershed Steward Program (WSP) to prevent introduction and spread of aquatic invasive species in the CRISP region. This program entered its third season in 2014 and included boat steward teams on Lake Canadarago, Lake Otsego, the Pepacton reservoir and the Delaware River at the Delaware River National Scenic Recreation Area. Over 35 watershed stewards were trained by the Biological Field Station staff to greet boaters and anglers, discuss invasive species spread prevention, and collect watershed use data throughout the summer at high-use water body access sites. In just three and a half months, stewards interacted with over 5,000 waterbody users. Utilization of a data collection app on android tablets facilitated the gathering of consistent, complete data at the Pepacton Reservoir this season, and also dispensed with the need for a lengthy data sheet-to-excel spreadsheet transfer. Next year, stewards at the Lake Canadarago will also use tablets to collect data.

Signage at Boat Launches

In participation with the Otsego County Conservation Association, nine signs consistent with DEC signage and regulations were installed throughout Otsego County at high usage boat launch sites.

Early Detection Rapid Response

Early Detection Rapid Response Network

In partnership with Cornell Cooperative Extension, CRISP greatly expanded EDRR efforts in 2014. Each extension office within the CRISP region participated in a field season training for volunteers and staff on the County's highest priority early detection species in addition to providing free ID of invasive species to the public, manning an invasive species hotline, and recording over 300 new invasive species data points in the imap invasives database.

Top 25 Early Detection Plant Species List

In an attempt to prioritize survey, management, and education and outreach efforts relating to EDRR species, CRISP contracted with Paul Harwood, a local botanist in the Catskills region, to create a prioritized list of the 'top 25 EDRR plant species'. Drawing on previously existing lists from PA, NJ, and the surrounding PRISMs, each candidate species on the CRISP EDRR list was scored according to the Brooklyn Botanic Garden ranking system. High scoring species were then assessed for their ability to invade the habitats and ecosystems present in the Catskills. The highest scoring species meeting these requirements were added to the list. Mile a minute, and five leaf aralia are both on the list. The full version will be available on the website, March 2015.

Ludwigia peploides ssp. glabrescens	floating primrose-willow	Onagraceae	CRISP
Persicaria perfoliata (L.) H. Gross	Asiatic tearthumb	Polygonaceae	CRISP
Ampelopsis brevipedunculata (Maxim.) Trautv.	porcelain berry	Vitaceae	CRISP
Cabomba caroliniana A. Gray	Carolina fanwort	Cabombaceae	CRISP
Hydrilla verticillata (L. f.) Royle	waterthyme	Hydrocharitaceae	Lower Hudson
Reynoutria x bohemica	bohemian knotweed	Polygonaceae	Capital-Mohawk
Egeria densa Planch.	Brazilian waterweed	Hydrocharitaceae	Capital-Mohawk, Lower Hudson
Aralia elata (Miq.) Seem.	Japanese angelica tree	Araliaceae	CRISP
Brachypodium sylvaticum ssp. sylvaticum	slender false brome	Poaceae	Finger Lakes
Nymphoides peltata (Gmel.) Kuntze	yellow floatingheart	Menyanthaceae	Capitol-Mohawk, Lower Hudson
Paulownia tomentosa (Thunb.) Siebold & Zucc. ex Steud.	princess tree	Paulowniaceae	Lower Hudson
Phellodendron amurense Rupr	Amur corktree	Rutaceae	Lower Hudson
Hydrocharis morsus-ranae L.	common frogbit	Hydrocharitaceae	CRISP-Lower Huson

New Detections

Mile a Minute

A new infestation of mile a minute was discovered in Esopus, in the Scenic Hudson Chaupaneak nature preserve. Although the infestation is within the Lower Hudson PRISM, its proximity to the CRISP region is worrying, and merits further survey of suitable habitat in surrounding areas of Ulster County. Thus far, there is only one known occurrence of mile a minute in the Catskills, occurring on the Pennsylvania border in Cochecton, NY. This small infestation was controlled by hand pulling prior to fruiting by National Park Service staff and will be re-surveyed next June.

In an effort to raise awareness of mile a minute, an educational trifold brochure designed by the Hudson Valley Mile A Minute project was mailed to over 1200 households within a fifteen mile radius of the Cochecton infestation. As a result of this mailing, CRISP received many queries and phone calls and responded to one positive identification of mile a minute in Eldred, NY. The plants- growing in a garden bed- were removed and disposed of.

Five leaf aralia

Fairly widespread across the PRISMs to the south of CRISP's boundaries, five leaf aralia is a priority early detection species in the Catskills. A new population discovered on the banks of the Sawkill in Bearsville is therefore slated to be surveyed and controlled as soon as possible in 2015. The infestation, flanking a badly eroding river bank extends approximately 100 feet and is comprised of 40-50 small plants that have been managed by the landowner by weed-wacking for the last five years. Plans are still underway as to how to manage the population most effectively.

Control and Management

Giant Hogweed

Throughout the summer CRISP continued to control infestations of giant hogweed within Otsego, Ulster and Sullivan Counties. Populations were controlled using root cutting, with the exception of a single site in Sullivan County which was controlled using flower head removal and root cutting. Five additional sites were monitored during the summer to ensure previous control efforts had been effective. CRISP plans to have all known hogweed infestations within the region eliminated by 2018.

In addition, several PRISM leaders connected with a group of scientists researching *Heracleum* hybridization in Canada. Samples of a population of giant hogweed in Thompson displaying unusual characteristics were collected and sent to the research team to determine if the individuals are hybrids or belong to another species of *Heracleum* altogether. Results are pending.

A site in Sullivan County where flower head removal is being utilized to control the population (left). A case of mistaken identity: CRISP staff explore a reported sighting of giant hogweed in Hardenburgh and find the native *Heracleum maximum* instead (right).

Japanese knotweed

Following up on work funded in 2013, the Rondout Neversink Stream Program continued to treat patches of Japanese knotweed along the Rondout and Chestnut creeks. In total 19 patches of knotweed and 1 patch of phragmites on the Chestnut, and 49 plants on the Rondout were treated

with stem injection. Stream programs across the region were responsible for the following additional Japanese knotweed management work:

Little Delaware tributary – 1800 ft^2 JKW treated with stem injection and foliar spray

Beech Hill Brook – 4400 ft^2 JKW treated with stem injection and foliar spray

Thomson Hollow Brook – 300 ft^2 JKW treated with stem injection and foliar spray

Batavia Kill - 14 acres of JKW continuously treated through foliar spray and stem injection. This is primarily located within a large stream restoration project, and is not eradicated, just suppressed to allow planted native trees and shrubs time to get established.

Water Chestnut

Following up work conducted in 2013, CRISP partners the Otsego County Conservation Association conducted 8 water chestnut hand-pulling events on Goodyear lake. Number of plants pulled or acreage managed was not calculated, but OCCA reports the population to be dramatically reduced from previous years.

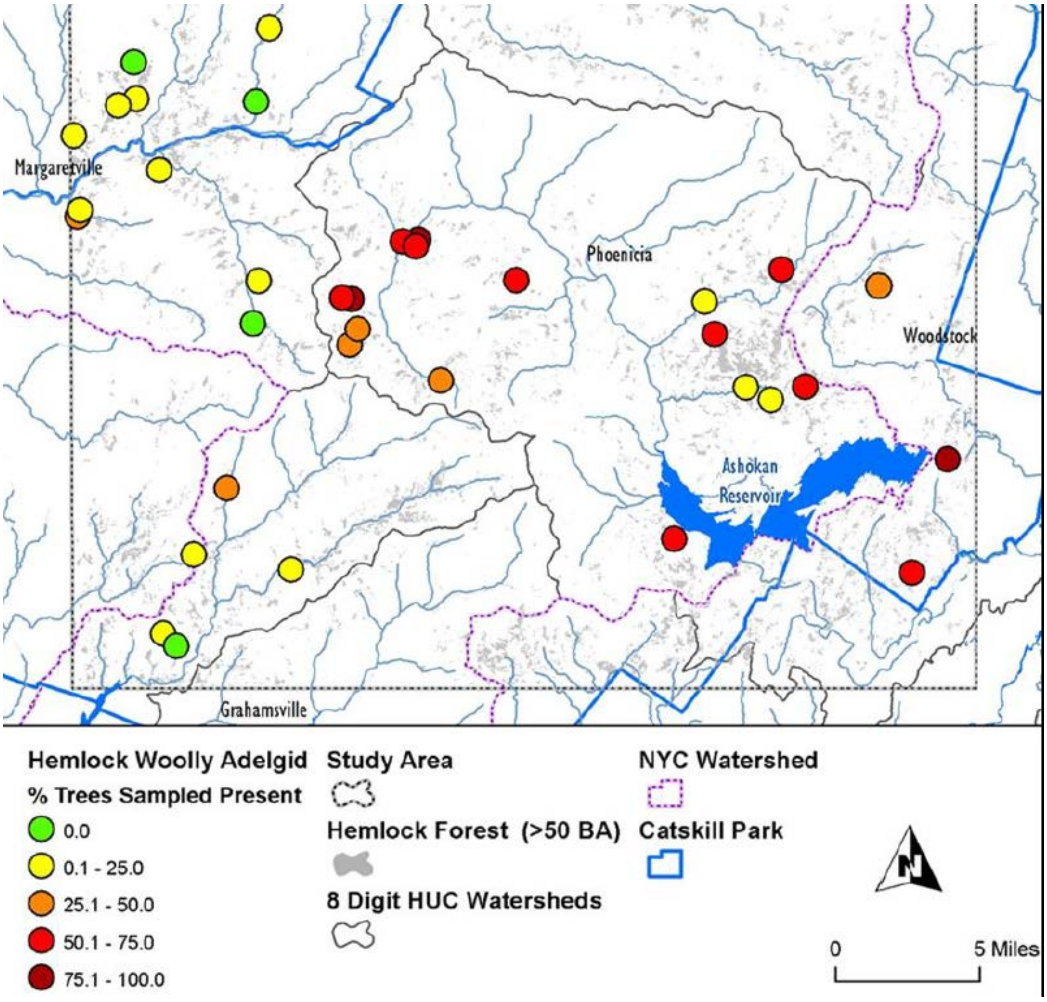
The Hemlock Project

CRISP and The Catskill Center built an insectary at the Thorn Preserve in Woodstock, with the goal of raising *Laricobius nigrinus* for release in the Catskills. The insectary is currently made up of 250 young eastern hemlock trees, with a 6-10 year time line for harvesting and releasing *Laricobius*. The nursery is projected to be able to raise up to 40,000 surplus *Laricobius nigrinus* for release, once operating at capacity.

Hemlock Woolly Adelgid Survey

CRISP also partnered with The Nature Conservancy in a wide-scale hemlock survey in the Catskills, covering three major watersheds. Thirty five hemlock stands were sampled across the Esopus, the East Branch of the Delaware, and the Neversink watersheds. The goal of this survey was to classify both the health of hemlock stands in the Catskills forest and to categorize the spread and density of hemlock woolly adelgid and elongate hemlock scale, to inform current and future conservation efforts such as biological control releases.

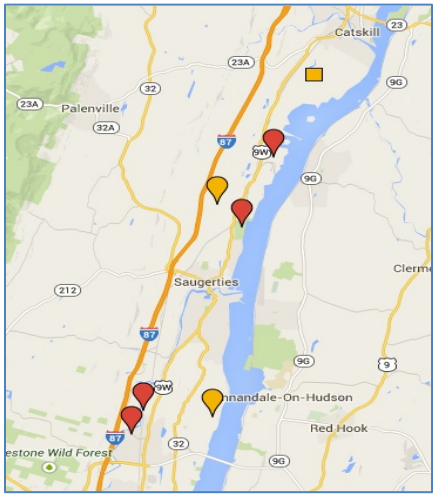
The survey found positive hemlock woolly adelgid presence in 89% of all hemlock stands sampled, with density of infestation roughly decreasing from east to west across the Catskills. Elongate hemlock scale was found in only 40% of the stands, with a similar east-west infestation gradient. Hemlock health follows a similar pattern, with the most healthy hemlock stands present in the Western Catskills and the stands facing most severe decline in the East. Using the data gathered, the survey revealed 3 potential release stands for *Laricobius nigrinus* in future.



The three stands selected as potential future release sites for *Laricobius nigrinus* are all in good health, with burgeoning populations of hemlock woolly adelgid. Repeat monitoring visits will determine the timing of these releases in the years or months to come. To date, only one release has been successfully made in the Catskills, at Mine Kill State Park in November 2013.

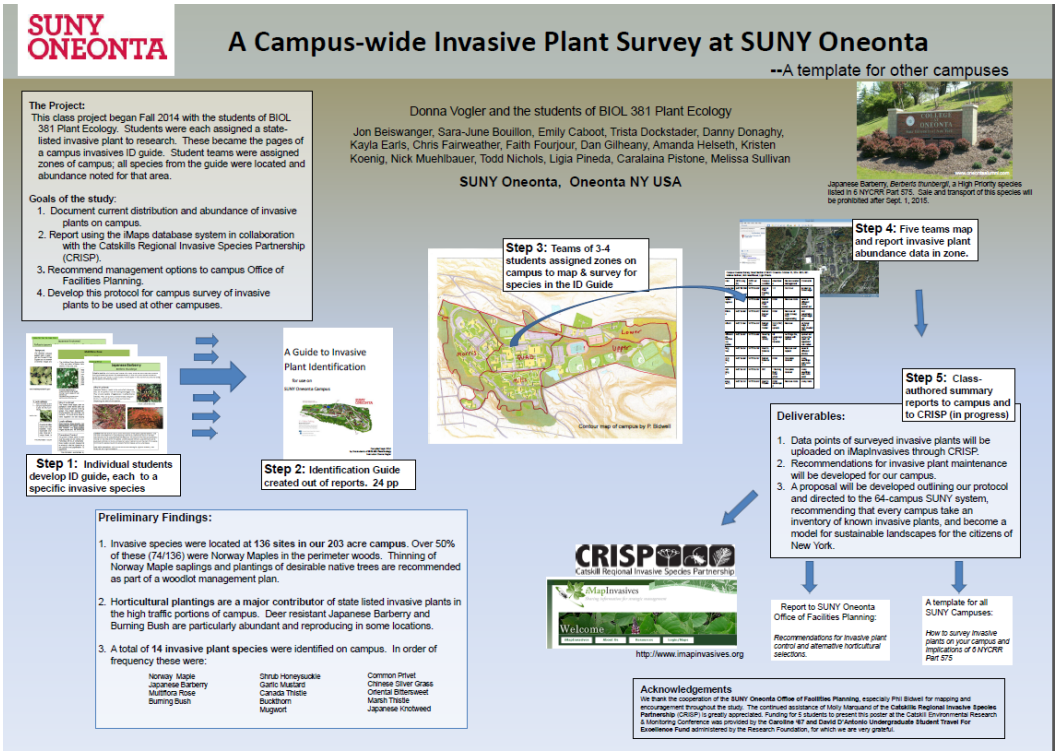
EAB Biological Control

Working once again with USDA APHIS and The New York State Department of Agriculture and Markets, CRISP staff aided in the release of three different parasitoid wasp species to control EAB. The 4 release 3 control sites are located just north of Saugerties. 2014 was an 'assessment' year to determine if wasps released in previous years had established and were breeding in the wild. Recaptures of the wasps were seen at 6 of the 7 sites tentatively indicating the preliminary stages of successful establishment.



Awareness

Biocontrol assistant Daniel Snider participated in the Catskills Environmental Research and Monitoring conference poster display for CRISP at Bellayre, as did our partners at SUNY Oneonta. The students at Oneonta detailed their undertaking of a campus wide invasive plant survey. The conference draws researchers, students and professionals from all over the region.



<u>Development of Outreach Materials</u>

Mile-a-minute mailing

Sent to over 1200 households in close proximity to the observed infestation in Cochecton, NY, this mailing was a collaboration between many CRISP partners.

Get Involved!

Volunteers and home owners are especially important to slowing the spread of this aggressive invasive plant. Each year, volunteers help remove Mile-a-Minute from select sites in the Hudson Valley. We also depend on your eyes to spot and report new patches of Mile-A-Minute.

If you think you have Mile-A-Minute on your property or would like to volunteer to help with control projects, please contact the The Catskills Regional Invasive Species Partnership (CRISP) Coordinator at (845) 586 2611

The Mile-a-Minute Project of the Hudson Valley, and other organizations like CRISP and the National Park Service have mounted an early detection and rapid response effort to address the invasive mile-a-minute vine. Many partners have collaborated to set up this system . The ultimate goal of this project is to eradicate mile-a-minute wherever possible and to halt the expansion of the vine in New York State.

For more information about mile-a-minute please visit our website www.catskillinvasives.com

or contact us at:

Catskill Regional Invasive Species Partnership
The Catskill Center
43355 state route 28
Arkville, NY
(845) 586 2611 Ext. 103
catskillinvasives@gmail.com

WANTED

MILE-A-MINUTE VINE

2015 Invasive Species Youth Poster Competition Calendar

As part of New York State's first ever Invasive Species Awareness Week in July, 2014, CRISP asked students from around the Catskills to participate in an invasive species poster competition. Thirteen winners were selected, and their artwork compiled in a fun and informative 2015 calendar.

Festivals/Tabling

CRISP staff attended many events and festivals in 2014 and interacted with over 700 people.

- 75 people, 2/8 Winter Hoot, Olivebridge, NY
- 50 people, 2/1 Snowfest, Mine kill State Park, Gilboa, NY
- 50 people, 4/12 Earth Festival, Cooperstown, NY
- 55 people, 5/10 Trailfest, Kingston, NY
- 100 people, 7/20 Mine Kill Summerfest, Gilboa, NY
- 200 people, 8/2 Schoharie County Sunshine Fair, Cobleskill, NY
- 100, 8/23 Summer Hoot, Olivebridge, NY
- 75 people, 8/24 Catskills Forest Festival, Margaretville, NY

Training sessions and workshops

CRISP continued to prioritize education and outreach in 2014 and trained approximately 800 participants in topics ranging from EAB identification to reporting procedures for early detection species observations.

Feb 1st Biological control presentation, Mine Kill, 7 participants

March 8th, HWA survey at Minekill State Park, 27 participants

April 7th, Beetle Busters in Acra, Agroforestry Resource Center, 15 participants

April 7th, Early Detection Rapid Response training, Sullivan County CCE, Liberty 13 particpants

April 8th, Eurasian Boar presentation, Hancock Town Hall 18 participants

April 8th, Early Detection Rapid Response Training, Hancock Town Hall 12 participants

April 14th, Beetle Busters, Ulster County CCE, Kingston, 13 participants

April 22nd, Eurasian Boar presentation, Liberty CCE, 12 participants

April 28th, Early Detection Rapid Response, Acra Agroforestry Resource Center, 22 participants

May 1st, Imap training/CRISP partners meeting, Ashokan Center, 18 participants

May 12th, Imap training, Liberty CCE, 13 participants

May 29th, Beetle Busters, Otsego CCE, 10 participants

June 13th, Aquatic Invasive Species ID and survey technique workshop, Kingston DEP lab 35 participants

July 6th, ISAW Festival, over 350 people

July 11th, ISAW Educational Hike in Delaware 12

July 12th, ISAW Farmers Market Tabling in Sullivan, 20

August 12th EDRR presentation in Cooperstown, 11

August 20th EDRR presentation in Davenport, 9

September 24th, HWA survey at Minekill, 21

September 26th, HWA survey at Minekill, 23

October 1st, Ash seed Collection workshop, Arkville, 6

October 6th, Lark in the Park, Indian head, 13

October 7th, Invasives at Thorn, CLIP, Woodstock, 4

CRISP staff at Mine Kill State Park's Snow Fest

October 9th, Common Invasives, CLIP, Roscoe, 9

October 16th, Common Invasives Imap training, Cobleskill, 46

October 21, Common Invasives, Margaretville school, 47

November 10th, Save the Hemlocks Art Exhibition Opening, Margaretville, 10 participants

December 3rd, Understanding biological control, Woodstock, 15 participants

December 11th, Understanding biological control, Kingston, 9 participants

Other programs and outreach efforts

Beetle Busters/First Detectors

In 2014 CRISP continued to spread the word about forest pests like emerald ash borer and Asian longhorned beetle throughout the region. Streamlining information with Cornell's 'First Detectors' training, CRISP ensured consistent messaging and information pertaining to forest pests were dispersed throughout the Catskills. Participants of the program were trained to act as repositories of forest pest knowledge for their communities and received a certificate of completion, an identifying tee-shirt, and a plethora of helpful literature to distribute. Since the program's inception in 2012, over 350 people have participated.

National Ash Tree Seed Collection Initiative

Partnering with the US Forest Service and the Greenbelt Native Plant Center, CRISP joined a national effort to save the genetic diversity of the ash genus, *Fraxinus*, through seed collection. Participants of the fall training program were taught how to identify different ash species and collect seeds following US Forest Service collection protocols. Seeds from two ash trees within the CRISP region were collected and sent to the national laboratory in Colorado for long term storage, and the Greenbelt Native Plant center for midterm storage.

Policy

In 2014, CRISP participated in the review of several important pieces of invasive species legislation by lending support and comments to draft regulations. The first piece of legislation prohibits the importation, release, sale, breeding and hunting of Eurasian boar in New York State

and is currently in effect. The second piece of legislation governs the sale of prohibited invasive plant species within the state, making the sale of particularly aggressive species such as Japanese barberry illegal, after a discreet grace period. For a full listing of species, please see the DEC webpage under 'Part 575, regulated and prohibited invasive species'.

Lastly, CRISP commented on the newly unveiled state boat launch regulations. This new piece of legislation requires boaters to remove all visible plant and animal material from watercraft before launching or retrieving their vessel from the water. Additionally, CRISP participated in the conversation and development of boat launch regulations at the local level in Otsego County, under leadership from the Otsego County Conservation Association. This effort is currently still ongoing.

Plans for the future and ongoing planning

In 2015, CRISP plans to reassess past goals in order to set better targeted priorities in anticipation for a new five year contract beginning in 2016.

Spring 2015

- Continue assessing sites throughout the region for HWA biocontrol releases
- Complete required documents for approval for new 5 year contract
- Prepare for activation of Part 575 regulations and Plantwise NY campaign

Summer 2015

- Continue EAB biocontrol work with USDA APHIS and NYSDAM
- Rapid assessments of all 2014 early detection findings