



Invasive Plants Council

Ninth Annual Report

December 13, 2011



INVASIVE PLANTS COUNCIL
NINTH Annual Report
December 13, 2011

The Honorable Edward Meyer
State of Connecticut Senate
Legislative Office Building, Room 3200
Hartford, CT 06106

The Honorable Richard Roy
State of Connecticut
House of Representatives
Legislative Office Building, Room 3201
Hartford, CT 06106

Dear Senator Meyer, Representative Roy, and other members of the Environment Committee:

As Chairman of the Invasive Plants Council, I respectfully submit this letter and attachments for activities conducted during 2011. This Council was established and operates pursuant to Connecticut General Statutes 22a-381 through 22a-381d, and is responsible for the following: developing and conducting initiatives to educate the public about the problems created by invasive plants in lakes, forests and other natural habitats; recommending ways of controlling their spread; making information available; annually publishing and updating research into invasive plant control, including the development of new non-invasive plant varieties and methods for controlling existing species.

The Council

It is with great sadness that I report the passing of two of our most prominent and dedicated Council members, Drs. Leslie J. Mehrhoff and Mary Musgrave. Les and Mary were both long time members who have been instrumental to the Council's success. Their leadership, technical expertise, humor and spirit will be deeply missed (see attachment 1- In Memoriam).

The Council consists of nine members representing government, the nursery industry, scientists, and environmental groups (see attachment 2). The Council, especially since it has had the professional assistance of the State's Invasive Plant Coordinator, has repeatedly demonstrated that it can find solutions to problems and work constructively. The Council has met 8 times since the eighth annual report dated December 14, 2010. See attachment 3 for the approved minutes for 8 meetings, including those for the December 14, 2010 meeting. The minutes for the December 13, 2011 meeting are not yet approved, and so will appear in next year's report.

One very important benefit of the Council is that it provides the well structured, legislatively authorized forum needed to forge and implement a cohesive invasive plant management strategy. With representation from the State's key plant related agencies, educational institutions, plant businesses and non-profit organizations, the Council has been able to develop the consensus strategies and the unity needed to begin addressing the many problems posed by invasive plants.

I am Bureau Chief of the Department of Energy and Environmental Protection (DEEP) Bureau of Natural Resources, and serve as Chairman of the Invasive Plants Council. Louis Magnarelli, Director of the Connecticut Agricultural Experiment Station (CAES) serves as Vice Chairman. Changes in membership since last year's report include the addition of Dr. John Silander of the University of Connecticut and the Invasive Plant Atlas of New England (IPANE; replacing Les Mehrhoff), Dr. Richard McAvoy also of the University of Connecticut (replacing Mary Musgrave and representing the Dean of the College of Agriculture and Natural Resources), and Steven Reviczky, Commissioner of the Department of Agriculture (replacing former Commissioner Philip Prelli).

The Council acknowledges the cooperation of the Connecticut Department of Agriculture for providing conference room space for this year's meetings. Mr. Logan Senack, the state's Invasive Plant Coordinator, is thanked for taking care of the various necessary administrative duties that make it possible for the Council to meet and follow through on its initiatives. Through the end of this fiscal year, state funds provided by the Department of Energy & Environmental Protection (DEEP) allowed for the hiring of Mr. Senack through a cooperative agreement with the University of Connecticut. This support for the Coordinator position and operating expenses has been invaluable to the Council and to our efforts to combat the introduction and spread of invasive plants.

Council Activities

We are very pleased with the work done by Connecticut's Invasive Plant Coordinator, Logan Senack, who was hired in December 2008 through a DEEP project agreement with the University of Connecticut and continued in that role this year. This position is jointly supervised by Nancy Murray of DEEP and Donna Ellis of the University of Connecticut (UConn) Department of Plant Science and Landscape Architecture. The Coordinator position is absolutely critical to the success of Connecticut's response to invasive plants. The Coordinator oversees these programs, further developing early detection and rapid response procedures for emerging problems and coordinating the implementation of a comprehensive State invasive plant control and prevention program. In addition, the Coordinator is responsible for organizing and overseeing volunteer efforts to remove invasive plants in communities throughout the state. With the Coordinator in place, the Council continues to serve as an advisory body to DEEP as it moved these programs forward. The following is a summary of Council activities and accomplishments during 2011.

A report entitled "Guidelines for the Disposal of Terrestrial Invasive Plants" was prepared by the Invasive Plant Coordinator in collaboration with staff from DEEP and UConn Department of Plant Science and Landscape Architecture. This report provides information which will help prevent the unintentional spread of invasive plants during the disposal of plant material. These guidelines are available to the public in hardcopy and through the Connecticut Invasive Plant Working Group Website (<http://www.hort.uconn.edu/cipwg/>).

The Invasive Plants Council and DEEP hosted an all-day workshop on "Invasive Plants & Habitat Improvement" on June 1 at the DEEP Sessions Woods Wildlife Management Area in Burlington, CT. The workshop focused on conducting invasive plant control with limited

resources and the selective use of native plants to improve wildlife habitat. The target audience was municipal staff and members of conservation organizations. Attendance was over 100 and included representatives from more than 20 municipalities.

A letter has been drafted for distribution to companies active in the internet sale of plants. The intent of the letter is to inform internet sellers on CT's invasive plant laws. During 2012, the Council will attempt to develop a list of out-of-state retailers who sell directly to CT residents. Letters will be sent by DEEP once the list is compiled.

A list of retailers and wholesalers who have previously been identified by the CAES, DEEP or the Department of Agriculture as selling invasive plants is being compiled. The intent is to better direct the collective information, education, and monitoring efforts of each agency.

A subcommittee on cultivars has been established in response to guidance provided by the Office of the Attorney General in 2008. This subcommittee has been tasked with providing scientifically sound recommendations regarding the regulation of cultivars of plant species currently prohibited by Connecticut law. A cultivar is a plant type that has been intentionally bred or selected for certain characteristics that distinguish it from others of the same species. There is currently no consensus among science and industry representatives on how to best proceed with regulating these plants. It is hoped that information provided by this subcommittee will enable the Council to make progress on the cultivar issue during 2012.

Early detection and rapid response efforts to limit the distribution and impacts of mile-a-minute vine (*Persicaria perfoliata*) on the Connecticut landscape are ongoing. During 2011 the Invasive Plant Coordinator and others continued outreach efforts to inform the public and to gather information on new infestations. As a result of information gathered, removal efforts were undertaken in many Connecticut municipalities, including New Milford, Newtown, Sprague, Bridgewater, and Roxbury.

Suggested Plant Regulation Changes

As requested by members of the public, legislators, and the Attorney General, the Council has considered changes proposed to the list of invasive and potentially invasive plants in Connecticut. Requestors often fail to understand the nuances of the "LISTS" that the Council is charged with maintaining, and the list in the legislation that has banned certain plants determined by scientific criteria to be invasive by the Council.

During 2011 the Council initiated a review of the status of golden bamboo (*Phyllostachys aurea*) and yellow groove bamboo (*Phyllostachys aureosulcata*) in CT in response to a 2010 request from the Attorney General's Office and multiple calls and letters from a concerned landowner in Seymour. Site visits by CAES, DEEP, UConn, IPANE and the Invasive Plant Coordinator have been conducted in areas around the state where bamboo has been reported. The purpose of the site visits, coupled with a review of the technical literature on bamboo, is to determine the extent to which the species might qualify as invasive or potentially invasive under the requirements of CGS 22a-381b. A final determination by the Council is expected in December 2011, and will be included in our 2012 report.

Overview of Current Activities and Needs in Connecticut

Invasive plants continue to cause obvious environmental problems, and public concern about them continues to grow. During 2011, the Council continued to receive requests from land holders who want relief from the problems of invasive plants. Removal of invasives from minimally managed areas is a costly proposition, and the State would be well served by a program that prevents future invasions and provides educational and financial resources to implement eradication campaigns.

As mentioned in last year's report, the reduction in funding for the comprehensive state invasive plant program from \$500K/year to \$0 in 2010 was devastating. **We realize that budgetary times are difficult, but respectfully request support for key "keep-alive" functions, such as the Coordinator's salary and operating expenses. These total approximately \$90,000 per year and are absolutely essential if the state is going to be able to address the invasive plants problem.** This request is particularly critical for the coming fiscal year given the recent reductions in Agency funding and staffing.

In its nine years of operation, the Council has worked to refine the initial invasive plants legislation so that the mechanisms for inspection and enforcement are now in place for both terrestrial and aquatic problem plants. We have envisioned what a comprehensive invasive plants program would look like in Connecticut, and with the initial funding for the program, DEEP was able to move forward to create a Coordinator position and begin to implement this vision (attachment 6). Staff in DEEP have taken up the charge of responding to the invasive plants problem, and have utilized the resources and network that the Council provides. When state finances improve and funding for invasive plants is restored, this infrastructure is ready to fulfill the goals initially enunciated by the legislation that formed the Council in 2002. That said, the near term funding for the State Coordinator's position remains our top concern.

I and other Council members are available to answer questions and provide advice as needed. Feel free to contact me at (860) 424-3010 if questions arise.

Sincerely,



William A. Hyatt
Chairman

Attachments:

1. In Memoriam
2. Council members
3. Minutes of meetings
4. 2011 Revised Invasive Plant List
5. Running bamboo status update
6. DEEP Invasive Plant Program 2011 accomplishments
7. CAES Invasive Aquatic Plant Program
8. Green Industry update
9. Department of Agriculture
10. CT Invasive Plant Working Group
11. UConn Plant Science and Landscape Architecture
12. CT Sea Grant
 - a. Attachment 1
 - b. Attachment 2

In Memoriam

Leslie J. Mehrhoff



Les Mehrhoff (Dr. Leslie J. Mehrhoff) was an outstanding botanist and an accomplished and enthusiastic naturalist. He was well known in Connecticut (CT), New England, nationally and, in the past few years, internationally, with travels to China related to invasive species. He worked tirelessly to protect endangered species and to identify invasive plants and prevent their spread. One of his most recent awards was the United States Environmental Protection Agency Lifetime Achievement Award.

The CT Invasive Plant Council (CGS.22a-381) was established in great part by Les' advocacy to establish a legislative body that would address invasive plant issues, create a formal list of invasive plant species and potentially invasive plants.

Les' concern with non-native plants and their impacts to natural areas led to the creation of the Connecticut Invasive Plant Working Group (CIPWG) in 1997. He served as CIPWG Co-chairperson for many years. CIPWG members promote educational awareness of invasive plants and their non-invasive alternatives. Les drafted the first CT list of invasive plants and the scientific criteria that determine which plants are listed.

Another of Les' many initiatives was the creation of the Invasive Plant Atlas of New England (IPANE). This regional database tracks locations of invasive plants throughout New England and provides information on distribution of invasive species, their spread and population trends. DEEP is using this database to track locations of invasive plants in CT.

Les inspired, encouraged, mentored and educated so many people about protecting natural diversity and about the negative impacts caused by non-native invasive species. He influenced botanists, biologists, legislators, students and gardeners. He was an amazing photographer who used his pictures to give innumerable talks and presentations to educate people on biodiversity and the importance of protecting species and their natural habitats.

Les was a passionate botanist/biologist. His life's work has most certainly helped to protect the biological diversity of Connecticut and much of New England.

In Memoriam

Mary E. Musgrave Blasiak



Dr. Mary E. Musgrave served as the Chairperson of the CT Invasive Plant Council for three years starting in 2008 through 2010.

Mary was a very creative and highly regarded research scientist who specialized in space biology, studying the effects of microgravity on developmental and physiological processes in plants. She was the first person to grow plants from seed-to-seed in space. As a NASA investigator and advisor to the Russian space program, she had projects on both the MIR international space station and the US space shuttle.

Throughout her career Mary was an inspiration to her peers, a mentor to her students, a teacher of scientists and a graceful and resourceful administrator. Those closest to her remember Mary as “insatiably curious, fiendishly clever, a lover of first principles, taking delight in how things work, and carrying her enthusiasm for life into every aspect of her existence”. She also displayed a remarkably sophisticated sense of humor.

Dr. Musgrave began her professional career as a post-doc at Duke University working in space biology. In 1987, she joined the faculty at Louisiana State University/LSU AgCenter (Baton Rouge), was promoted with tenure in 1991, and rose to the rank of Professor in the Department of Plant Pathology and Crop Physiology in 1996. She served as Associate Dean in the College of Natural Sciences and Mathematics at the University of Massachusetts, Amherst from 1999-2003. From there, she moved to the University of Connecticut where she served as Professor and Head of the Department of Plant Science and Landscape Architecture until illness forced her to step down earlier this year.

INVASIVE PLANTS COUNCIL MEMBERSHIP

December 2011

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Invasive Plants Council
Tuesday Dec. 14, 2010
2 pm, Department of Agriculture
Hartford, CT

Council members present: David Goodwin, Bill Hyatt, Paul Larson, Lou Magnarelli, Tom McGowan, Les Mehrhoff, Mary Musgrave, Phil Prelli

Others present: Peter Aarrestad, John Blasiak, Pat Bresnahan, Donna Ellis, Bob Heffernan, George Krivda, Nancy Murray, Logan Senack, Richard Shaffer, Penni Sharp

1. Musgrave called the meeting to order at 2:07 pm.

2. Ellis brought in a cake and thanked Musgrave for all her accomplishments as Chair of the Invasive Plants Council. The group thanked Musgrave for serving as Chair for the past three years.

3. Musgrave distributed copies of the 2010 annual report

The report needs to be distributed to various state offices by Dec. 31, 2010.

*Note 12/15/10: An electronic copy will be available online at the following address:
www.hort.uconn.edu/cipwg/ipc.html -LS*

4. The group discussed two email votes that occurred between the November meeting and the December meeting

The votes approved the minutes for the November meeting so they could be included in the annual report and elected Magnarelli as Vice-Chair of the Council starting Jan. 1, 2011. Prelli moved (second: Hyatt) to accept the two email votes. **The Council decided to approve the email votes.**

5. Murray detailed DEP's projects from 2010 and priorities for 2011:

- Establish a data management system for early detection and rapid response species. Other more common species will continue to be reported to the Invasive Plant Atlas of New England (IPANE).
- Continue the Cooperative Agreement with UConn for Aquatic Nuisance Species (ANS) and reestablish a coordinating committee for ANS.
- Complete a Personal Service Agreement for zebra mussel surveys with federal ANS funding.
- Continue water chestnut control projects, phragmites control, and Landowner Incentive Program (LIP) control projects.

- Maintaining funding for the Invasive Plant Coordinator through the Cooperative Agreement with UConn is still a top priority, but the uncertainty of the budget process may make the funding situation unclear.

- Two mile-a-minute removal projects, a project to control aquatic invasives at Bantam Lake, and a project to control water chestnut were funded in 2010. The projects were funded by DEP using Supplemental Environmental Project (SEP) funds.

- DEP is seeking long-term funding for invasive plant issues by pursuing federal funding possibilities including options with the Association of Fish and Wildlife Agencies.

Magnarelli, Hyatt and Murray briefly discussed the phragmites control program and its relation to other mosquito control activities and Wildlife Habitat Incentive Program (WHIP)/Landowner Incentive Program (LIP) projects by DEP.

Musgrave asked how long the Invasive Plant Coordinator position was currently funded. Hyatt responded that the Cooperative Agreement for the Coordinator position was funded until June 30, 2011. DEP is attempting to find additional funding but that issue may not be resolved until the end of May or the beginning of June.

6. Frequency, topics, location and schedule of meetings for 2011

Hyatt and Senack provided meeting dates and information to the group for the 2011 calendar year. The meetings are scheduled to take place in room G8A of the Department of Agriculture, 165 Capitol Ave., Hartford, from 2-4 pm on the dates below:

January 11
February 8
March 8
June 14
September 13
October 11
November 8
December 13

Hyatt noted that a number of topics for the upcoming year had been outlined at the November 9, 2010 meeting and that these items will make a good starting point for discussions next year.

Musgrave asked if the Council could find more ways to help or assist homeowners as they work to control invasive plants on their own properties. Musgrave suggested that in addition to providing information and public education, projects such as the grants to municipalities program or other funding for invasive plant management projects could also be helpful.

Hyatt informed the group that DEP was working to find a way to add incoming funding to the Supplemental Environmental Projects (SEP) account. The SEP account provided funding for

three grants this year, but a method to increase the funding in the account is necessary so that funding could go out for grants to municipalities and other programs in the future.

Prelli asked if additional efforts could be made to ensure that activities, progress regarding invasive plant issues, and information about programs like the grants to municipalities program were making it to the public. He suggested contacting the Council of Connecticut Municipalities and the Council of Small Towns.

Murray asked if the Connecticut Invasive Plant Working Group (CIPWG) provided this sort of information to the public. Ellis responded that CIPWG, the CT Agricultural Experiment Station, and other groups do provide outreach materials and control information about invasive plants, but that CIPWG does not provide funding or sponsor grants to municipalities.

7. Legislative strategy for 2011

Musgrave asked Heffernan if he had any suggestions or thoughts on a legislative strategy for the 2011 legislative session.

Heffernan responded that he did not have any suggestions, but noted that this would be a very difficult legislative session and that the new administration and legislature may not have much experience with invasive plant issues. Heffernan suggested that the group might want to find out if any position papers for the new administration are being developed that should include invasive plant concerns, and they may want to find some way to educate the legislature about the Council's activities. Hyatt noted that if DEP has the opportunity to provide input to the legislature or administration about important issues, invasive plants would likely be included, along with other items.

Hyatt asked how the Council usually involves legislators in its work. The Council discussed inviting legislators to future meetings. Prelli suggested inviting legislators to the January meeting, to showcase the impressive accomplishments of the Council and DEP and to note the funding issue and any other issues that may need legislative attention. Hyatt suggested the group could assemble material for presentations focused on success stories.

McGowan reminded the group that it would be important to note that some coordination is needed to help the Council meet its legislatively required responsibilities and that funding for a position such as the state Coordinator position may be an inexpensive way of ensuring that this coordination still occurs effectively.

Prelli referenced an email from Heffernan suggesting that a working group be formed to address the cultivar issue. Prelli suggested that this might be a good idea and that the working group could prepare something in time for the next annual report. This would resolve the cultivar issue instead of postponing resolution to an indefinite future point.

Prelli suggested that individuals from the industry, from academia, and others not on the Council could contribute to the discussion of this issue in the working group. The group discussed the logistics and challenges of forming a working group and may correspond over the winter so that a group could be set up at the February meeting.

8. Old or new business

Mehrhoff reported that he checked the state invasive plant list and found that there are a number of plants on the list that do have associated cultivars, but many of them were not sold in the trade. Hyatt asked Mehrhoff if he could assemble a list of banned plants with cultivars that are or are not in the trade. Mehrhoff said he would start pulling the list together for a future meeting.

McGowan asked Murray and Bresnahan how the ANS committee will relate to the Invasive Plants Council. Murray responded that the ANS committee will be focused on implementing the ANS plan that was approved in 2006 for all taxa (not just plants) in aquatic and marine systems and will be primarily focused on reducing spread. The ANS committee will report to the Council and the Council will be able to provide feedback.

Murray noted that the ANS plan has been approved by the US Forest Service and other organizations, so actions approved in the plan may be fundable with federal dollars.

Hyatt added that some of the items in the ANS report are generic, for example the report includes development of early detection and rapid response plans, and that these items will provide a number of opportunities for the IPC to provide feedback to the ANS committee and vice-versa. Murray also noted that DEP and others continue to work with CIPWG on invasive plant issues statewide.

McGowan asked if there was any continuity planned for the ANS agreement after the first year. Murray said DEP wanted to keep the project going and Hyatt added that federal funding might be available for up to three future years. Funding does generally decrease in successive years but Murray noted that they were working on doing more with less funds.

McGowan suggested that the presentation for the legislators in January could include a comment that continued funding for the Coordinator position helps the ANS project move forward and that the ANS project helps with invasive plant coordination efforts. Murray informed the group that Senack will be assisting with ANS efforts in the next few months.

Ellis updated the group on the status of bamboo in Connecticut. Ellis thanked Heffernan and the CT Nursery and Landscape Association (CNLA) for providing information about bamboo as the cover story of the latest issue of the CNLA magazine, and for including bamboo as a topic at the upcoming CNLA 2011 Winter Symposium. Goodwin noted that it is still important to let the public know that even if bamboo is not considered invasive by the Invasive Plants Council, it is important that it be planted appropriately to avoid unwanted spread.

Prelli thanked the group for all their efforts and said it was a pleasure working with the group. The group thanked Prelli for his efforts and assistance. Larson also thanked Prelli for contributing his perspective on the many issues of invasive plants.

9. The next meeting is scheduled for Jan. 11, 2011, 2-4 pm in room G8A of the Department of Agriculture, 165 Capitol Ave., Hartford, CT.

10. Adjournment

Goodwin moved (second: Magnarelli) to adjourn the meeting. **The Council decided to adjourn at 2:55 pm.** Musgrave wished the group happy holidays.

Invasive Plants Council
Tuesday January 11, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Dave Goodwin, Bill Hyatt, George Krivda, Lou Magnarelli, Mary Musgrave

Others present: John Blasiak, Pat Bresnahan, Donna Ellis, Nancy Murray, Logan Senack, Penni Sharp

- The group held a moment of silence in remembrance of Les Mehrhoff, who died on December 22, 2010. Murray noted Mehrhoff's many contributions to the Natural Diversity Database Program (NDDDB), his work on endangered species, and his work on invasive species.

1. George Krivda arrived at 2:07 pm. A quorum was then present.

2. The minutes for the 12/14/10 meeting were reviewed. Senack noted a few non-substantive typographical errors. Goodwin moved (second: Musgrave) to approve the minutes. **The group decided to approve the minutes with the corrections.**

3. IPANE representative

The group discussed the process needed to fill the vacant seat on the Council and the statutory requirement that a representative of the Invasive Plant Atlas of New England (IPANE) be appointed by the Senate Minority Leader. Hyatt spoke with Dr. John Silander, who was Mehrhoff's Co-Principle Investigator for the IPANE project. Silander expressed an interest in attending but may not be able to make every meeting due to teaching responsibilities and other commitments and asked if Dr. Robert Capers could serve as a proxy in those situations. The group discussed the details of a proxy set up. Blasiak suggested that Capers be the appointed representative since Silander cannot attend every meeting.

Goodwin reminded the group that other seats on the Council may need to be reappointed as well, including the seat held by Tom McGowan that is appointed by the Governor.

Hyatt asked Musgrave and Magnarelli how filling vacancies had worked in the past. Magnarelli suggested sending a letter to the elected official responsible for the appointment with a suggested appointment and following up with a phone call. The group discussed whether to recommend Silander or Capers as the representative from IPANE. Krivda suggested putting both names forward to the Minority Leader of the Senate. Goodwin moved (second: Magnarelli) to forward both names to the Minority Leader of the Senate. **The Council decided to provide both names to the Senate Minority Leader.**

Hyatt will follow up with McGowan to make sure he is interested in continuing to serve on the Council. Magnarelli moved (second: Goodwin) that the Chair send a letter to the Governor on behalf of the Council recommending that McGowan be reappointed for the position. **The group decided to recommend McGowan to the Governor as long as he is willing.**

4. Murray provided the group with an update of activities from DEP

- A meeting of the Connecticut Aquatic Nuisance Species (ANS) Committee will be held Jan. 27 at UConn Avery Point. The meeting will restart the committee, review the list of ANS species, and begin to implement the CT ANS plan.

- Bresnahan distributed information about the new ANS wiki website, which will be used to help track and coordinate efforts on ANS. New information and new drafts of materials will be posted to the wiki so that people can share information and provide comments in a format more easily tracked and more accessible than emails.

- The zebra mussel Personal Service Agreement is in the final stages of approval. Funding was provided by the US Fish and Wildlife Service Aquatic Nuisance Species Program. The work will focus on surveys of high risk lakes and the Housatonic River watershed. Hyatt added that even though zebra mussels are not invasive plants, they are an extremely important invasive species in Connecticut.

- The final reports for the two mile-a-minute vine removal projects are due in June. The final report on the Bantam Lake project is due in February.

- DEP is hiring an ecologist/botanist. The new hire will work in the Wildlife Division and will have some involvement in invasive plants. Hyatt reported this is one of the few positions in DEP that was approved to be refilled after it was left vacant from the retirement incentive program in 2009.

Krivda left the room at 2:29 pm. A quorum was no longer present. The group decided to continue to discuss remaining matters informally.

Discussion of legislative briefing

The group discussed when to invite members of the legislature to attend a Council meeting and legislative briefing in February or March. The group discussed who to invite to the legislative briefing. Goodwin suggested inviting the entire Environment Committee or at least the Co-Chairs of the Environment Committee and suggested reserving a room in the Legislative Office Building for March.

Magnarelli suggested that February might also be a good time because March will be in the middle of budgetary discussions. Hyatt will get input from Dave Sutherland on planning the briefing. The group discussed inviting other legislators.

The group discussed the format of the presentation to the legislators. Musgrave suggested using the PowerPoint she gave during the CIPWG symposium in October 2010 as a starting point to build this presentation.

Hyatt will coordinate with Magnarelli about ways to invite the legislators. Magnarelli noted that last time the invitations were made via phone as it was the quickest way. Hyatt will also coordinate with Sutherland and will distribute drafts of invitations to the group via email.

Cultivar issue

The group discussed the schedule for topics for the year and when it would be best to discuss the cultivar issue. Musgrave asked whether a working group that was discussed at a previous meeting to take on this issue was going to be established. Hyatt noted that Mehrhoff was going to start drawing up a suggested working group, but now the Council will need to determine next steps in the future.

Reporting banned plants in commercial trade

Senack updated the group on issues associated with the reporting of banned plants appearing in the nursery trade and in pet stores. During 2009 and 2010, a number of reports were received by DEP regarding invasive plants being sold at garden centers and at pet stores, but DEP did not have enforcement authority for the prohibited plants list until Oct. 1, 2010. DEP requests any information that other state agencies have about any issues with banned plants, including issues where cultivars are found but allowed to remain for sale. DEP is interested in following up at these locations with education and outreach about the invasive plant laws and encouraging sellers to take corrective action before fines are given. Hyatt added that establishing a database of businesses selling banned plants would be a good way to focus outreach efforts and follow-up visits, and discussed the role of industry and other state agencies in providing data for the database. Magnarelli noted that it would be very important to let Bob Heffernan of the Connecticut Nursery and Landscape Association (CNLA) know about this plan so that businesses would not be surprised by the development of the list. Magnarelli pointed out that the work of inspectors becomes a public record, so businesses should be aware that any sales of prohibited species could become public records.

Murray stressed the need to stop the sale of banned plants to prevent their distribution and establishment in uncultivated settings.

Musgrave asked how the list of businesses would be used, as anyone would be able to access it through a Freedom of Information Act request. Hyatt replied that the primary purpose of the database or list would be to identify where banned species were being sold so that DEP could follow up with educational efforts to stop the sale of banned plants. Goodwin suggested such a list might be useful to identify patterns or identify out-of-state wholesalers or other businesses that may not be aware of the legal restrictions on some invasive plants in Connecticut. Murray agreed and added that if the database showed that a number of aquatic plants were being sold at pet stores, for example, then the data would help DEP to focus outreach efforts in that area of the industry.

Sharp asked if the database would be used to collect fines for violations of the statute. Hyatt responded that the database would be used first for outreach and education. Musgrave agreed with Magnarelli that it would be best to check in with Heffernan first.

Musgrave left the room at 2:57 pm.

Update on IPC Coordinator activities: disposal of invasives, Internet/mail-order trade

Senack updated the group on his work to find a way to address internet and mail-order sales of banned invasive plants. Senack reported that DEP plans to draft a letter to send to big-box

growers and catalog companies, asking them to post shipping restrictions for banned plants in their catalogs and on websites (e.g. “sorry, this product cannot be shipped to Connecticut”). Senack will work with Heffernan, Larson, and Goodwin for input on what groups to mail (wholesale companies, catalogs, etc.). This approach was used by the Massachusetts Department of Agricultural Resources with good success. Murray asked if this information could be redistributed to the Connecticut nurseries as well. Ellis noted that there are lists of registered Connecticut businesses and growers and Magnarelli suggested that CNLA may also be able to help distribute this information.

Senack updated the group on the status of guidelines for the disposal of invasive plants by homeowners. A draft document has been prepared and Murray, Ellis, and staff at DEP will provide comments. The group hopes to bring a revised draft to the IPC for distribution and comments for the February meeting, and hopes to provide revised recommendations by March.

Additional thoughts on Legislative strategy for 2011

Due to the lack of a quorum, this item was not discussed.

Other old or new business

Murray asked about the Department of Transportation’s (DOT) involvement with the Invasive Plants Council (a topic that had been discussed at previous meetings). The group discussed DOT’s work addressing the issue of invasive plants growing on sandpiles which are then moved around and distributed. Goodwin asked if anyone was surveying the areas around DOT sandpiles to see what plants may be growing on them. Hyatt noted that Mehrhoff had formerly taken the lead in working with DOT on the issues associated with DOT facilitated invasive plant dispersal.

Goodwin noted that DOT also worked to clear and maintain right-of-ways and asked if anyone was monitoring for Emerald Ash Borer (EAB) or Asian Longhorned Beetle (ALB). Magnarelli responded that many arborists do have training in EAB and ALB detection and that early detection will be extremely important in finding these destructive invasive insects. The group briefly discussed the planned incident response system that will be employed if these pests are found.

The meeting dissolved at 3:14 pm.

The next meeting will take place at 2 pm on February 8, 2011, at the Department of Agriculture Building in Hartford, CT.

MINUTES

Invasive Plants Council
Tuesday, February 8, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Bill Hyatt, George Krivda (for Steve Reviczky), Paul Larson, Tom McGowan, Steve Reviczky, David Sutherland

Others present: Pat Bresnahan, Donna Ellis, Bob Heffernan, Nancy Murray, Logan Senack

1. Hyatt called the meeting to order at 2:11 pm.

2. The minutes for the 1/11/11 meeting were reviewed. Larson noted two non-substantive typographical errors. McGowan moved (second: Larson) to approve the minutes as corrected. **The group decided to approve the minutes with the corrections.**

3. IPANE representative to IPC

Hyatt distributed copies of the letter sent from the Council to Senate Minority Leader McKinney requesting that the Senator appoint Dr. John Silander as the Invasive Plant Atlas of New England (IPANE) representative to the Invasive Plants Council and to appoint Dr. Bob Capers as the proxy representative.

Hyatt also distributed copies of the letter sent to Governor Malloy's office requesting that the Governor reappoint Tom McGowan of the Lake Waramaug Task Force as the Governor's representative to the Invasive Plants Council.

Hyatt reported that responses are not expected until after mid-February.

4. ANS meeting update (Murray) and DEP update

- Murray provided an update of the Aquatic Nuisance Species (ANS) project. DEP submitted a request for the 2011 US Fish and Wildlife Service (US FWS) ANS funds. Funding declines yearly but is \$28,000-29,000 per year at this point. The priority of this funding is to continue to support Aquatic Nuisance Species Coordinator Pat Bresnahan.

- Murray also reported that DEP has been awarded \$26,000 from the US FWS for zebra mussel work. \$20,000 will be used for survey work.

- The Bantam Lake project report is almost complete, although small edits on the final report are needed.

- Bresnahan reported that the ANS group is working on rescheduling the meeting that was cancelled due to weather to review listing criteria, listed species, review spread vectors, and begin discussing early detection and rapid response. No date has been determined yet but will be communicated when it is finalized.

- Murray reported that Senack had organized a discussion of a web-accessible invasive species database program called the Early Detection and Distribution Mapping System (EDDMapS). The meeting, which took place earlier in the day, was held to discuss how the EDDMapS program could be used to organize early detection efforts in the state and how it would coordinate with existing efforts, such as IPANE.

- Hyatt was notified by the DEP Commissioner's office that Les Mehrhoff would be nominated for a lifetime achievement award from the U.S. Environmental Protection Agency (US EPA). Murray and DEP staff drafted the nomination. The Commissioner asked for letters of support from other states and from other nongovernmental organizations. McGowan added that Senator Roraback may be able to work on an Official Citation from the Connecticut General Assembly. Hyatt asked if Senator Roraback would be willing to write a letter to EPA in support of Mehrhoff's nomination. Sutherland offered to contact Sen. Roraback to determine if he would be willing to write a letter of support.

5. Legislative briefing update

Hyatt asked if the group would be prepared to hold a legislative briefing in March or at all. Sutherland suggested it would be important to have a specific request in mind if the group was going to ask legislators for their time. The group discussed the topic.

McGowan asked about the status of the Invasive Plant Coordinator position. Hyatt responded that the position was funded through the end of the fiscal year and that the highest priority was to use any funds that become available toward the last quarter to support the position in the future, but noted that the issue was a big unknown with no way at this point to determine chances of funding.

Hyatt asked Sutherland and Reviczky if they thought there was any chance of getting funding from the legislature for \$80,000-90,000 to support the position and whether legislators would be available this time of year to attend a briefing on the activities of the Invasive Plants Council (IPC). Sutherland, Reviczky and the group discussed whether legislators would have time and decided it was not likely. Hyatt suggested preparing something for January 2012 as a legislative briefing. The group decided that January 2012 would be a potential future date.

Hyatt distributed an Office of Legislative Research Report that was prepared in response to a question about DEPs activities regarding efforts against invasive aquatic plants. Hyatt reported that the document was very incomplete and was missing information. DEP will submit additional information.

Reviczky left the room at 2:36 pm.

Reviczky returned at 2:37 pm.

6. Process of determining proxies for voting and quorum

The group discussed the possibility of determining proxies for members who are unable to attend a meeting. Hyatt reported that DEP's legislative liaison indicated that the wording used in the CT General Statutes is interpreted to mean that the Commissioners of state agencies listed as

Council members may have the specific ability to designate others as proxies, but that the other appointed members of the Council do not appear to have the same authority. Hyatt asked if the group would like to discuss this issue further, especially as it relates to meeting quorums. Larson clarified that if an individual member wanted to be reappointed with a proxy, the member would have to be appointed with a specific person in mind and would not have the authority to appoint whomever. McGowan said that this change would be acceptable to him, and added that it makes sense to have a proxy available as a backup. Hyatt asked that anyone who needed to discuss proxy attendance to contact him and have a specific individual in mind.

7. Invasive Plant Coordinator updates

Mail-order/internet sales

Senack updated the group on the mail-order/internet sales issue. DEP plans to draft a letter that could be sent to specific companies, asking them not to ship prohibited plants into Connecticut. Senack asked if Heffernan and Larson could provide input on the contents of the letter and possibly assist with developing a list of wholesalers and retailers that may sell prohibited plants. Larson suggested that out-of-state wholesalers were not likely to be a problem as they would sell only to nurseries in Connecticut, which should be aware of the laws regarding the sale of banned plants, but thought that out-of-state retailers that ship directly to customers would definitely be of concern. Heffernan agreed and suggested that wholesalers are already very aware of CT laws on invasive plants and added that if a CT retailer was selling the plant to customers in Connecticut, the retailer would be the one responsible for those prohibited sales. Heffernan noted that a lot of education and outreach has already gone into this issue and that while more could always be done, the majority of wholesalers already know about the law. He added that that the biggest problem is plants that are shipped directly to consumers.

McGowan asked about educational efforts and whether or not other states had reciprocal laws for dealing with prohibited species. Hyatt noted that the situation may have some similarities with addressing fish diseases and the transport of fish across state lines and may benefit from regional collaboration.

Heffernan suggested that the Council ask for help from the Federated Garden Clubs of Connecticut for information on where people are buying plants over the internet. Ellis suggested that if it is individual consumers who are making the decision to order invasives via mail-order, that additional education and outreach is important, but added that it seems that people are starting to get the message. Hyatt asked Senack if he could look into contacting the garden clubs.

Disposal of invasives document

Senack reported that the disposal of invasives document meant to assist homeowners with the safe disposal of invasive plants is still under review and is not yet ready to share with the Council. Senack aims to have the document ready for review by the March meeting.

8. Discussion of possible IPC action items for 2011

Hyatt asked the group to discuss several possible action items for 2011:

Establish a database of people selling invasive plants- Senack could begin assimilating information about who is selling invasive plants that are banned or not banned. Murray added that Heffernan and she have been working well together to address issues that arise from invasive plant sales in the state. There were no objections to proceeding with this project.

Provide training for municipalities- Hyatt suggested that DEP could offer a program or workshop for municipalities free of charge to discuss the removal of invasive plants and replacement with natives. Pete Picone, a DEP wildlife biologist, works with native plants and invasive species and may be available to deliver a sample presentation on this topic for the next meeting of the IPC in March. The workshop for municipalities could take place at Sessions Woods Wildlife Management Area, where demonstration areas and teaching facilities already exist.

Establish subcommittee and proceed on addressing cultivars
Silander/Capers may be the logical people to take this up once appointed and if they are willing.

Develop approach for monitoring and enforcement of CT Gen. Statute 22a-381d
Currently, The Connecticut Agricultural Experiment Station (CAES) is responsible for plant pest inspections, the Department of Agriculture (DOAG) inspects pet shops, and DEP has enforcement authority for CT General Statute 22a-381d. Hyatt suggested it would be beneficial to have the three agencies coordinate on this issue.

Discuss advantages/disadvantages to moving prohibited invasive plant list from statutes to regulations

The group briefly discussed if doing this would allow greater ability to take species off the list or add species to the list without needing a change in the statutes by the legislature. The group also discussed whether this change would require concurrence between DEP and IPC to change the invasive species list.

Hyatt asked for additional thoughts, ideas, and concepts. McGowan stated that he would support anything that would lead to more effective coordination among agencies.

Sutherland cautioned that given the budget situation, good projects might still be ignored. Sutherland asked if some future funding would be needed for ANS projects or if the ANS project funding from the US Fish and Wildlife Service would be sufficient to cover the project.

Krivda arrived at 3:06 pm and replaced Reviczky. Reviczky left the room at 3:07 pm.

Murray noted that the ANS funding currently received as a federal grant allows Bresnahan to work part time on ANS issues and is extremely valuable.

Hyatt reported that since initial discussions two years ago, there was still the possibility of attempting to develop a boat sticker program similar to the program Maine uses, where boaters purchase stickers with their boating registration and the funds are directly used for invasive

aquatic plant issues. Murray expressed concerns about proposing new fees when license fees for boaters, hunters, etc. were also raised recently. Hyatt added that another possibility was that any funds from fines or Supplemental Environmental Project (SEP) awards could be put into an account to fund invasive plant activities, including terrestrial plants. McGowan noted that the invasive plant program would not survive without a funding source and asked if it would be helpful to ask for funding anyway, despite the low probability of success. He also asked what the ANS program is doing for funds. Murray reported that Bresnahan and Senack are always looking for funds, and added that DEP is looking into whether the sources of current ANS funding can be increased over time. Currently, funding from these sources decreases over time. McGowan asked for information on what other states do to fund their invasive programs. Bresnahan and Murray said a report could be developed by September.

Hyatt noted that funding appears to be an item to keep including on the list of topics to discuss for the year. McGowan agreed. Sutherland suggested that a request for a specific dedicated fund might be taken more seriously.

Krivda asked if boats are the main source of spread for invasive aquatic species, and if so, noted that it would make sense to have the boat use fund related to invasive species efforts. Murray and Hyatt reported that boats and human activities are the main source of spread, although some spread may occur by other means (wildlife, floods, etc.). Hyatt noted that other states use funds from boat sticker sales, and there may also be other funding opportunities.

Sutherland asked if there was any recent news about sterile plant cultivar development at UConn. Ellis reported that she had heard Dr. Mark Brand recently comment that he estimated sterile plants were about five years away and are still in the research phase. Dr. Yi Li at UConn is also working on developing sterile cultivars using a different approach, but Ellis had no update on the timeline for his research.

Hyatt asked the group for input on whether DEP should hold a training session for municipalities focused on the replanting and restoration of areas after invasive plant control work takes place. The group discussed who would be invited to a training session and noted that it would be important to invite town Conservation Commissions and possibly highway departments, public works staff, and others. McGowan stressed the need to make sure a program like this was cost effective, to be sure it was having a positive impact and suggested that the local Conservation Districts would also be important relevant groups. Senack added that garden clubs may also be interested in this information.

Hyatt asked if the group felt there was a need to discuss the advantages and disadvantages of recommending that the invasive plant list be moved from the state statutes to regulation. The group briefly discussed the topic and whether having the list in regulation might enable more timely changes to the list without the need for the legislature to change the invasive plant law.

Krivda suggested that if there was agreement with the IPC on a non-controversial topic relating to invasive plants, having the list in regulation instead of in statute might allow for more adaptability when changes needed to be made. Hyatt recapped previous discussions suggesting that that regulation be given to DEP, in concurrence with the Council. Heffernan indicated that

the Connecticut Nursery and Landscape Association (CNLA) would be opposed to the Commissioner of DEP having the authority to change the regulation without the Invasive Plants Council's approval. Hyatt agreed that IPC concurrence should be required. Heffernan indicated that CAES could also be given the authority to regulate plants but noted that Dr. Louis Magnarelli, Director of CAES, had indicated that it may not be appropriate for that agency.

9. Old/new business

Murray and Ellis updated the group on the status of bamboo in Connecticut. Both Murray and Ellis reported receiving multiple calls from a landowner in Seymour concerned about the impact of bamboo on her property and in the state. Murray reported receiving a large information packet from the homeowner with information about the bamboo situation, and Ellis indicated that other additional information had been sent this week. Ellis reported that there were also PowerPoint slides and photographs of affected areas and that the landowner had done a lot of research. Ellis and Murray suggested some of the occurrences may warrant further follow up. Hyatt summarized the action the Council had taken last year in response to a request to examine this species from the Attorney General's office. The group discussed the issue. If further Council action is required after the additional information is reviewed and a field investigation takes place (if needed), Murray, Ellis and Senack will report back to the IPC with an update.

Heffernan reported that the Connecticut Nursery and Landscape Association (CNLA) Winter Symposium had a very well-attended workshop on bamboo that included information about control.

10. Adjournment

Sutherland moved (second: McGowan) to adjourn the meeting. **The Council decided to adjourn at 3:38 pm.**

The next meeting is scheduled for March 8, 2011.

MINUTES

Invasive Plants Council
Tuesday, March 8, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Bill Hyatt, George Krivda, Paul Larson, Lou Magnarelli, Tom McGowan, John Silander, David Sutherland

Others present: Nelson DeBarros, Donna Ellis, Nancy Murray, Peter Picone, Logan Senack, Penni Sharp

1. Hyatt called the meeting to order at 2:06 pm.

2. Invasive Plant Atlas of New England (IPANE) representative to IPC

Hyatt introduced Dr. John Silander as the new IPANE representative. Hyatt shared the letter from Senator McKinney appointing Silander to the group.

Paul Larson arrived at 2:10 pm.

3. The minutes for the 2/8/11 meeting were reviewed

Krivda moved (second: Sutherland) to approve the minutes as submitted. **The Council decided to approve the minutes from the 2/8/11 meeting.**

4. ANS meeting update and DEP update

Murray informed the group that the ANS Coordinating Committee was deciding between two dates and will announce the date for the rescheduled meeting soon.*

5. Presentation by Peter Picone (DEP): Control and management of invasive plants at Sessions Woods Wildlife Management Area (WMA)

CT DEP wildlife biologist Peter Picone delivered a presentation to the group detailing actions taken to control invasive plants at Sessions Woods WMA. Sessions Woods is a 764 acre wildlife management area in Burlington, Connecticut. Picone detailed projects on the property to manage and remove invasive species, encourage the re-establishment of native plants, and explained the importance of establishing native habitat and food sources through all four seasons to benefit wildlife.

The staff has taken action to remove a number of invasive species, including Japanese knotweed, black locust (with support from an NRCS-WHIP grant), Norway maple, winged euonymus, and other species, with an emphasis on removing plants and new invasions early before they are well established on the property.

**Follow-up note (added 3/9/10): The ANS Coordinating Committee meeting will take place on April 7, 2011, from 9 am-noon at the UConn Avery Point Campus, Room 312, Marine Sciences Building- LS*

Picone responded to questions after his presentation. Hyatt asked the group if they thought this material would be appropriate for a workshop held at the site for municipal staff or other individuals. The group discussed who would be involved, whether the workshop would include field visits and/or classroom work, and other details.

Sutherland left the room at 2:58 pm.

Murray suggested that landscape architects should be included in the workshop. Silander suggested that programs to educate town Inland Wetlands and Conservation Commissions would also be valuable. McGowan asked if any landscape architect organizations could be involved. Ellis suggested that the Connecticut Chapter of the American Society of Landscape Architects (ASLA) may be involved as some ASLA members are also members of the Connecticut Invasive Plant Working Group (CIPWG).

The group discussed various topics for the workshop, including emphasis on local laws and ordinances, the removal and replacement of invasive plants, and the positive aspects of native shrubs. Larson suggested that the majority of the public would not be as interested in using only native plants in a design palette. Larson recommended that non-native plants that are not invasive should also be included. Silander added that there should be additional work done to develop and encourage the development of cultivars of native plants.

Senack will coordinate with Picone, staff from the CT Agricultural Experiment Station, Larson, and CIPWG to begin planning a potential workshop for municipal staff. Larson suggested that if the workshop goes well, additional workshops could be planned for the future.

6. Mehrhoff memorial service and award status

Ellis informed the group that a Celebration of Life for Les Mehrhoff will take place at 11:00 am on Saturday, March 12, at the Storrs Congregational Church in Storrs, CT. A number of other events and awards are planned to remember Mehrhoff:

- Sutherland will present an Official Citation from the state legislature for the service.
- CIPWG has decided to present an award in Mehrhoff's memory to a deserving individual at its biennial symposia.
- Silander announced that the UConn Center for Conservation and Biodiversity will hold a conference at the end of May focused on topics that were important to Mehrhoff, including invasive species, endangered species, and biodiversity. The event will be free and open to the public. Silander will provide additional details at a later date.
- Sharp added that the Connecticut Association of Wetland Scientists has decided to sponsor an annual grant of \$1,000 in Mehrhoff's memory for invasive plant control or to protect endangered species.

7. Office of Legislative Research (OLR) report

Hyatt reported that there was no news on whether the incomplete report on DEP's actions to deal with invasive species had been revised.

8. Invasive Plant Coordinator updates

Senack reported that a letter to be sent to companies selling invasive plants by mail order/internet sales to Connecticut consumers has been drafted and is being reviewed by DEP.

Senack distributed copies of two draft documents detailing recommended disposal practices for terrestrial and aquatic invasive plants after control efforts take place. The goal of the documents is to provide recommended low-cost invasive plant disposal options that would reduce the further spread of the invasive plants at a disposal site or during transport to a disposal site.

Magnarelli expressed concern that the creation of brush piles near human dwellings may provide ideal habitat for mice and other tick-bearing species and advised that the guidelines be revised to address this fact. Larson added that recommending firewood be burned only on the site where it was cut may unnecessarily restrict its movement. Firewood does not ordinarily contain seeds or other reproductive material and so would not pose a risk if transported to other locations. Ellis noted that the potential for the spread of Asian Longhorned Beetle, Emerald Ash Borer, and other pests should also be a concern when addressing the movement of firewood. Senack noted that staff at DEP are also reviewing the documents to be sure the recommendations do not conflict with other existing DEP programs or policies.

9. Cooperative Weed Management Areas update presentation

Senack updated the group on the status of Cooperative Weed Management Areas (CWMAs) in the United States. CWMAs are collaborative projects between multiple partners that coordinate efforts and share resources to control invasive plants across jurisdictional boundaries. A number of CWMAs have formed in the western United States and more are forming in the eastern US. Some groups are forming Cooperative Invasive Species Management Areas (CISMAs) in order to expand their focus to include non-plant taxa. Senack reported that David Gumbart of The Nature Conservancy has worked with a number of partners, including the Town of East Haddam and the Town of Lyme, to formally establish the first Cooperative Weed Management Area in Connecticut, the Eightmile River Invasive Species Management Area. The project will focus on Japanese stiltgrass. An inventory project for invasive plants is planned for spring 2011. Other groups, including one that is working on a scenic stretch of the Farmington River, are also working cooperatively to manage invasive plants in the state.

10. Old/new business

Ellis reported that CIPWG will hold a general meeting on March 30, 1:30-3:30 pm at the Connecticut Agricultural Experiment Station Valley Laboratory in Windsor, CT. Ellis noted that the group would like to present an update on the recent activities of the Invasive Plants Council at the meeting. Ellis invited Council members to attend and to provide the update, and suggested that she, Murray, and Senack could work together to update the group if no Council members were able to attend. There will also be a discussion of running bamboo at the meeting.

11. Adjournment

McGowan moved (second: Larson) to adjourn the meeting. **The Council decided to adjourn at 3:45 pm.**

The next meeting is scheduled for 2 pm, June 14, 2011 at the Dept. of Agriculture in Hartford, CT.

MINUTES

Invasive Plants Council
Tuesday, June 21, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Bill Hyatt, David Goodwin, George Krivda, Lou Magnarelli, John Silander, David Sutherland

Others present: Donna Ellis, Bob Heffernan, Nancy Murray, Logan Senack

1. Hyatt called the meeting to order at 2:07 pm.

2. The minutes for the 3/8/11 meeting were reviewed.

Krivda moved (second: Silander) to approve the minutes as submitted. **The Council decided to approve the minutes from the 3/8/11 meeting.**

3. Report on Mehrhoff Memorial Activities

Murray and Silander reported that the UConn Center for Conservation and Biodiversity hosted a symposium honoring Les Mehrhoff on May 27, 2011. The symposium had over 150 attendees. Hyatt added that he felt the symposium was well organized and thanked Silander and David Wagner (UConn) for hosting the event.

Ellis noted that there are also 12,000 plant specimens from Mehrhoff that will be processed and added to the UConn Herbarium. These specimens, along with thousands of Mehrhoff's digital photographs, will be catalogued and made available to scientists for future research and outreach.

Silander reported that a guided walk also took place on June 4, 2011 at the Eagleville preserve in Mansfield, focusing on invasive plants in honor of Mehrhoff. The following weekend Silander also led a similar walk for a group of researchers from eastern Asia.

Murray and Senack reported that Mehrhoff was posthumously awarded an EPA Region 1 Lifetime Achievement Award. Mehrhoff's family received the award on his behalf at a ceremony at Faneuil Hall in Boston MA on May 11, 2011.

4. Report on DEP Events and Actions

- June 1 workshop at Sessions Woods Wildlife Management Area (WMA)

Senack reported that DEP hosted a successful workshop at Sessions Woods WMA on June 1, 2011. The workshop, entitled "Invasive Plants and Habitat Improvement", was expected to attract 50 to 80 people but had 107 registered attendees. The workshop presenters included guest speakers from multiple agencies and organizations and included a site walk designed by biologist Peter Picone (DEP). Sixty percent of the attendees were federal, state or town staff or conservation organizations, and an additional 12% were from private companies. The workshop was open to the public. Evaluations filled out by the event attendees were extremely positive, with 98% of respondents rating the conference 4 or 5 on a scale of 1(lowest) to 5 (highest).

- Disposal document completion

Senack announced that photos have been added to the disposal document text. The text is unaltered from the version presented at the 3-8-11 Invasive Plants Council meeting. The document is almost ready for distribution. Senack will email the guide out to the group when it is complete.

Goodwin left the room at 2:25 pm.

- Silander announced that IPANE will hold additional volunteer training sessions throughout New England and including Connecticut this year. The group discussed ways that DEP and IPANE could coordinate to develop joint or complimentary programs.

- Krivda requested that more species photos be added to the CIPWG website, so that anyone who visits the site can learn to recognize the listed species by viewing digital images. Senack and Ellis are working to improve the website by adding additional information and photos and expect to have major updates complete later in the year.

Goodwin returned at 2:30 pm.

- Aquatic Nuisance Species (ANS) funds update

Murray and Pat Bresnahan (UConn) met to discuss aquatic invasive plants. They are working on an early detection plan for aquatic invasives. This plan will also be used to create an early detection plan for terrestrial invasive species that will be developed later. The ANS program at DEP received approximately \$29,000 in federal funding support this year. Last year the program received \$40,000. The funds support Bresnahan's time for 1.5 days per week.

Murray is working on a monitoring plan for didymo (*Didymosphenia geminata*; "rock snot"), now that it has been found in Connecticut. DEP is also working on two projects involving zebra mussels (Housatonic River monitoring project and veliger detection project) and water chestnut control at flood control ponds in Hartford.

Goodwin left the room at 2:33.

- Bamboo update

Murray updated the group on the status of bamboo in Connecticut and noted that there may be indication that it is spreading into natural areas. Magnarelli reported that he was concerned about bamboo and that Todd Mervosh and Jeff Ward, staff at The Connecticut Agricultural Experiment Station (CAES), were going to look into it. Silander added that bamboo is an issue throughout the country and there was evidence that some bamboos can grow in alpine areas.

Goodwin returned at 2:36 pm.

- Invasive Plant Coordinator funding

Hyatt reported that funding for the Invasive Plant Coordinator position has been secured for another fiscal year. DEP was able to use end-of-year funds to support the position for the past two years but will not be able to do so next year. Grant monies could possibly help to support the position in the future. Hyatt requested that all Council members consider options for securing grant funds.

- Old Saybrook knotweed actions

The group discussed property rights and a problem reported to DEP about Japanese knotweed invading from one property to another in Old Saybrook.

5. Future Actions

Cultivar subcommittee

The group discussed creating a subcommittee to help resolve conflicting interpretations of the invasive plant laws regarding cultivars. Hyatt suggested the group move forward with the intent of getting recommendations back by the end of this year and suggested that Silander lead the project, as Les Mehrhoff was originally planned to head the group. Hyatt's request was: "to assemble a team of technical experts regarding cultivars and get advice on how to best proceed in a manner that is both protective of the environment and considerate of the interests of the nursery industry." The group discussed the committee and topics relating to cultivars.

Krivda suggested beginning the process of asking for volunteers and determining who should be on the subcommittee. Hyatt asked those who had suggestions for members of the committee email him and to copy Senack. Goodwin suggested that the committee bring in people from outside the Council to contribute to the issue as well, and Sutherland suggested that involving Mark Brand and UConn would be critical. Hyatt and Silander will discuss this issue further.

Revisiting database of prohibited invasive plant sales

Goodwin left the room at 3:15 pm.

Hyatt recapped previous discussions regarding creating a list or file of businesses with reported problem sales of invasive plants. Hyatt asked Magnarelli and Krivda if there were any concerns with having someone like Senack contact their staff to get the information. Magnarelli and Krivda had no concerns.

Discussion regarding moving prohibited plant list to regulation from statute

Goodwin returned at 3:17 pm.

The group discussed the pros and cons of asking for legislation to change the prohibited plant list from state statute to regulation and whether such a change would allow for more timely updates to the list and more flexibility to accommodate needed changes. Murray noted that the state endangered species list was already in regulation, not statute. Goodwin voiced concerns that a regulatory change could occur too fast compared to a statute change and could happen independently of political will. Krivda reminded the group that the Legislative Regulation Review Committee reviews all legislation before it is implemented. Krivda moved (second: Goodwin) to postpone discussion of the regulation vs. statute issue to a later date. **The Council decided to discuss the issue at a future meeting.**

6. Yearly update of list

The group decided to discuss this topic at a later date.

7. Monitoring and enforcement of invasive plant laws

Magnarelli reported that staff at CAES had conducted a study of plant species sold at aquariums and pet shops. If plants could not be definitively identified by visual inspection alone, DNA evidence was used to determine plant species. The project has expanded and out of 75 businesses visited, 30% were selling plants that are prohibited under Connecticut law. Two species of watermilfoil (*Myriophyllum sp.*) and fanwort (*Cabomba caroliniana*) were particular problems and frequently encountered for sale. In some cases DNA molecular work will be needed in the future to continue to differentiate materials.

CAES staff are bringing copies of the state invasive plant law and copies of an invasive plant poster to the businesses to follow up with education. Magnarelli noted that distributors and suppliers are also often unaware of Connecticut's laws. Krivda asked if a list of the businesses was available.

Sutherland left the room at 3:34 pm

Hyatt asked Senack to move forward with a refined way to deal with mail order plants. Magnarelli asked Senack to contact Greg Bugbee (CAES) for the list of businesses.

Sutherland returned at 3:38 pm

8. Asian Longhorned Beetle (ALB)/Emerald Ash Borer (EAB) discovery

Magnarelli reported that while Emerald Ash Borer (EAB), an invasive insect, has not been found east of the Hudson River, it is only 25 miles from the Connecticut border and is known to be a strong flier. There is currently no funding in the EAB program at the state or federal level and this may impact how the quarantine protocol would be followed in the event of an EAB discovery. The group discussed what would happen if EAB was discovered and quarantine areas needed to be implemented.

Federal funding is available for eradication of Asian Longhorned Beetle (ALB). Cutting trees within an ALB quarantine area would reduce establishment and spread. The closest known occurrences are only approximately 13 miles from the Connecticut border. A new infestation was recently found in Ohio. Both species, particularly ALB, could have a major impact on the nursery industry.

Next week, DEP and CAES will sign an MOU to collaborate in responding to these invasive insects. USDA APHIS, DEP, and CAES would be the three major parties involved in an ALB/EAB response.

7/21/11 Note: This signing was subsequently rescheduled for 7/25/2011- LS

9. Adjournment

Goodwin moved (second: Krivda) to adjourn the meeting. **The Council decided to adjourn at 3:48 pm.**

The next meeting is scheduled for 2 pm, September 13, 2011 at the Department of Agriculture in Hartford, CT.

MINUTES

Invasive Plants Council
Tuesday, September 13, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: David Goodwin, Paul Larson, Lou Magnarelli, Richard McAvoy, John Silander, David Sutherland, Katherine Winslow (for Steve Reviczky)

Others present: Donna Ellis, Nancy Murray, Will Rowlands, Logan Senack

1. Magnarelli called the meeting to order at 2:00 pm.

2. The minutes for the 6/21/11 meeting were reviewed

Goodwin moved (second: Sutherland) to approve the minutes. **The Council decided to approve the minutes from the 6/21/11 meeting as submitted.**

3. Report on DEEP events and actions

In response to a request from George Krivda at the last IPC meeting, Senack is adding invasive plant photos to the Connecticut Invasive Plant Working Group (CIPWG) website to help the public identify invasive plants. The website now supplies photographs of invasive plants in three separate areas: the main page, the early detection list, and the invasive plant list. The official Department of Energy and Environmental Protection (DEEP) Invasive Species webpage links to the CIPWG website. The website is: www.hort.uconn.edu/cipwg.

4. Database of businesses selling invasive plants

a. In-state actions

Senack reported that he has received the list of businesses found to be selling invasive plants from Greg Bugbee at the CT Agricultural Experiment Station (CAES) and has provided that list to DEEP.

Magnarelli summarized the work that CAES has accomplished to date on this issue. Many pet stores were not aware that they were selling invasive plants. As aquatic plants can be difficult to identify visually, researchers at CAES purchased the plants and then used DNA methods to determine species. CAES will hold an aquatic invasive plant identification workshop targeting pet stores in New Haven. Pet stores are not under the jurisdiction of CAES, so researchers are providing educational information to pet store staff regarding sales and invasive plant laws but are not conducting enforcement.

Paul Larson arrived at 2:06 pm.

Magnarelli will invite Greg Bugbee to the November meeting to discuss this issue in further detail. Silander commented that the mislabeling of plants from suppliers is also a problem. Murray added that for many plants, cultivar names or species names do not always appear in the USDA PLANTS database and may not be official names.

b. Out-of-state actions

DEEP is working on a draft form letter to be sent to out-of-state growers found to be selling or shipping invasive plants into Connecticut. Murray will bring a sample of the letter to the next meeting.

5. Revision of minutes from 6-21-11 meeting

Larson moved (second: Sutherland) to reopen discussion of the 6-21-11 minutes. **The Council decided to reopen the discussion of the minutes.** Larson suggested two changes to the minutes:

1. On page 2: change wording in ANS funds update from “This plan will also be used to inform the early detection plan...” to “This plan will also be used to create an early detection plan...”.
2. On page 4: change the phrase “quarantine zone” to “quarantine protocol”.

The Council decided to approve the minutes as corrected.

6. Cultivar discussion

a. Sterile *Euonymus alatus* cultivar discussion

McAvoy reported that Dr. Yi Li (Plant Science and Landscape Architecture, UConn) has been using tissue culture to develop sterile triploid plants from endosperm tissue.

Li has been able to identify sterile lines of *Euonymus alatus*. McAvoy reported that more testing will be done and noted that this is a very positive development with the potential to be applied to other invasive plants of economic importance. The group discussed this development, including potential benefits and concerns of this approach and timelines for production. Li estimated that it would take 3 to 5 years before the plants would be ready for production. McAvoy reported that there was a high level of interest from states with other invasive species. Goodwin noted that it was commendable for staff at UConn to keep working on this research, despite the fact that is a long process. Sutherland asked if there were other commercial plants for which sterile cultivars have been developed. Larson reported that some species of *Buddleia* are problems in the western United States, and that sterile cultivars of *Buddleia sp.* have been developed.

b. Cultivar committee update

Silander received a request from Bill Hyatt to form a committee to discuss cultivars. Silander would like to have in-person meetings and correspond by email with the group. Membership will include individuals from horticulture, the green industry, UConn, plant systematics, etc. Murray will be assisting the group with logistics. Larson will work on the committee with Silander. The committee’s goal is to come up with draft findings sometime in the spring of 2012.

7. Bamboo discussion

a. Letter from Dr. Jeff Ward, CAES

Magnarelli introduced and recapped previous discussions regarding various species of bamboo. Magnarelli expressed concern that bamboo might be invading natural areas and forest ecosystems and wanted to know about the effects on ecosystems. CAES has received calls from homeowners concerned about bamboo for years. Magnarelli noted that although bamboo has been planted in the United States since at least the 1800s, no records show that the plants have produced seeds within the country.

Magnarelli asked Jeff Ward (CAES) to look at several reported bamboo sites and prepare a report based on his findings. Magnarelli distributed Ward's report, which recommended that golden bamboo (*Phyllostachys aurea*) be listed as potentially invasive. Magnarelli clarified that Ward's letter was to Magnarelli directly, and that Magnarelli was not recommending to the CT Invasive Plants Council that the plant be listed as potentially invasive or put on any list at this time because he has not seen the infestations. He suggested that Council members visit sites where bamboo is growing before making decisions on the status of the plant's listing. Magnarelli has asked Ward to attend the Council meeting in November to discuss this issue. The group discussed how the plants might spread and other aspects regarding bamboo. Silander reported that bamboo has synchronized, episodic flowering and does not establish well in areas with deep freezing or shallow soils, although it can grow in very dense stands in its native range.

The group also discussed potential control options. Magnarelli noted that bamboo growing on a town or state property would present an ideal opportunity for a test control project, but added that CAES would be reluctant to get involved in a project on private property.

b. Presentation of findings from UConn/DEEP field visits

Murray distributed a draft report from DEEP recommending that golden bamboo (*Phyllostachys aurea*) and yellow groove bamboo (*Phyllostachys aureasulcata*) be listed as Potentially Invasive due to aggressive growth in Connecticut. The DEEP report did not recommend that the species be prohibited from sale.

Murray also reported that a homeowner has provided information about where bamboo can be found growing in Connecticut and summarized actions taken by DEEP to date to further investigate this issue. Senack, Murray and Ellis visited multiple populations of bamboo during August and September and collected information about the size and density of the populations. Senack presented photographs and information about the site visits to the Council. The Council discussed these findings.

8. Yearly update of list

Magnarelli reminded the Council that they are charged with the yearly updating of the invasive species list.

9. Annual report

Magnarelli reminded the group that an annual report will need to be produced by the end of the year and delivered to all the required locations, including the state library. Murray reported that DEEP has already begun preparing some parts of the report, including updates about various DEEP control projects, grants, and Aquatic Nuisance Species projects. Murray has also asked Ellis to include the accomplishments of the CT Invasive Plant Working Group. Magnarelli will enter Jeff Ward's document in the record for the annual report.

The draft paper from DEEP will not be entered into the record as it is a draft. Murray pointed out DEEP is proposing both *P. aurea* (golden bamboo) and *P. aureasulcata* (yellow groove bamboo) be listed as potentially invasive, that more discussion will need to take place, and that this issue will still need to be resolved.

Silander noted that any infestation location information would be useful, as well as the status of bamboo in other states. Silander added that if this plant is determined to warrant further

attention, it could be listed with the IPANE project. Goodwin requested that Senack send him the specific details of the some of the bamboo populations from his presentation.

10. New Business

- Silander and Magnarelli will not be able to attend the October 11 meeting.

- Magnarelli will invite Greg Bugbee and Jeff Ward to the November 8 meeting.

- Ellis asked if the plant mugwort (*Artemisia vulgaris*) could be considered for inclusion on the invasive species lists, as she has observed it not just in disturbed areas but also in natural areas.

- Sutherland asked to acknowledge both Les Mehrhoff and Mary Musgrave for their contributions to the Council over the years. Murray has discussed including recognition of Mehrhoff and Musgrave in the annual report with Hyatt.

11. Adjournment

Larson moved (second: Sutherland) to adjourn at 3:27 pm. **The Council decided to adjourn the meeting.**

The next meeting is scheduled for 2 pm, October 11, 2011 at the Department of Agriculture building in Hartford, CT.

MINUTES

Invasive Plants Council
Tuesday, October 11, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Bill Hyatt, Paul Larson, Richard McAvoy, Tom McGowan, Katherine Winslow (for Steve Reviczky)

Others present: Ellen Bender, Donna Ellis, Bob Heffernan, Nancy Murray, Will Rowlands, Logan Senack, Penni Sharp

The meeting was not called to order immediately because a quorum was not present. The group discussed the following topics informally:

Minutes reviewed

The group discussed the minutes for the 9/13/11 meeting. A few corrections were noted for later discussion.

Draft mail order letter

In response to concern that some out-of-state retailers were shipping prohibited invasive plants into Connecticut, Murray distributed a draft letter to be sent to retailers selling by mail order to Connecticut homeowners. Murray stressed that the letter would not be used to penalize retailers; the focus is on education as businesses may not be aware of Connecticut's laws. Hyatt added that a version of this letter has previously been used within the state to address in-state sales of prohibited invasive plants. The out-of-state letter will be used as needed as sales issues become apparent.

McAvoy asked if there were plans to address out-of-state businesses who were selling plants wholesale to Connecticut retailers. Hyatt clarified that there was not currently a plan to address those out-of-state wholesalers. The industry had indicated that wholesalers were generally not the issue and that addressing the issue with the Connecticut retailer would be the most efficient method of enforcement.

Tom McGowan arrived at 2:16 pm. A quorum was then present.

1. The meeting was officially called to order at 2:16 pm.

2. The minutes for the 9/13/11 meeting were reviewed

Larson proposed two changes to the minutes: on page 3, in section 7b paragraph 2, change the word "group" to "Council" in sentences 3 and 4. Larson moved (second: Winslow) to accept the minutes as amended. **The Council decided to accept the minutes as corrected.**

3. Yearly update of list

The Council is charged with updating the Connecticut Invasive Plant List on a yearly basis. Senack suggested that the following changes be made to the list:

Glyceria maxima (Reed mannagrass)

Proposed change: add caret* to species. *Glyceria maxima* is not currently known to be present in Connecticut.

Impatiens glandulifera (Ornamental jewelweed)

Proposed change: remove caret* from species. *Impatiens glandulifera* is present in Connecticut. A record of this species occurring in Connecticut has been deposited in the G.S. Torrey Herbarium at UConn.

Miscanthus sinensis (Japanese stiltgrass)

Proposed change: correct misspelling of botanical name in list.

Nymphoides peltata (Yellow floating heart)

Proposed change: remove caret* from species. A record of this species growing in Connecticut has been deposited in the G.S. Torrey Herbarium. DEEP staff have worked on control of this species for a number of years at a location in eastern Connecticut.

Ranunculus ficaria (Lesser celandine)

Proposed change: add new species name, *Ficaria verna*, to synonym column. The botanical name of the species has been changed, but the USDA PLANTS database (the nomenclatural standard for the Invasive Plant Council and List) has not yet been updated.

McGowan moved (second: Larson) to update the list as suggested. **The Council decided to approve these changes.**

4. Annual meeting dates

Senack distributed a list of potential meeting dates for the 2012 year. The dates follow the same schedule pattern as the current 2011 meeting schedule. All meetings are scheduled for the 2nd Tuesday of the month, 2-4 pm, in room G8-A at the Department of Agriculture, 165 Capitol Ave., Hartford, CT.

The meeting dates are:

January 10

February 14

March 13

June 12

September 11

October 9

November 13

December 11

McGowan moved (second: Larson) to adopt those meeting dates. **The Council decided to approve the meeting dates for the 2012 year.**

* On the official invasive plant list produced by the Council, a caret mark (^) indicates that a species is not currently known to be naturalized in Connecticut but would likely become invasive if found to persist in the state without cultivation.

5. Update member contact information for annual report

Senack distributed the membership list of the Council and asked all members to verify that their contact information was current and correct. This membership list will be included in the annual report.

6. Invasive species funding

a. AFWA invasive species committee

Hyatt explained a potential opportunity for long-term funding. The Association of Fish and Wildlife Agencies (AFWA) represents fish and wildlife interests in Washington, DC, and the group organizes national conservation needs into a program called “multistate grant funding”. The group awards grants to promote conservation efforts on a national scale.

A committee within AFWA is working on a proposal to identify invasive species funding as a national conservation need. If this topic were to compete for and receive funding as a national conservation need, the funding could provide the resources necessary to contract with a consultant. The consultant would work with representatives from business and conservation interests to develop options for long-term funding for invasive species.

b. Boat stickers

Hyatt noted that the Invasive Plants Council has previously discussed a proposal for boat stickers. He suggested that if there is interest among the group, Eleanor Mariani of DEEP’s boating division could present additional information on this topic and on the Invasive Investigators Program at the upcoming November meeting. The Invasive Investigator Program trains volunteers to help stop the spread of invasive aquatic species by boats in Connecticut. Boating stickers are required and are used broadly in many states across the nation to fund efforts to control and address aquatic invasive species. Sharp asked if a voluntary program would be considered. Senack reported that Vermont tried a voluntary sticker program, but the program was unsuccessful. The group discussed these issues and expressed interest in hearing from Mariani. Hyatt will invite Mariani to present at the November meeting.

7. Draft annual report

Hyatt distributed copies of the annual report letter. The group discussed the letter and provided feedback. Hyatt asked the group to send any editorial changes to Senack in advance of the November meeting.

Murray distributed the DEEP year-end accomplishments report, which will be included in the annual report as an attachment. The group discussed this document. Edits to this document should be sent to Murray via email.

The Connecticut Invasive Plant Working Group (CIPWG) will also provide information for an attachment to the annual report. Ellis and Senack will prepare the report. Senack will distribute electronic copies of the CIPWG material to the group.

Hyatt asked other groups, including the Department of Agriculture, Connecticut Agricultural Experiment Station (CAES), and the green industry, to include a few bullet points about their accomplishments and activities as well.

Ellis asked if the research on *Euonymus* at UConn that has received national attention should be included in the list of accomplishments at UConn. McAvoy will provide this information.

The group also discussed including information on the nursery industry's phase out of some cultivars of Japanese barberry (*Berberis thunbergii*).

McGowan asked if it would be possible to have Council members each provide a few sentences about how the Council benefits their agencies. Hyatt asked the group to forward this information to Senack.

8. New business

- The following individuals will be invited to present information to the Council at the November meeting:

Jeff Ward, CAES; bamboo

Greg Bugbee, CAES; sale of illegal aquatic plants

Eleanor Mariani, DEEP; boat sticker program and DEEP Invasive Investigators Program

- Annual report should be voted on and approved at the November meeting.

- Ellis asked if there was interest from the Council in considering mugwort (*Artemisia vulgaris*) for inclusion on the invasive species list. Larson asked if mugwort was invading minimally managed habitats and not just disturbed sites, and noted that it frequently appears as a weed in nurseries. The Council suggested collecting more information about this species, including the habitat and distribution of the species in Connecticut.

- Hyatt noted that the Council should also bring the bamboo species to a vote, hopefully by the December meeting.

9. Adjournment

Larson moved (second: McGowan) to adjourn the meeting. **The Council decided to adjourn at 3:10 pm.**

The next meeting is scheduled for 2 pm, November 8, 2011, at the Department of Agriculture Building in Hartford, CT.

MINUTES

Invasive Plants Council
Tuesday, November 8, 2011
2 pm, Dept. of Agriculture
Hartford, CT

Council members present: Dave Goodwin, Bill Hyatt, Paul Larson, Lou Magnarelli, Richard McAvoy, Tom McGowan, John Silander, Dave Sutherland, Katherine Winslow

Others present: Greg Bugbee, Donna Ellis, Nancy Murray, Will Rowlands, Logan Senack, Penni Sharp, Jeff Ward

1. Hyatt called the meeting to order at 2:05 pm. The Council and guests introduced themselves.

2. Department of Agriculture representative to IPC

Hyatt introduced Katherine Winslow as the Department of Agriculture (DoAG) representative. Hyatt circulated the letter from Commissioner Reviczky (DoAG) appointing Katherine Winslow as his designee to the Council.

3. The minutes for the 10/11/11 meeting were reviewed

Larson moved (second: Winslow) to approve the minutes. **The Council decided to approve the minutes from the 10/11/11 meeting as submitted.**

4. Annual report:

a. Cover letter

Hyatt distributed copies of the cover letter of the annual report. Sutherland suggested adding a note that Senack has a role in coordinating volunteer efforts in the state. Sutherland moved (second: Larson) to approve the letter with the change. **The Council decided to approve the annual report letter with the change.**

b. State agency reports: DEEP, CAES, DoAG

Hyatt repeated his October request for members, especially state agencies, to provide a list of invasive plant accomplishments and activities from their organizations and the industry for inclusion in the annual report. Information for these reports should be sent to Nancy Murray within the next week. Magnarelli asked Bugbee to submit a short write-up for the report from the Connecticut Agricultural Experiment Station (CAES). The Department of Agriculture (DoAG) and the Department of Energy and Environmental Protection (DEEP) will also submit reports.

c. Industry report

Goodwin and Larson indicated that the green industry was preparing to submit a report.

Ellis submitted an additional accomplishments report from the Connecticut Invasive Plant Working Group (CIPWG).

Tom McGowan arrived at 2:14 pm.

5. Aquatic Nuisance Species (ANS) and sales (Greg Bugbee, CAES)

Hyatt summarized past actions and activities regarding aquatic nuisance species (ANS), particularly as they relate to plant sales in pet stores. Magnarelli introduced Greg Bugbee, a scientist at CAES, for a presentation on aquatic nuisance species and plant sales in Connecticut.

Bugbee detailed the projects CAES works on that relate to invasive aquatic plants. The group has surveyed over 185 Connecticut lakes since 2004. Fourteen aquatic invasive plants have been identified so far and 61% of lakes that were requested to be surveyed had at least one invasive species. The results of the surveys are made available online as georeferenced maps.

CAES staff also visited pet stores and aquarium shops in 2008 and 2010 to inquire about sales of banned species. In 2008, 28% of the stores were found to be selling prohibited plants. The primary plants found for sale were fanwort (*Cabomba caroliniana*) and Brazilian waterweed (*Egeria densa*). In 2010, 29% of stores were found to be selling prohibited species.

In several cases, the particular species of plant being offered for sale was difficult to identify, and DNA methods were used in an attempt to determine species. In some cases, no genes were available in the online database GenBank for comparison, and so some plants were unidentifiable.

CAES revisited the stores to provide them with the following:

1. Letter from CAES Director Magnarelli about the project CAES is working on and asking sellers not to sell prohibited invasives
2. List of Connecticut Invasive Plants from the Invasive Plants Council
3. Copy of the CAES aquatic plant identification guide

Bugbee noted that CAES does not have an enforcement role and noted that the letters above were requests from CAES, not enforcement actions. Bugbee reported that some aquarium sellers felt that compliance should not be their responsibility and they suggested it was the distributor's responsibility not to sell them invasive plants. The general trend was that larger stores and chains tended not to be selling prohibited plants, but smaller stores were more likely to be selling these plants.

The group discussed this issue. Silander suggested that Dr. Don Les (UConn) could assist with identifying the species for sale using DNA, and noted that DNA tests have become less expensive in recent years. Silander asked how other states handled this issue. Murray noted that she always advocates education first, but if sales continue, someone from the Department of Agriculture, which has inspection authority at pet shops, should get involved. Bugbee added that CAES planned to host a workshop for aquarium store staff and others to learn to identify these prohibited invasive aquatic plants.

McGowan suggested that to avoid the problem of selling unknown plants that turn out to be prohibited invasive plants, stores could avoid selling unidentified or unknown plants.

Hyatt asked for a 1-page summary of this information to provide to the Northeast Aquatic Nuisance Species (NEANS) Task Force meeting later in November. Murray added that the lists of species found would be particularly useful.

McGowan asked what the prospects were for future funding of this program. Bugbee responded that CAES plans to continue the program to some degree, but changes in funding from USDA may lead to changes in the program.

6. Bamboo presentation (Jeff Ward, CAES) and discussion

Magnarelli introduced Dr. Jeff Ward, a scientist from the CT Agricultural Experiment Station. Magnarelli accompanied Ward to 3 sites in Woodbury, CT where bamboo populations (possibly *Phyllostachys aurea*) occurred.

Ward presented his findings on bamboo's invasiveness as it related to the criteria established in CT General Statutes Sec. 22a-381. Ward noted that some species of bamboo clearly establish and form dense stands, but that the plants do not appear to produce seeds and do not seem to have high dispersion potential. He also shared other observations:

- Connecticut appears to be at the northern range limit
- Bamboo can be killed by the herbicide glyphosate but may require multiple years of treatment
- With one possible exception, the bamboo in CT observed by Ward spreads only by the human movement of vegetative tissues

Murray has been working through EDDMapS to try to find an expert who could confirm the identification of the species. Silander said he could ask others to assist in identifying the species. Rowland noted that some species are sold under incorrect names, complicating the issue.

Hyatt asked Ward if he was still of the opinion that bamboo may be potentially invasive. Ward responded that there is no real evidence that bamboo is moving across the landscape. Silander noted that various bamboos are listed as invasive in some states and Murray added that towns south of Connecticut, including some on Long Island, are prohibiting some species on a town-by-town basis. Silander added that some species rarely seed even within their native range. Silander also noted that bamboo species have episodic synchronized flowering and may be monocarpic (die after producing seeds), and noted that some species may have extremely long time periods between flowerings and then flower in large numbers. The group discussed various methods of spread, whether the plants produced seeds, whether rhizomes could spread the plants and whether any of this constituted excessive dispersion as indicated in CGS Sec. 22a-381b(a) section 4. Murray suggested going out to see additional locations that are in natural areas.

Silander suggested that if the Council was concerned that there was not enough evidence to list bamboo species as Invasive, the Council could list some bamboo species as Potentially Invasive and continue to monitor them. The group discussed the criteria and whether or not plants must produce seeds to be considered invasive or to spread through the landscape. Goodwin noted that some roadside daylilies (*Hemerocallis* sp.) spread primarily via fragments spread by people. Silander noted that many aquatic plants spread by fragmentation without human assistance.

Hyatt asked if the fact that some bamboos needed to be sold with warning labels and additional information about preventing spread meant that the plants were showing a tendency to invade other areas. The group discussed various aspects of plant spread.

[Note: Paul Larson provided additional clarification following the meeting: At the present time, there is not any requirement for warning labels or the provision of additional information.]

There was discussion of asking CNLA to consider asking retailers who sell bamboo to provide some kind of information sheet to their customers. Larson does not know the status of the CNLA Board of Directors' decision on this issue.]

Larson reported that he spoke to Mike Johnson, owner of Summer Hill Nursery in Madison, CT, about the flowering of bamboo species. Johnson indicated that when bamboo does flower, which is rare, some species are very difficult to grow from seed and have very minimal growing rates from seeds that do germinate.

Murray stressed the importance of prevention and education responsibilities for both Aquatic Nuisance Species and other invasive plants, particularly since removal in both cases will be much more costly after the plants have become established. Murray also noted that there is the potential for problems since some towns want to list the plant as invasive on their own. The group noted that this could potentially conflict with state statute 22a-381d(e), which established a moratorium on municipalities adopting ordinances regarding the retail sale or purchase of any invasive plant until Oct 1, 2014.

Goodwin stressed the importance of following the already established guidelines for invasive criteria and making sure that all plants to be added to the list meet the criteria for listing. He also noted that the CT Nursery and Landscape Association has already conducted outreach events and grower education events about controlling the spread of bamboo in yards. McAvoy expressed concern that if this plant was only being spread by humans, it belonged in some sort of nuisance category. Silander noted that a designation of Potentially Invasive would mean the plants could be monitored further. Hyatt agreed that the plants could be listed as Potentially Invasive if they met the criteria, and noted that it was important for the group to act on this issue.

The group discussed the importance of education and interpretations of the meaning of "average conditions" in the invasive plant criteria. Goodwin noted that the industry now has guidelines for containing planted bamboo in yards.

Silander suggested that test plantings could be conducted to determine more about species spread throughout the state. Hyatt asked Murray to communicate with others to identify and confirm the species of bamboo found in Connecticut. Magnarelli added that the CAES could conduct experiments at their Lockwood Farm in Hamden, CT.

7. Aquatic Nuisance Species meeting update: Rapid Response Framework

Murray distributed a Connecticut Early Detection and Rapid Response Framework for Aquatic Nuisance Species based on programs in the Midwest. The framework uses the Incident Command System, a method used to organize the fighting of wildfires. The final version of the framework will be posted online once it is completed. Goodwin asked if part of the response could involve a way to get expedited approval for required permits for response activities. Murray detailed the procedures that would take place if the plan was activated and emphasized the step-by-step nature of the process.

8. Old/New business

- Ellis announced that the Fall 2011 general meeting of the Connecticut Invasive Plant Working Group will be held on Thursday, November 10 from 1:30-3:30 pm at the Valley Laboratory of

CAES in Windsor, CT. The meeting is open to the public. Council members are invited to attend.

- Any other members planning to submit bullets regarding the benefits the Council provides to the member agency/organization or the industry for inclusion in the annual report should send those bullets to Senack within the next week.

- In order to include the November 8 meeting minutes in the annual report, the meeting minutes will be voted on by email vote. Senack will send out the minutes to the Council members by email and collect the votes.

*12/2/11 Note: The minutes were distributed to the Council by email on 11/29/11. **The Council voted 8-0-1 to approve the minutes as submitted by email vote on 12/2/11.** -LS*

9. Adjournment

Sutherland moved (second: McGowan) to adjourn the meeting. **The Council decided to adjourn at 3:56 pm.**

CONNECTICUT INVASIVE PLANT LIST October 2011

Connecticut Invasive Plants Council

Ordered by Scientific Name

Statement to accompany list -- January 2004: This is a list of species that have been determined by floristic analysis to be invasive or potentially invasive in the state of Connecticut, in accordance with PA 03-136. The Invasive Plants Council will generate a second list recommending restrictions on some of these plants. In developing the second list and particular restrictions, the Council will recognize the need to balance the detrimental effects of invasive plants with the agricultural and horticultural value of some of these plants, while still protecting the state's minimally managed habitats.

In May 2004, Public Act 04-203 banned a subset of the January 2004 list making it illegal to move, sell, purchase, transplant, cultivate or distribute banned plants. Effective July 1, 2009, Public Act 09-52 removed the ban on *Pistia stratiotes*.

@ column indicates growth form or habitat: A = Aquatic & Wetland; G = Grass & Grass-like; H = Herbaceous; S = Shrub; T = Tree; V = Woody Vine

Explanation of symbols after Common Name:

(P) indicates Potentially Invasive (all other plants listed are considered Invasive in Connecticut)

* denotes that the species, although shown by scientific evaluation to be invasive, has cultivars that have not been evaluated for invasive characteristics. Further research may determine whether or not individual cultivars are potentially invasive. Cultivars are commercially available selections of a plant species that have been bred or selected for predictable, desirable attributes of horticultural value such as form (dwarf or weeping forms), foliage (variegated or colorful leaves), or flowering attributes (enhanced flower color or size).

BAN column indicates prohibited status: Y= banned under CT Gen. Stat. 22a-381d N/A= not banned

^ indicates species that are not currently known to be naturalized in Connecticut but would likely become invasive here if they are found to persist in the state without cultivation

The taxonomic names used by the Connecticut Invasive Plants Council on the Invasive Plant List are consistent with the names used by the United States Department of Agriculture PLANTS database, accessible online at www.plants.usda.gov. The Council also maintains a list of scientific name synonyms for reference purposes.

COMMON NAME	@	SCIENTIFIC NAME	SYNONYMS	BAN
Amur maple (P)	T	<i>Acer ginnala</i> L.		N/A
Norway maple*	T	<i>Acer platanoides</i> L.		N/A
Sycamore maple (P)	T	<i>Acer pseudoplatanus</i> L.		Y
Goutweed	H	<i>Aegopodium podagraria</i> L.		Y
Tree of heaven	T	<i>Ailanthus altissima</i> (Mill.) Swingle		Y
Garlic mustard	H	<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande		Y
False indigo (P)	S	<i>Amorpha fruticosa</i> L.		Y
Porcelainberry*	V	<i>Ampelopsis brevipedunculata</i> (Maxim.) Trautv.		N/A
Hairy jointgrass (P)	G	<i>Arthraxon hispidus</i> (Thunb.) Makino	Small carpgrass	Y
Common kochia (P)	H	<i>Bassia scoparia</i> (L.) A.J. Scott	<i>Kochia scoparia</i> ; Fireweed; Summer cypress	Y
Japanese barberry*	S	<i>Berberis thunbergii</i> DC.		N/A
Common barberry	S	<i>Berberis vulgaris</i> L.		Y
Drooping brome-grass (P)	G	<i>Bromus tectorum</i> L.	Cheatgrass	Y
Flowering rush (P)	A	<i>Butomus umbellatus</i> L.		Y
Fanwort	A	<i>Cabomba caroliniana</i> A. Gray		Y
Pond water-starwort (P)	A	<i>Callitriche stagnalis</i> Scop.		Y
Narrowleaf bittercress	H	<i>Cardamine impatiens</i> L.		Y
Japanese sedge^ (P)	G	<i>Carex kobomugi</i> Owhi		Y
Oriental bittersweet	V	<i>Celastrus orbiculatus</i> Thunb.	Asiatic bittersweet	Y
Spotted knapweed	H	<i>Centaurea stoebe</i> (L.)	<i>Centaurea biebersteinii</i> ; <i>Centaurea maculosa</i>	Y
Canada thistle (P)	H	<i>Cirsium arvense</i> (L.) Scop.		Y
Black swallow-wort	H	<i>Cynanchum louiseae</i> Kartesz & Ghandi	<i>Cynanchum nigrum</i> ; <i>Vincetoxicum nigrum</i>	Y
Pale swallow-wort	H	<i>Cynanchum rossicum</i> (Kleoc.) Borhidi	<i>Vincetoxicum rossicum</i>	Y
Jimsonweed (P)	H	<i>Datura stramonium</i> L.		Y
Brazilian water-weed (P)	A	<i>Egeria densa</i> Planchon	Anacharis; Egeria	Y
Common water-hyacinth^ (P)	A	<i>Eichhornia crassipes</i> (Mart.) Solms		N/A
Russian olive (P)	S	<i>Elaeagnus angustifolia</i> L.		Y
Autumn olive	S	<i>Elaeagnus umbellata</i> Thunb.		Y
Crested late-summer mint (P)	H	<i>Elsholtzia ciliata</i> (Thunb.) Hylander	Elsholtzia	Y
Winged euonymus*	S	<i>Euonymus alatus</i> (Thunb.) Sieb.	Burning bush	N/A
Cypress spurge (P)	H	<i>Euphorbia cyparissias</i> L.		Y
Leafy spurge	H	<i>Euphorbia esula</i> L.		Y
Glossy buckthorn	S	<i>Frangula alnus</i> Mill.	<i>Rhamnus frangula</i> ; European buckthorn	N/A
Slender snake cotton	H	<i>Froelichia gracilis</i> (Hook.) Moq.	Cottonweed	Y
Ground ivy (P)	H	<i>Glechoma hederacea</i> L.	Gill-over-the-ground; Run-away robin	Y
Reed mannagrass^ (P)	G	<i>Glyceria maxima</i> (Hartm.) Holmb.	Tall mannagrass	Y
Giant hogweed (P)	H	<i>Heracleum mantegazzianum</i> (Sommier & Lavier)		Y
Dame's rocket	H	<i>Hesperis matronalis</i> L.		Y
Japanese hops (P)	H	<i>Humulus japonicus</i> Sieb. & Zucc.		Y

Hydrilla	A	<i>Hydrilla verticillata</i> (L.f.) Royle		Y
Ornamental jewelweed (P)	H	<i>Impatiens glandulifera</i> Royle	Tall impatiens	Y
Yellow iris	A	<i>Iris pseudacorus</i> L.	Yellow flag iris	Y
Perennial pepperweed	H	<i>Lepidium latifolium</i> L.	Tall pepperwort	Y
Border privet (P)	S	<i>Ligustrum obtusifolium</i> Sieb. & Zucc.		Y
California privet (P)	S	<i>Ligustrum ovalifolium</i> Hassk.		N/A
European privet (P)	S	<i>Ligustrum vulgare</i> L.		N/A
Japanese honeysuckle*	V	<i>Lonicera japonica</i> Thunb.		Y
Amur honeysuckle	S	<i>Lonicera maackii</i> (Rupr.) Herder		Y
Morrow's honeysuckle	S	<i>Lonicera morrowii</i> A. Gray		Y
Tatarian honeysuckle (P)	S	<i>Lonicera tatarica</i> L.		Y
Belle honeysuckle	S	<i>Lonicera x bella</i> Zabel	Bell's honeysuckle (<i>misapplied</i>)	Y
Dwarf honeysuckle^ (P)	S	<i>Lonicera xylosteum</i> L.	European fly-honeysuckle	Y
Ragged robin (P)	H	<i>Lychnis flos-cuculi</i> L.		Y
Moneywort* (P)	H	<i>Lysimachia nummularia</i> L.	Creeping jenny	N/A
Garden loosestrife* (P)	H	<i>Lysimachia vulgaris</i> L.		Y
Purple loosestrife	A	<i>Lythrum salicaria</i> L.		Y
European waterclover (P)	A	<i>Marsilea quadrifolia</i> L.	Water shamrock	Y
Japanese stilt grass	G	<i>Microstegium vimineum</i> (Trin.) A. Camus		Y
Eulalia* (P)	G	<i>Miscanthus sinensis</i> Andersson	Chinese or Japanese silvergrass	N/A
Forget-me-not	A	<i>Myosotis scorpioides</i> L.	True forget-me-not; Water scorpion-grass	Y
Parrotfeather (P)	A	<i>Myriophyllum aquaticum</i> (Vell.) Verdc.		Y
Variable-leaf watermilfoil	A	<i>Myriophyllum heterophyllum</i> Michx.		Y
Eurasian watermilfoil	A	<i>Myriophyllum spicatum</i> L.		Y
Brittle water-nymph (P)	A	<i>Najas minor</i> All.	Eutrophic water-nymph	Y
Onerow yellowcress (P)	A	<i>Nasturtium microphyllum</i> (Boenn. ex. Rchb.)	<i>Rorippa microphylla</i>	Y
Watercress (P)	A	<i>Nasturtium officinale</i> W.T. Aiton	<i>Rorippa nasturtium-aquaticum</i>	Y
American water lotus (P)	A	<i>Nelumbo lutea</i> (Willd.) Pers.	American water lotus	Y
Yellow floating heart (P)	A	<i>Nymphoides peltata</i> (S.G. Gmel.) Kuntze		Y
Scotch thistle (P)	H	<i>Onopordum acanthium</i> L.		Y
Star-of-Bethlehem (P)	H	<i>Ornithogalum umbellatum</i> L.		N/A
Princess tree (P)	T	<i>Paulownia tomentosa</i> (Thunb.) Siebold & Zucc. ex Steud.	Empress-tree	Y
Reed canary grass	G	<i>Phalaris arundinacea</i> L.		N/A
Common reed	G	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Phragmites	Y
Water lettuce^ (P)	A	<i>Pistia stratiotes</i> L.		N/A
Canada bluegrass (P)	G	<i>Poa compressa</i> L.		Y
Bristled knotweed	H	<i>Polygonum caespitosum</i> Blume	<i>Persicaria longiseta</i> ; Oriental lady's thumb	Y
Japanese knotweed	H	<i>Polygonum cuspidatum</i> Siebold & Zucc.	<i>Fallopia japonica</i>	Y
Mile-a-minute vine	H	<i>Polygonum perfoliatum</i> L.	<i>Persicaria perfoliata</i>	Y
Giant knotweed (P)	H	<i>Polygonum sachalinense</i> F. Schmidt ex. Maxim.	<i>Fallopia sachalinense</i>	Y
White poplar (P)	T	<i>Populus alba</i> L.		Y
Crispy-leaved pondweed	A	<i>Potamogeton crispus</i> L.	Curly pondweed or Curly-leaved pondweed	Y
Kudzu (P)	V	<i>Pueraria montana</i> (Lour.) Merr.	<i>Pueraria lobata</i>	Y
Fig buttercup	H	<i>Ranunculus ficaria</i> L.	Lesser celandine; <i>Ficaria verna</i>	Y
Common buckthorn	S	<i>Rhamnus cathartica</i> L.		Y
Black locust*	T	<i>Robinia pseudo-acacia</i> L.		N/A
Multiflora rose	S	<i>Rosa multiflora</i> Thunb.		Y
Rugosa rose* (P)	S	<i>Rosa rugosa</i> Thunb.*	Beach, Salt spray, Japanese, or Ramanas Rose	N/A
		*Note: This plant is especially aggressive in coastal areas		
Wineberry	S	<i>Rubus phoenicolasius</i> Maxim.		Y
Sheep sorrel (P)	H	<i>Rumex acetosella</i> L.		Y
Giant salvinia^ (P)	A	<i>Salvinia molesta</i> Mitchell		Y
Tansy ragwort^ (P)	H	<i>Senecio jacobaea</i> L.	Stinking Willie	Y
Cup plant (P)	H	<i>Silphium perfoliatum</i> L.		Y
Bittersweet nightshade (P)	H	<i>Solanum dulcamara</i> L.	Climbing nightshade	Y
Water chestnut	A	<i>Trapa natans</i> L.		Y
Coltsfoot	H	<i>Tussilago farfara</i> L.		Y
Garden heliotrope (P)	H	<i>Valeriana officinalis</i> L.	Valerian	Y

Running bamboo status update

The Invasive Plant Council (IPC) has been collecting information on “running bamboo” in Connecticut since Ms. Caryn Rickel, a Connecticut resident, brought the issue to the attention of the IPC in 2010. The Department of Energy and Environmental Protection (DEEP) and the CT Agricultural Experiment Station (CAES) staff have conducted site visits to numerous locations; most of the sites visited were in Fairfield and New Haven Counties.

CT Agricultural Experiment Station

A letter (see next page) dated July 21, 2011 from Jeff Ward indicates that “golden bamboo” (*Phyllostachys aurea*) can cause severe, localized impacts to disturbed forests and riparian habitats. “I have never seen a species so thoroughly dominate a site and form a monoculture that completely excludes other plant species.” (see next page)

CT Department of Energy and Environmental Protection

Nancy Murray, DEEP, presented a “Draft” proposal to list golden bamboo (*Phyllostachys aurea*) and yellow groove (*Phyllostachys aureasulcata*) as “**potentially invasive**”. *Phyllostachys aurea* and (*Phyllostachys aureasulcata*) meet the five mandatory invasive species characteristics required for inclusion on the CT state “**potentially invasive**” in accordance with Connecticut General Statutes Section 22a-381b 1-5. 1.) the plant is nonindigenous to the state; 2.) the plant is naturalized or has the potential to become naturalized or occurring without the aid and benefit of cultivation in an area where the plant is nonindigenous; 3.) under average conditions, the plant has potential for rapid and widespread dispersion and establishment in the state or region within the state; 4.) under average conditions, the plant has the biological potential for excessive dispersion over habitats of varying sizes that are similar or dissimilar to the site of the plant’s introduction into the state; 5.) under average conditions, the plant has the biological potential for existing in high numbers outside of habitats that are intensely managed.

These species also meet the following two characteristics: 6.) the plant occurs widely in the region of the state or particulate habitat within the state and 8.) the plant is able to out-compete other species in the same natural plant community.



The Connecticut Agricultural Experiment Station

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Jeffrey S. Ward, Ph.D.
Department of Forestry and Horticulture
The Connecticut Agricultural Experiment Station
Phone: (203) 974-8495
Email: Jeffrey.Ward@ct.us

July 21, 2011

Dr. Louis A. Magnarelli, Director
The Connecticut Agricultural Experiment Station
New Haven, CT

Dear Dr. Magnarelli,

Per your request, I visited several sites in Fairfield County on July 14, 2011 that were infested with golden bamboo (*Phyllostachys aurea* Carrière ex A. Rivière & C. Rivière). I met with, and was guided by, Ms. Caryn Rickel (Seymour, CT) who is a passionate advocate for listing golden bamboo as an invasive species and its complete eradication in Connecticut.

Observations made during my site visits are on the attached pages. At this time, I can not recommend that golden bamboo be listed as an invasive species in Connecticut because there is no direct evidence that “the plant has the potential for rapid growth, high seed production and dissemination and establishment in natural plant communities” [CGS Sec. 22a-381b(9)]. Although golden bamboo has been planted in the United States since at least 1882, reproduction by seed has not been observed (Gucker 2009).

Notwithstanding the aforementioned recommendation, golden bamboo can cause severe, localized impacts to disturbed forests and riparian habitats. I have never seen a species so thoroughly dominate a site and form a mono-culture that completely excludes other plant species. It may have the ability to eventually colonize riparian corridors if rhizome fragments are washed out during floods and deposited downstream. If yard wastes dumped alongside forest roads (an all too common occurrence) contain rhizome fragments, there is the potential for new infestations to become established in state and private forests. Lastly, it is possible that golden bamboo could produce viable seed at some future date. This potentiality would lead to its rapid, wide-spread dispersal across the state and region.

Because there is the potential for dispersal of golden bamboo by rhizome fragments along riparian corridors and infestations displace all native species, I do recommend that it be listed as potentially invasive plant.

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Because golden bamboo infestations can cross property boundaries, another possibility is to amend Connecticut's noxious weed law to include all reproductive tissues and not just seeds. The law currently defines "prohibited noxious-weeds" as "perennial weeds such as not only reproduce by seed, but also spread by underground roots, stems and other reproductive parts, and which, when well established, are highly destructive and difficult to control in this state by ordinary good cultural practice" [CGS Sec. 22-55e].

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeffrey S. Ward", is written over a horizontal line.

Jeffrey S. Ward
Chief Scientist, Forestry and Horticulture

Gucker, C.L. 2009. *Phyllostachys aurea*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Available: <http://www.fs.fed.us/database/feis/> [2011, July 21].

Nonnewaug High School, 5 Minortown Tpke, Woodbury



Most of the golden bamboo infestation was observed growing in full sunlight adjacent to a forested edge (left). However, there were a couple of clumps growing under intact canopy in the wetland adjacent to the stream (below). This was the only location on visited sites where bamboo was able to penetrate the forest interior.



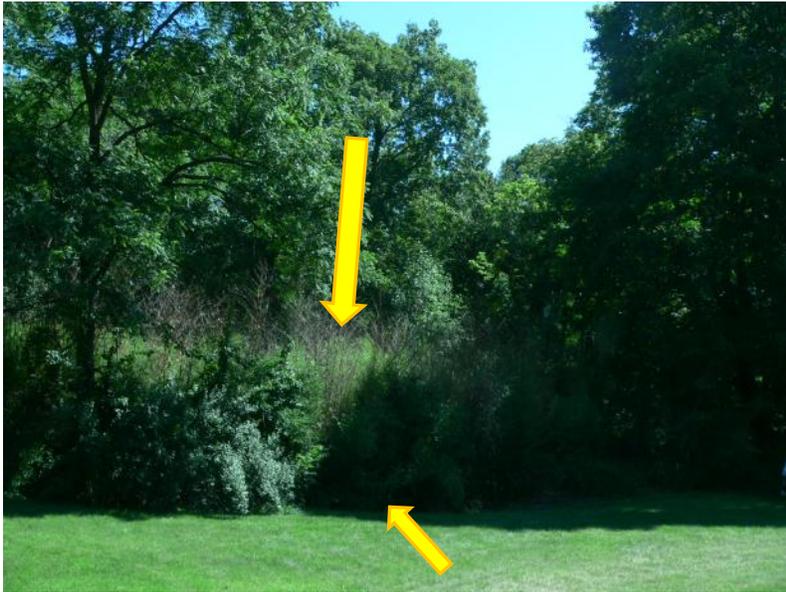
11 Bears Hill Rd, Woodbury



This infestation (left and below) in an abandoned oxbox of the Pomperaug River was incredibly dense and completely displaced other plants in this riparian zone.



30 Old Grassy Hill Rd, Newtown

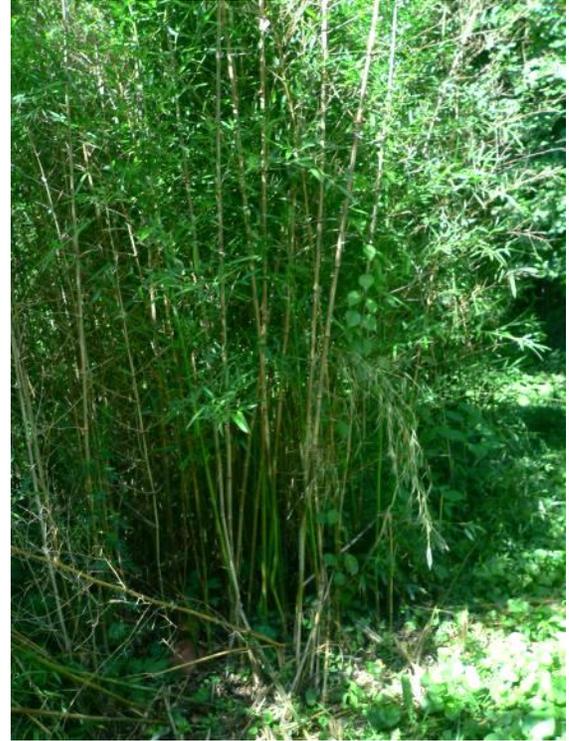


Most of this infestation was growing in a forest gap (left), though there were some clumps growing in the extended forest gap zone (below).



North and central Woodbury

We also visited several other sites where bamboo was growing in the full sun of canopy gaps (see below), but not invading surrounding forests or growing into the partial shade of extended canopy gaps.



**CONNECTICUT DEPARTMENT OF ENERGY and ENVIRONMENTAL
PROTECTION**

Invasive Plant Program 2011 Year End Report

Update on DEEP Non-native Invasive Plant Species Control Projects using Supplemental Environmental Project Funds- Total funding committed - \$109,608.91

Four high priority invasive plant control projects were selected for funding based on the 2008 Request for Proposals - Grants to Municipalities for Control of Invasive Plants. Work has been initiated on the two mile-a-minute projects and the Bantam Lake project. The water chestnut control project will be conducted in 2011 and 2012. Final Reports will be submitted in 2011/2012.

Removal of mile-a-minute vine from lands in New Milford, CT - Total Funding: \$14,735.00

Completion Date: June 30, 2011 The Town of New Milford received a DEEP grant for 2010-2011 titled "Removal of mile-a-minute vine from lands in New Milford". The town worked closely with Mad Gardeners, Inc., a private gardening group, to hire staff to control mile-a-minute vine (MAM) at properties in two large areas of the town. Each area contained multiple properties. Staff removed MAM by hand pulling throughout the summer. Properties with known mile-a-minute populations and other nearby properties were inspected multiple times during the growing season, approximately every 2-3 weeks. Plants found were removed by hand. Plants with flower buds, flowers, or seeds were bagged and disposed by incineration.

Mile-a-minute vine control project in Newtown, CT - Total Funding: \$10,873.91

Completion Date: June 15, 2011 The Town of Newtown received a DEEP grant for 2010-2011 titled "Mile-a-Minute Vine Control in Newtown Open Space Areas adjacent Huntingtown Road". Due to problems caused by the economic situation in the town, Newtown laid off the staffer responsible for this project and the majority of the work was not completed.

Bantam Lake/River Suction Harvesting of fanwort (*Cabomba caroliniana*), Town of

Litchfield: Total Funding: \$78,000 Completion Date: January 15, 2011 Diver-Assisted Suction Harvesting (DASH) was conducted to remove fanwort along the north shore of Bantam Lake and at the inlet of the lower Bantam River and to test the efficacy of benthic barriers. A final report "Bantam Lake Fanwort Control Project" was submitted in January 2011 documenting the results. In addition to the suction harvesting control actions, divers used a "hunt and pick" protocol, installation of a fragment barrier to catch floating plant material to prevent the spread within the lake. Benthic barriers, made from a material that prohibits light, but allows for oxygen to move through the barrier, were deployed in a portion of the Bantam River and a small area in the North Cove. Results of the benthic barriers were mixed; the fanwort plants under the benthic barriers were killed. However, fanwort was found growing on top of the barriers when they were removed in autumn.



A crew from Water's Edge Restoration and Management "suction harvesting" fanwort in Bantam Lake just to the west of the inlet of the Bantam River. A portion of the fragment barrier can be seen in the foreground.

Water chestnut control at Hartford Flood Control Ponds, City of Hartford & U.S. Fish and Wildlife Service (USFWS) - Funding: \$6,000 completion Date; June 2013 extension

DEP entered into a joint funding agreement with the USFWS to cost-share herbicide treatments at the Hartford flood control Pond (north Hartford) with the goal of eradicating a dense infestation of water chestnut. The City of Hartford has been very cooperative in allowing access to the site. Eradicating water chestnut from the Hartford Flood Control Ponds is a key action to prevent the spread of water chestnut in the CT River. Control actions have been sporadically implemented since 2007. Annual control actions are essential until complete eradication has been achieved. Low water levels this July and August (2010) made it impossible to access the water body and prevented the herbicide application. The 2011 herbicide application was conducted with good results. The enabling agreement between DEEP and the USFWS has extended so the second herbicide application will be conducted in 2012.

CT Invasive Plants Coordinator

Logan Senack, the Invasive Plant Coordinator, reports jointly to the DEEP and the University of Connecticut. DEEP was able to fund and implement another one year Project Amendment to the existing Cooperative Agreement with the University of Connecticut Plant Science and Landscape Architecture Department. This amendment allowed us to extend the Invasive Plant

Coordinator contract until June 30, 2012. Donna Ellis, UCONN Plant Science Program and Nancy Murray, DEEP Inland Fisheries oversee this Cooperative Agreement. **Currently, no funding is available to continue this program after May 30, 2012.**

2011 Accomplishments

Provided administrative support to the Invasive Plants Council

Provided administrative support to the Invasive Plants Council by preparing and posting meeting minutes for the nine Invasive Plants Council meetings, organizing parking and attendance logistics, and assisting with several IPC requests for information.

Hosted Invasive Plants and Habitat Improvement Workshop for over 100 attendees

Worked with CIPWG and DEEP to set up a workshop on June 1, 2011 for state and municipal staff, garden clubs, and the general public about invasive plants. The day-long workshop covered the prioritization of invasive plant control efforts using limited resources, removal efforts, and ways to improve wildlife habitat using native plants. Guest speakers from UConn, DEEP, and USDA Natural Resource Conservation Service presented material to the group, including a site walk at Sessions Woods Wildlife Management Area, a DEEP property in Burlington, CT.

Published disposal protocols for terrestrial and aquatic invasive plants

Coordinated the development of brochures on disposal protocols for terrestrial and aquatic invasive plants. The protocols emphasize environmentally responsible ways to dispose of invasive plants after control or removal efforts take place. These documents have been widely used throughout Connecticut and elsewhere to assist in educating homeowners in how to prevent the spread of invasive plants through the landscape after disposal projects.

Continued development of invasive species database

Continued work on a reporting protocol for invasive plant species. A pilot project accepting reports of only two species will be expanded to accept reports of all of Connecticut's invasive species. This will also assist DEEP in prioritizing management actions.

Submitted records of invasive plants to state and regional databases

Submitted records of invasive plants to groups which track invasive species, including the Invasive Plant Atlas of New England (IPANE) and the Early Detection and Distribution Mapping System (EDDMaps). These publicly available databases help to share and distribute information about invasive species affecting Connecticut. DEEP is working with EDDMaps to develop a control a management tracking module.

Coordinated invasive mile-a-minute vine removal

Conducted site visits throughout the state to collect information on the invasive mile-a-minute vine and assisted towns and other groups in their removal efforts of invasive plants. This includes updating the mile-a-minute control plan and helping to organize three invasive plant removal events in eastern Connecticut to address mile-a-minute vine with local volunteers. Reports from the public led to the discovery of mile-a-minute in new locations in the state.

Expanded outreach events and public engagement

Presented material about invasive plants to the general public and other interested groups at several local outreach events, including Plant Science Day in Hamden, CT White Memorial Conservation Center Family Nature Day, UConn Cornucopia festival, CNLA Summer Field Day, UConn Garden Conference, UConn Perennial Plant Conference, CT Flower Show, CT Association of Wetland Scientists, CT Conference on Natural Resources and other events.

Website improvements

Coordinated the expansion of the Invasive Plants Website to include additional information about more of Connecticut's invasive species. Early detection information, a photo gallery, volunteer section, event calendar, and other important information were also added. Links and coordination with other programs and websites were improved.

DEEP Aquatic Nuisance Species (ANS) Cooperative

DEEP-Inland Fisheries Division used United States Fish and Wildlife –Aquatic Nuisance Species Task Force funds were used to establish a part time Aquatic Nuisance Species Coordinator in 2011 through a one year Cooperative Agreement with the University of Connecticut and will be completed on December 31, 2011. Nancy Murray, DEEP Inland Fisheries Division; Dr. Patricia Bresnahan, the ANS Coordinator; and Nancy Balcom, UCONN Sea Grant make up the CT Coordinating Committee.

Key tasks completed to date: re-established the CT ANS Work Group; held a Taxonomic Work Group meeting on April 7, 2011 (see Attachment A); updated ANS listing criteria, species vector list; prepared a DRAFT CT Rapid Response (RR) Plan. This RR Plan will be presented at the next CT ANS Taxonomic Work Group meeting that is being planned for October 2011. (See meeting minutes in Attachment 1)

DEEP Connecticut River water chestnut Control

DEEP (Inland Fisheries and Geological Survey staff) and U.S. Fish & Wildlife Service (USFWS) completed their annual water chestnut survey of the Connecticut River. Bill Foreman (DEEP-Inland Fisheries) coordinates this effort from Hartford downstream where staff and volunteers surveyed the main stem of the CT River and associated coves from Hartford to Essex. USFWS staff coordinate and lead water chestnut control activities from Hartford north into Massachusetts, including major infestations on the Hockanum River and several other sites in the Hartford area. DEEP found and removed plants from more sites than in 2010 and USFWS found (and removed) less plants than in 2010. This year, the Tidewater Institute (with coordination from USFWS) surveyed portions of the lower river, locating and removing much of a new infestation found on Eustasia Island.

DEEP IFD staff did not find any plants at the confluence of the Still River and Lake Lillinonah this year, where plants have been found and removed annually beginning in 2006. In late September, 2011, water chestnut was reported at several sites in West Thompson Lake (a flood control impoundment and recreation area on the Quinebaug River in Thompson, CT, operated by the U.S. Army Corps of Engineers) and later removed by a volunteer.

DEEP Boating Division Report on Invasive Investigators Program

Wendy Flynn/ Eleanor Mariani

Connecticut Department of Energy and Environmental Protection (DEEP) Boating Division initiated a Volunteer Invasive Investigator Program in 2011. The Volunteer Invasive Investigator Program is designed specifically to help educate people on ways to keep our waters clean and prevent the spread of aquatic hitchhikers into the lakes and rivers of Connecticut. To date, we trained approximately 75 Invasive Investigators, and our Boating Education Assistants also distributed information and conducted invasive species vessel inspections similar to the Invasive Investigators. The Invasive Investigators will check for invasive species and collect information about where boats have been, if any invasive species were found, and what if any cleaning steps were done prior to launch. Volunteers are required to attend an initial training of 2.5 hours and visit local boat launches. DEEP Boating Division staff familiarized volunteers with the local invasive species, teach how to conduct a voluntary inspection and provide instructions regarding data collection. Annual refresher training will be approximately 1 hour. The program is administered under the authority of the CT DEEP and training is held at local sites. Volunteers will be under the local supervision of the lake or pond organization with whom they register.

2011 DEEP Wetland Habitat Restoration and Mosquito Management (WHAMM) Program

WHAMM Program 2011 Invasive Plant Control

The DEEP WHAMM Program started spraying for phragmites in mid July and will continue until the first killing frost along the coast. The DEEP is using two crews with our new Marsh Master II (purchased with CT Duck Stamp Funds) and an ARGO. We had a two week period after tropical storm Irene with no spraying and a very rainy season which put off spraying. We are using two different herbicides: glyphosate and imazapyr. We have sprayed several Phragmites sites this year. The sites are the following:

NRCS WHIP Funded Projects for Phragmites control

Pomfret, CT Audubon – 10 acres

Verkades in Waterford – 1 acre

White Memorial in Litchfield – 5 acres

Pandolpho site in Ashford – 1 acre

Columbia – Yellow Floating Heart - <.25 acre
 Killingworth Bog for Land Trust and Lip, Phragmites and other plants- 5 acres

DEEP LIP Funded Projects for Phragmites control
 Sharon, CT Audubon – 4 acres
 Joshua Creek LCT, Lyme – 2 acres

DOT Funded for invasive control
 West River in West Haven, Phragmites – <.5 acre
 Kent, Wyantenock State Forest, 2 Projects, Phragmites - 4 acres
 Flatbush Ave., Hartford – 5 acres

Other funded Phragmites control
 Little River, New Haven, North Haven-25 acres
 Silver Sands SP, Milford-25 acres

Yellow floating heart, Columbia, >1 acre
 DEEP started conducting annual control work at this site in 2008 when the whole surface area of the pond was covered with this invasive plant. In 2011 only a few individual plants were found. Control work or hand pulling will be planned for 2012.

2011 DEEP Wildlife Division- State Land Habitat Management Program and Landowner Incentive Program

The Wildlife Division’s Landowner Incentive Program (LIP) provides technical advice and cost assistance to private landowners for habitat management that will result in the protection, restoration, reclamation, enhancement, and maintenance of habitats that support fish, wildlife, and plant species considered at-risk. Activities include invasive plant control projects. This program has been made possible through grants from the U.S. Fish and Wildlife Service, which recognized the need to help states with the stewardship of their at-risk species.

Invasive Plant Control Projects

<i>Site</i>	<i>Town</i>	<i>Treatment</i>	<i>Acres</i>	<i>Relationship to Invasives</i>
Quinnipiac River SP	North Haven	Spray/manual	12	Control mile-a-minute, autumn olive, multiflora rose & bittersweet
West Rock SP	Hamden	Spray/manual	12	Control autumn olive & multiflora rose
Sessions Woods WMA	Burlington	Spray	19	Control black locust
Tunxis SF	Hartland	mow	14	Control white ash, barberry, autumn olive & barberry in WSG field
Tunxis SF	Hartland	Spray	4.2	Old fields - autumn olive and multiflora rose
Housatonic River WMA	Kent	Brush hog	17.8	Control autumn olive & multiflora rose
Housatonic River WMA	Kent	Spray fields & forest	55	Control bush honeysuckle, wormwood, barberry, autumn olive

Site	Town	Treatment	Acres	Relationship to Invasives
		regeneration		
Bear Hill WMA - 06	Bozrah	Spray forest regeneration	8	Control autumn olive, barberry & multiflora rose
Bishop Swamp	Andover	Spray	5	Control barberry & multiflora rose
Belding WMA-6080br	Vernon	Brush hog OF	8.4	Control barberry & multiflora rose
Belding WMA-6080br	Vernon	Mow/manual	9	Control barberry, autumn olive & multiflora rose
Aircraft Rd	Middlefield	Manual & spray	2	Control barberry & multiflora rose
Talbot WMA	Scotland	Spray	4.2	Control barberry, autumn olive & multiflora rose
Spignesi WMA	Scotland	Spray fields & forest regeneration	10	Barberry & autumn olive
FFTA	East Windsor	Mow fields	150	Control autumn olive & multiflora rose
FFTA	East Windsor	Spray alder regeneration site	8	Control multiflora rose and bittersweet
Mad River FCA	Winsted	Mow	19	Control autumn olive, barberry & multiflora rose
Mad River FCA	Winsted	Spray	19	Control autumn olive, barberry & multiflora rose
Centennial SF	Easton	Grassland mow	54	Control autumn olive, barberry & multiflora rose
Naugatuck SF	Naugatuck	spray fields	14	Barberry & autumn olive
Goshen WMA	Goshen	Spray fields & forest regeneration	13	Control barberry, autumn olive & multiflora rose
Roraback WMA	Harwinton	Spray fields & forest regeneration	50	Control barberry, autumn olive & multiflora rose
Camp Columbia	Morris	Spray fields & forest regeneration	10	Control barberry, autumn olive & multiflora rose
Bartlett Brook	Colchester	Prescribed bun	16	Control barberry, autumn olive & multiflora rose
Babcock Pond WMA	Colchester	Prescribed bun	10	Control barberry, autumn olive & multiflora rose
Meshomonic SF	Glastonbury	Mow/old fields	22	Control barberry, autumn olive & multiflora rose
Mansfield	Mansfield	Mow/old fields	10	Control barberry, autumn olive & multiflora rose
Pachaug SF	Sterling	Spray old fields	42	Autumn olive
Simsbury WMA	Simsbury	Spray tree of heaven/old field	3.5	Tree of heaven & multiflora rose
Enders SF	Granby	Grassland conversion	10	Non-native old field converted to grasses
Sessions Woods WMA	Burlington	spray/manual	3	crested late-summer mint and garlic mustard
Charles Island	Milford	Manual & spray	2	cut oriental bittersweet and treated cut stems

Connecticut Agricultural Experiment Station

Invasive Aquatic Plant Program Summary

- **Surveillance and Mapping of Aquatic Vegetation**
 - 185 lakes and ponds surveyed and mapped since 2004
 - Interactive maps available online at www.ct.gov/caes/iapp
 - 61% of the water bodies contained one or more invasive species
 - 14 invasive aquatic plant species found (number of water bodies)
 - Eurasian milfoil (44), Curly leaf pondweed (36), Minor naiad (36), Variable milfoil (32), Fanwort (22), Parrot feather (4), European water clover (3), water hyacinth (2), water chestnut (3), hydrilla (2), Water lotus (1), Water starwort (1), Brazilian waterweed (1), Yellow floating heart (1).
 - Over 100 native species found
 - Cataloged and mounted all species from each lake in CAES herbarium
 - 18 water bodies resurveyed to assess changes
 - Candlewood Lake (the State's largest lake) surveyed annually and lakes Lillinonah and Zoar surveyed in alternate years
- **Survey aquarium plant retailers and educate on laws banning the sale of invasive species**
 - 28 retailers surveyed in 2008, 47 in 2010
 - 29% of the stores were selling one or more banned species
 - Approx. 20% of the stores sold fanwort and 12% sold Brazilian waterweed. Variable milfoil and parrot feather were also sold
 - All retailers were revisited and given information on State laws and an aquatic plant identification guide. They also expressed interest in attending an educational workshop at CAES
 - DOAg, DEEP and Invasive Plant Council informed
- **Investigate Novel Control Strategies**
 - Biological
 - Introduced milfoil weevils into Candlewood Lake in 2008 and 2010
 - Introduced grass carp into Grannis Lake, East Haven in 2007
 - Environmental
 - Assess effectiveness of winter drawdown in Candlewood Lake through annual surveys
 - Herbicides

- Proved variable milfoil in Bashan Lake, East Haddam can be controlled with fall spot treatments of 2,4-D. No contamination of nearby wells.
 - Proved curly leaf pondweed and Eurasian milfoil could be controlled with April application of diquat dibromide and native plants could be protected with limnobarriers
 - Mechanical
 - Showed nuisance plants in beach area could be controlled with pre-swim season cutting
- **Ecological Research**
 - Since 2005, 5 ecological research projects have been published in high ranking journals. Currently, 2 are in review and 1 is in preparation (see www.ct.gov/caes/iapp).
 - Past projects have elucidated the roles of human influences, native plant diversity, and lake water chemistry in the process of aquatic plant invasion throughout the state.
 - Current Projects include:
 - Using survey data, water chemistry risk assessment ranges were developed for Connecticut's five most common non-native aquatic plant species; our predictive model showed 90% efficacy.
 - Found that *Myriophyllum spicatum*, *Najas minor*, and *Potamogeton crispus* prefer waters with high conductivity and buffering capacity.
 - Found that *Cabomba caroliniana* and *M. heterophyllum* prefer waters with low conductivity and buffering capacity.
 - During the winter of 2011, this project will be expanded to include all species in an effort to determine the overall effect of water chemistry in the abiotic control of plant community composition.
 - In 2011, IAPP examined the environmental factors contributing to plant community structure, and native/invasive plant diversity in Connecticut lake systems. We investigated the influence of depth, light, and soil chemistry in the structuring of plant communities to better understand the principals of non-native plant invasion and to enhance strategic plant management.
- **Aquatic Plant Genetics**
 - Sequence native and invasive plants and update GenBank.
 - Evaluate genetic differences in populations of variable milfoil and fanwort
 - Determine exact species of plants sold by aquarium retailers.
- **Maintain and Update CAES IAPP website** www.ct.gov/caes/iapp
 - All lake maps, data etc. promptly uploaded to webpage for use by citizens and government agencies

- Digital aquatic plant herbarium maintained
- Lake survey request form can be submitted from web page
- Invasive aquatic plant advisories issued
- Publications and many talks available



The Connecticut Agricultural Experiment Station

123 HUNTINGTON STREET, P.O. BOX 1106, NEW HAVEN, CONNECTICUT 06504

Founded 1875

Putting science to work for society

June 9, 2011

Dear Sir/Madam:

Scientists at The Connecticut Agricultural Experiment Station have completed a study on the DNA analyses of some important invasive aquatic plant species. The plant specimens were purchased in dozens of businesses, which sell these and other aquarium products. Although it is sometimes difficult to identify aquatic weed species based on visual examination alone, our results revealed that banned plants were sold in about 30% of the establishments surveyed. For example, *Cabomba* (fanwort) species seems to be a particular problem.

I have instructed our staff members to re-visit all businesses included in the study and that pertinent information on test results, current state laws, and literature on banned plants be provided in an educational program. We realize that people may be unaware of state laws on invasive plants and do not know which plant species are banned. However, many of these species can be very destructive to our lakes and ponds, and we need to make an effort to correct problems.

Our staff members are available to assist you in answering questions. We are planning to conduct a workshop on invasive aquatic plants this fall. If you would like to attend this event, please convey this to our staff when they visit you. Thank you.

Sincerely,

Louis A. Magnarelli, Ph.D.
Director

LAM:rmo

Phone: (203) 974-8500 Fax: (203) 974-8502
Toll Free: 1-(877) 855-2237
WWW.CT.GOV/CAES

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GREEN INDUSTRY UPDATE

In 2011, the state's horticultural industries continued their constant efforts to educate plant companies about invasive issues and developments. A special seminar was held for plant professionals on the proper method to build a barrier to contain types of bamboo. Articles in the industry's journals and e-broadcasts kept the bamboo issue in the forefront. Nursery growers, garden centers, and landscapers have entered the second year of their three-year plan to phase-out 25 cultivars of Japanese barberry by June 30, 2013. Our informal surveying of selected companies shows most all companies are adhering well to this timetable, and we expect full compliance ahead of schedule. We understand that research on the invasiveness of Burning Bush (*Euonymus alatus*) cultivars continues at the College of Agriculture, University of Connecticut. The good news coming out of UConn is that one scientist, Dr. Yi Li, has developed in his lab a sterile version of the plant, which received national press this past fall. The Connecticut Green Industries Council has advocated strongly over the past seven years for valuable research funds from USDA and other sources to support this kind of research as UConn. Once Dr. Li fine-tunes his plant in the field, it will go on sale to the general public with the potential of raising royalties for the University and profits for the horticultural industry.



STATE OF CONNECTICUT

DEPARTMENT OF AGRICULTURE
OFFICE OF THE COMMISSIONER



Steven K. Reviczky
Commissioner

Tel: (860) 713-2500
Fax: (860) 713-2514

November 16, 2011

Mr. William Hyatt, Chair, Invasive Plants Council
Chief, Bureau of Natural Resources
Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106

Re: Input for Invasive Plants Council 2011 Annual Report

Dear Chairman Hyatt:

Thank you for the opportunity to provide input to the Invasive Plants Council (IPC) 2011 Annual Report.

The activities of the IPC and its collaborators help to sustain attention to, raise awareness of, educate about, and identify, control and abate invasive plants in our state which benefits Connecticut farmers by maintaining or improving the quality and integrity of our natural resources and ecosystems on which we all depend. This may help lower the cost of inputs and level of effort on management activities, and improve productivity and profitability for the average Connecticut farmer (e.g. helps keep farmland usable, reduces labor required to maintain fields, minimizes cropland lost to invasives, etc.) Also, this may provide the opportunity for the Connecticut greenhouse/nursery industry to grow and promote native, non-invasive plant species and have some level of predictability in the regulation of plants. My agency's participation in the IPC benefits the agency by access to the best scientific information brought to bear by other IPC members and collaborators, as well as having a seat at the table in discussions and decisions regarding the regulation of invasive plants and its impact on Connecticut agriculture.

The following general activities of the Connecticut Department of Agriculture may be reported for the 2011 calendar year.

- The Commissioner of Agriculture, or his designee within Connecticut Department of Agriculture (DoAg), is a member of, and attends, the Invasive Plants Council (IPC) meetings.
- A DoAg representative of the Bureau of Regulation and Inspection is a member of, and attends, the Connecticut Invasive Plants Working Group (CIPWG) meetings. A DoAg representative typically attends the CIPWG Symposium when held.

The following general activities of the Connecticut Department of Agriculture may be reported for the 2011 calendar year.

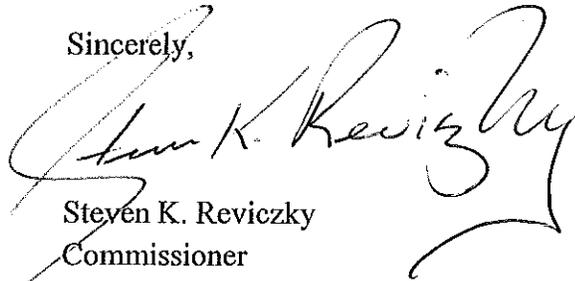
- The Commissioner of Agriculture, or his designee within Connecticut Department of Agriculture (DoAg), is a member of, and attends, the Invasive Plants Council (IPC) meetings.
- A DoAg representative of the Bureau of Regulation and Inspection is a member of, and attends, the Connecticut Invasive Plants Working Group (CIPWG) meetings. A DoAg representative typically attends the CIPWG Symposium when held.
- DoAg handles a number of information inquiries from farmers and the general public each year; generally, invasive plant issues may be referred to the DoAg representative to the IPWG and/or referred to staff, websites and/or published materials of the Cooperative Agricultural Pest Survey (CAPS), the Connecticut Agricultural Experiment Station (CAES), the University of Connecticut Cooperative Extension System (UConn CES) or College of Agriculture and Natural Resources (UConn CANR), CIPWG, Invasive Plant Atlas of New England (IPANE) and/or U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). The CAPS Program is managed by the USDA Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ).
- DoAg Animal Control Officers have been instructed during routine inspections at DoAg licensed facilities to survey for prohibited aquatic invasive plants. No reports of prohibited aquatic invasive plants have been made during this year's inspections.
- DoAg publishes announcements about USDA-NRCS conservation cost-share programs in the *Connecticut Weekly Agricultural Report*. Control of invasive plants is one of their more common conservation practices for these programs. Grants, workshops and other educational opportunities are also reported.
- DoAg acquired development rights to approximately 2,000 acres of farmland through the Farmland Preservation Program in 2011. Preserved farms have conservation plans in accordance with USDA-NRCS, and some also have forest management plans in cooperation with requirements of the Farm & Ranch Lands Protection Program, our federal partner in farmland preservation. Such plans may address invasive plants. For agricultural producers, invasive plant control is part of restoring productive pasture and hay land.

- DoAg leases the state-owned Lebanon Agricultural Reserve (LAR) for agricultural production. It is occupied by a dairy farmer who applied to USDA-NRCS for cost-share via the Environmental Quality Improvement Program (EQIP). The farmer has a conservation plan with practices to control invasive plants as part of their grazing system at LAR for their 2011 EQIP contract.
- At the Governor's initiative, the Farmland Restoration Program was adopted in the 2011 Jobs Special Session; the target of this new program is to restore land to active farmland status, which may involve eradication of invasive plants.

For your information and relating to Aquatic Nuisance Species (ANS), DoAg is collaborating with USDA-NRCS and Connecticut Sea Grant to develop conservation cost share practices and payments for control and removal of invasive tunicates impacting oyster cage culture in eastern Long Island Sound.

If you have any questions, please contact Katherine Winslow of my staff at 860.713.2589 or katherine.winslow@ct.gov.

Sincerely,



Steven K. Reviczky
Commissioner

cc: Nancy Murray, DEEP
Logan Senack, CT Invasive Plant Coordinator

Connecticut Invasive Plant Working Group (CIWPG) 2011 Annual Report

The Connecticut Invasive Plant Working Group (CIPWG) is a consortium of individuals, organizations, and agencies whose mission is to promote awareness of invasive plants and their non-invasive alternatives. Formed in 1997 as an ad-hoc group, CIWPG meets 1 to 2 times per year to collaborate and share information on the presence, distribution, ecological impacts, and management of invasive plants affecting Connecticut and the region and to promote uses of native or non-invasive ornamental alternatives. The working group includes federal, state, and town agency staff, researchers, nursery growers, educators, master gardeners, community members, and interested citizens. Donna Ellis (University of Connecticut Department of Plant Science & Landscape Architecture) and Penni Sharp (CT Botanical Society) serve as Co-chairs.

Since 2002, CIPWG hosts biennial invasive plant symposia. These events attract audiences of 300 to 400 people for a day of workshops, lectures, and discussions about invasive plants, their impacts on the environment, and non-invasive alternatives. CIPWG's news and events list serve has approximately 700 members. The CIPWG website (www.hort.uconn.edu/cipwg) provides information on invasive plant topics that include identification, management, the Connecticut list of invasive plants, photos of invasive plants, invasive alternatives, resources, legislative updates, and much more. The CIPWG list serve and website reside on the University of Connecticut server. Online reporting forms for mile-a-minute vine (*Persicaria perfoliata*), giant hogweed (*Heracleum mantegazzianum*), and purple loosestrife (*Lythrum salicaria*) allow website visitors to provide distribution information on these species. During 2011 several new features were added to expand the CIWPG website, including a scrolling photo gallery of Connecticut invasive plants, a volunteer corner to recognize individuals or groups who are conducting invasive plant activities, early detection information, an event calendar, and new links to invasive plant fact sheets and management information.

Connecticut Invasive Plant Working Group subcommittees allow members to engage in a wide range of activities, including Native Alternatives (explore and promote use of native plant species as alternatives to invasives), Management (develop and disseminate information on invasive plant control options), Education and Outreach (educational outreach about invasive species and their alternatives), and Volunteer (organize and provide assistance for pulling parties and other invasive plant activities where volunteers are needed).

A CIPWG general meeting held on 30 March 2011 in Windsor, CT was attended by 60 people. Legislative issues were discussed, a presentation was given on interacting with municipalities regarding invasive plants, invasive plant updates were provided, invasive plant early detection was discussed, and a panel discussion on invasive plant control occurred. A second general meeting was held on November 10th in Windsor, CT.

CIPWG, the Connecticut Department of Energy and Environmental Protection (DEEP), and the University of Connecticut (UConn) co-sponsored a workshop entitled, "Invasive Plants and Habitat Improvement" in Burlington, CT, June 1, 2011. The 100+ people who attended the workshop were affiliated with municipalities, conservation organizations, educational institutions, and the general public. The workshop included an indoor session of presentations and exhibits as well as an outdoor component that featured guided walks to learn about invasive plant control and habitat restoration.

Three invasive plant pulling parties for control of mile-a-minute vine were conducted in Sprague, CT on June 20, July 6, and July 27, 2011. Approximately 45 volunteers and project coordinators attended the three events, which were co-sponsored by CIPWG, DEEP, UConn, and The Connecticut Agricultural Experiment Station.

CIPWG maintains a list of speakers who are available to give presentations on many aspects of invasive plants, including identification, control, and non-invasive alternatives. These speakers and other CIPWG members presented many lectures, workshops, demonstrations, and guided field walks during 2011. Two new CIPWG exhibits feature terrestrial plants and aquatic species. The exhibits were designed by UConn staff and were funded in part by DEEP. The CIPWG exhibits were displayed and/or invasive plant educational materials were provided at the following local and statewide events in Connecticut during 2011:

- Bethel Garden Fair, Bethel (177 attendees)
- CT Agricultural Experiment Station Plant Science Day (1,000 attendees)
- CT Association of Wetland Scientists Annual Meeting (300 attendees)
- CT Conference on Natural Resources (200 attendees)
- CT DEEP
- CT Flower and Garden Show (37,000 attendees)
- CT Grounds Keepers Association Annual Meeting (500 attendees)
- CT Nursery and Landscape Association Summer Field Day (370 attendees)
- CT Nursery and Landscape Association Winter Symposium and Expo (300 attendees)
- CT Vegetable and Small Fruit Conference (165 attendees)
- DEEP Sessions Woods Invasive Plant Workshop (100 attendees)
- Durham Fair (425 attendees)
- Earth Day Fair, New Morning Natural Foods, Woodbury (2,000 attendees)
- Earth Day, Pratt Nature Center, New Milford, (30 attendees)
- Edgerton Park (75 attendees)
- Flanders Nature Center
- Garden Expo, Fairfield (3,500 attendees)
- Girl Scouts of America, Colchester (30 attendees)
- Goshen Fair (30,000 attendees)
- Haddam Neck Fair (275 attendees)
- Hamden Earth Day Celebration (3,000 attendees)
- Harwinton Garden Club
- Lebanon Town Fair (8,000 attendees)
- Lion's Club Duck Race, Newtown (65 attendees)
- Litchfield Farmers' Market (weekly for 20 weeks; 4,000 total attendees)
- Meadow Ridge Retirement Community Green Fair, Redding (48 attendees)
- Middlefield Old Days (160 attendees)
- National Trails Day, Colchester
- Northeast Hunting and Fishing Expo (15,000 attendees)
- North Haven Earth Day (100 attendees)
- Orange County Fair (250 attendees)
- Orange Garden Club May Market (150 attendees)

- Peabody Museum, Yale University (1,600 attendees)
- Pomperaug/Woodbury Valley Garden Club Plant Sale, Woodbury (40 attendees)
- Riverton Fair (18,000 attendees)
- Riverton Grange Fair (350 attendees)
- Town of Harwinton
- University of Connecticut Cornucopia Fest (5,000 attendees)
- University of Connecticut Garden Conference (339 attendees)
- University of Connecticut Master Gardener Plant Sale, Norwich (150 attendees)
- University of Connecticut Perennial Plant Conference (378 attendees)
- White Memorial Conservation Center Family Nature Day (800 attendees)
- Winchester Grange Fair (250 attendees)
- Woodbridge Garden Club (100 attendees)

Submitted by Donna Ellis (University of Connecticut Department of Plant Science and Landscape Architecture), with contributions from Logan Senack (University of Connecticut and Department of Energy and Environmental Protection) and University of Connecticut Master Gardener Coordinators Patricia Eldredge, Judith Hsiang, Victoria McCarthy, and Sandra Wilson.

- 1 November 2011

University of Connecticut Department of Plant Science and Landscape and Architecture

UConn scientist develops sterile variety of invasive plant

“Scientific breakthrough could help restore the popular ornamental shrub *Euonymus alatus*, otherwise known as burning bush, to prominence in commercial marketplace.”

Abundantly planted, this shrub native to China, Japan, and Korea is increasingly escaping from cultivation into urban/suburban woodlands in North Carolina. It is a problem invasive exotic in the northeastern US and may become a problem here, too. The photo at left was taken in Price Park in Greensboro, NC, where it is a common escape. Photo: Duke



Professor Yi Li's Laboratory in the University of Connecticut's College of Agriculture and Natural Resources has developed a seedless variety of the popular ornamental shrub *Euonymus alatus*, also called 'burning bush,' that retains the plant's brilliant foliage yet eliminates its ability to spread and invade natural habitats.

"The availability of a triploid seedless, non-invasive variety of burning bush creates a win-win situation for both consumers and commercial nurseries," says Li, head of UConn's Transgenic Plant Facility and director of the New England Invasive Plant Center on the UConn campus in Storrs, CT. "The bush is an extremely popular ornamental plant for landscapers and gardeners because of its intense red autumn foliage and robust ability to grow in a wide range of soils and environmental conditions. In addition, the plant has very few pest or disease problems."

Also known as 'winged euonymus' because of its distinctive winged branches, burning bush is a top cash crop for the \$16 billion ornamental plant industry. It is especially popular in New England and along the eastern seaboard where the shrub is used as foundation plantings, hedges and along highways and commercial strips.

National sales of burning bush top tens of millions of dollars each year. The plant, however, spreads aggressively and has been listed as an invasive species in 21 states. It has already been banned in Massachusetts and New Hampshire and is on an invasive plant 'watch list' in many other states, including

Connecticut. The economic cost of invasive plants is estimated at more than \$40 billion per year in the US.

The creation of a non-invasive variety of burning bush should help restore the shrub's prominence in the commercial marketplace.

Professor Max Cheng, a horticultural plant biotechnologist at the University of Tennessee-Knoxville, says Li's success in regenerating a triploid non-invasive burning bush "has great economic and environmental significance."

"Several universities and laboratories in the U.S. have been working on developing triploid or sterile burning bush for years," says Cheng. "Endosperm cells of angiosperms are naturally triploid but regeneration from endosperm cells, particularly from endosperms of woody species, is often very difficult. Dr. Li's success represents a major breakthrough in developing sterile non-invasive *Euonymus alatus*, which is of great importance to the American ornamental horticulture industry and gardeners."

Burning bush's invasive characteristics stem from its prodigious seed production. The plant produces tens of thousands of seeds that are transported by rainwater and birds where they take hold in open woodlands creating dense thickets that displace native vegetation. The plant's root system forms a tight mat below the soil surface and its broad profile (it averages 6 to 9 feet in height and is capable of reaching 15 feet) creates heavy shade that threatens the survival of plants living beneath it.

Native to eastern Asia, the deciduous *Euonymus alatus* was introduced in the United States around 1860. The shrub's natural ornamental features have been genetically improved over time giving rise to its widespread popularity. It can be found in the eastern United States from New England to Florida and as far west as Illinois.

The new lines of sterile non-invasive burning bush plant – which were derived from a popular dwarf variety known as (*E. alatus*) 'Compactus' – took years to develop. Members of Li's research team, Chandra Thammina, Mingyang He, Litang Lu, and others, painstakingly removed thousands of immature and mature endosperm from deep inside the plant's seeds under sterile conditions and then treated them with special plant growth regulators. The team carefully maintained endosperm tissue explants in Petri dishes so that a callus, bud, seedling and ultimately a new triploid seedless variety were grown.

"Finding the right combination of plant growth regulators, appropriate amounts for the treatment and repeatedly testing and re-testing the process to validate success was a lengthy, yet ultimately rewarding, process," Li says.

The process to produce triploid plants from endosperm tissues is so difficult that since endosperm regeneration of plants was first reported in the early 1950's, it has been successful in only 32 plant species. Li praised his research team's persistence, dedication and passion, which he said carried his staff through the long hours necessary for separating thousands of mature and immature endosperms once the plants went to seed in the fall.

The research report appears in the August 2011 issue of *HortScience*, an international journal serving horticulture scientists and the horticulture industry.

The research team reports that it successfully produced twelve independently regenerated triploid plants of burning bush. Triploid plants are sterile due to uneven chromosome division as cells multiply. Li is working with UConn's Office of Technology Commercialization to patent the process used to regenerate the burning bush triploid and ultimately bring the new plant variety to the commercial horticulture industry.

Connecticut Sea Grant, University of CT in Groton

Nancy Balcom

Connecticut Sea Grant, based at the University of Connecticut in Groton, received funding from the National Fish and Wildlife Foundation in 2011 as part of the Long Island Sound Study Futures Fund to conduct a social marketing program to raise awareness among coastal boaters and anglers of marine invasive species. The educational program was implemented with the assistance of CT DEEP, the US Coast Guard Auxiliary, ten local bait retailers, and some local marinas. Two primary messages shared with boaters and anglers via license holders, key chains, bait stickers, ruler stickers, magnets and posters are “Don’t Dump Bait” and “Keep Boat Hulls Clean”. A survey of the familiarity of coastal boaters and anglers with the issue of invasive species and the materials distributed was undertaken the summer of 2011. Results are being analyzed.

Attachment 1

DRAFT

CT ANS Workgroup

Minutes of April 7, 2011 Meeting

1. Attendance. Approximately 25 members attended the April 7, 2011 meeting held at UCONN's Avery Point campus. The Workgroups three taxonomic subgroups, Freshwater Vertebrates and Invertebrates, Marine, and Plants each had at least 6 participants.
2. Management Classes. The proposed new management classes were discussed by the workgroup as a whole. The intention behind the new classes was to clarify what actions the DEP staff would be responsible for undertaking for each organism.
 - a. One concern expressed by members of the Workgroup, was that limited and incipient populations of all aquatic invasives should be given a high priority for rapid response.
 - b. An additional suggestion was that the plan describes how actions by non-DEP parties will be organized and supported by DEP.
3. Taxonomic Subgroup Discussions. The subgroups met to discuss potential changes to the species and vector list. Suggested revisions to the lists are attached.
4. Follow up discussion. After meeting in subgroups, the Working group reconvened for further discussion. Additional comments and suggestions included:
 - a. The idea that control is not "either/or" as assumed by the proposed management classes, that it is a matter of degree, financial resources available and political will
 - b. That the "Watch List" needs to be divided into subcategories to acknowledge that some potential invaders have more potentially significant impacts.
 - c. That the "brackish" species would be handled by the Marine group.
 - d. Financial concerns.
 - i. The suggestion was made that the group reach out to other organizations such as The Nature Conservancy, to allow pooling of resources.
 - ii. There is a strong need for a dedicated rapid response fund
 - e. That the DEP should put out a "request for qualifications" and maintain a list of contractors qualified to do control work.

Attachment 2

Brochure about didymo prepared and distributed by DEEP (then DEP) following confirmation of the presence of this invasive alga in the West Branch Farmington River in late March, 2011:

How can you prevent the spread of didymo?

Humans are the primary vector responsible for the recent spread of didymo.

Anglers, kayakers and canoeists, boaters and jet skiers can all unknowingly spread didymo. Pets are also capable of spreading didymo.

The microscopic cells can cling to fishing gear, waders (felt soles can be especially problematic), boots and boats, and remain viable for months under even slightly moist conditions.

To prevent the spread of didymo to additional waters, DEP asks that anglers, especially those who also fish the Farmington River or streams outside Connecticut, and other users practice **CHECK, CLEAN, DRY** procedures.

CHECK: Before leaving the water, remove all obvious clumps of algae and plant material from fishing gear, waders, clothing & footwear, canoes & kayaks and anything else that has been in the water. Leave them at the site. If you find any later, clean your gear and dispose of all material in the trash.

CLEAN: Soak/spray & scrub boats and all other "hard" items for at least one minute in either very hot (140°F) water, a 2% bleach solution, or a 5% dishwashing detergent solution. Absorbent materials such as clothes and felt soles on waders should be soaked for at least 40 minutes in very hot water (140°F), or 30 minutes in hot water (115°F) with 5% dishwashing detergent. **FREEZING THOROUGHLY WILL ALSO KILL DIDYMO.**

DRY: Drying will also kill didymo, but items must remain completely dry (inside and out) for at least 48 hours.

Thank you for your cooperation!

Additional Guidelines

- When outdoors use only small quantities of cleaning agents such as bleach, dishwashing detergent, and other chemical compounds. Always avoid using cleaning agents streamside or in areas where they can drain into surface waters.
- When possible clean all gear, boots, boats and clothing at home.
- If entering multiple streams in one day, please enter waters known to contain didymo (i.e. Farmington River) last.

Don't forget to properly wash and dry your pets after they leave waters known to contain didymo!



(Munson, Bernese Mountain Dog, swimming in the West Branch Farmington River)

Individuals wishing to report possible sightings of didymo and other aquatic nuisance species can contact:

Department of Environmental Protection
Inland Fisheries Division
78 Elm Street
Hartford, CT 06108-5127
860-424-3474
dep.inland.fisheries@ct.gov

For more information on didymo:

- CT DEP website: (www.ct.gov/dep)
- CT Angler's Guide: (www.ct.gov/dep/files/dep/fishing/anglers_guide/language.pdf)
- Biosecurity New Zealand website: (www.biosecurity.govt.nz/didymo)

Didymo

(*Didymosphenia geminata*)
(a.k.a. "Rock Snot")



Learn what you can do to help prevent the spread of this invasive alga!



State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Inland Fisheries Division
www.ct.gov/dep
Created April 11, 2011

What is didymo?

Didymo is an invasive freshwater alga that is most frequently found in cold, relatively shallow streams and rivers having a rocky bottom, characteristics that are also typical of good trout habitat.

During blooms, didymo can form thick mats of material that feel like wet wool and are typically gray, white and/or brown, but never green in color.



These mats form on the bottoms of rivers and streams. If dense mats of didymo develop, they can reduce the recreational and aesthetic value of the affected river.

Since didymo also prefers areas open to sunlight, it is not anticipated that this species will become problematic in smaller headwater streams as long as they have well shaded and naturally forested riparian areas.

Didymo does not present a hazard to human health or to pets.

Where is didymo?

The presence of didymo was first confirmed in the northeastern United States in 2007.

It has since spread to suitable waters in a number of northeastern states (New Hampshire, Vermont, New York, Pennsylvania, Maryland, West Virginia and Virginia).



Didymo has recently been discovered (March 2011) in portions of the West Branch Farmington River in northwest Connecticut.

Signs will be posted in areas where didymo has been found.



Image of the single cell diatom *Didymosphenia geminata* under microscope magnification.

How to tell if you may be seeing Didymo

	YES	NO
Location	mostly clear flowing water with rocky bottom, may be attached to plants	deep silty areas with no rocks or plants, highly colored waters.
Color	tan, light brown or whitish	green or dark brown/black clear or transparent
Texture	clumps or ropy strands, rough cottony feel, fibrous	thin layers, slippery or gelatinous
Appearance	no leaves or roots (BUT may attach to leaves or stems). Sometimes mistaken for fiberglass, toilet paper or tissue.	has leaves or roots looks like an aquatic plant

If your sample matches three of the "yes" descriptions above and was found in another river or stream **we'd like to know!** Please send a dime-sized sample in a small container or in a sealable plastic bag to:

Department of Environmental Protection
Bureau of Natural Resources
Inland Fisheries Division
78 Elm Street
Hartford, CT 06108-5127

Be sure to include your name, address and phone number or e-mail address so that we may contact you.

Also, please provide a detailed description of where you found your sample: name of the river or stream, the town, and precise location (such as GPS coordinates, nearest road, a clearly marked map, or a street address).