



Housatonic Valley Association

150 Kent Road
P.O. Box 28
Cornwall Bridge, CT 06754
860-672-6678
www.hvatoday.org

1383 Pleasant Street
P.O. Box 251
South Lee, MA 01260
413-394-9796

19 Furnace Bank Road
P.O. Box 315
Wassaic, NY 12592
845-789-1381

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Lower Hudson PRISM Final Project Report: Japanese Knotweed Management and Education in the Wells Brook Watershed, Dover Plains, NY

With funding from the Lower Hudson PRISM, The Housatonic Valley Association (HVA) used a stream corridor restoration project in the Town of Dover as a springboard to integrate Japanese Knotweed education and management into our watershed management work in the Ten Mile River watershed. HVA used an early infestation of Knotweed at a stream restoration site along Seven Wells Brook in Dover Plains, NY as a case study to educate local land managers and high school students, while building capacity within the organization to manage knotweed at this and other stream restoration sites.

Below are the Objectives and associated deliverables from our proposal.

Objective 1: In consultation with Lower Hudson PRISM, adjacent commercial landowners, landscape contractors, Town of Dover, NYSDEC Region 3, NYSDOT Region 8 and other important stakeholders, create a long-term management and operations plan for the Seven Wells Brook Stream Restoration site that includes strategic invasive species management, eradication and control.

Deliverables Objective 1: Initial on-site stakeholders meeting; draft management strategy (circulated to stakeholders for comment); final management strategy

Progress Objective 1: Although we planned to have a meeting of all stakeholders on site, in practice it was too difficult to coordinate a time when we could get them all together. We had conversations about the project and its long-term management including the Japanese Knotweed issue separately with each stakeholder. We met onsite with both adjacent commercial landowners, NYSDOT Region 8, and Town of Dover staff. We've discussed the project over phone and email with NYSDEC Region 3 staff as well as staff from the Bureau of Pest Management. Out of these conversations, at the time of this report we have:

- Secured access agreements for project work- including Japanese Knotweed management- from both commercial landowners;
- Obtained informal agreements from both landowners and NYSDOT to stop string-trimming/mowing the existing Knotweed patch;
- Begun the NYSDOT permitting process with an understanding that our work to eradicate Japanese Knotweed in the NYSDOT ROW will not be an issue. This permitting process is taking longer than expected due to the need to survey DOT easements and ROW boundaries, as well as the desire from DOT that we submit detailed conceptual plans for stormwater BMPs we would like to construct in the ROW. We expect to have permits in place in time to treat the Knotweed with herbicide next summer;

- Discussed the invasive plant management element of the project at length with NYSDEC Bureau of Pest Management staff in order to ensure our management strategy is fully compliant with state regulations regarding the use of pesticides;
- Completed an interim report and management strategies for 2015 (PowerPoint describing plan development as of 1/15/15 and final document attached)

Objective 2: Integrate Invasive Species awareness and education into our work with Dover High School and the community.

Deliverables Objective 2: 1 Classroom visit/school semester; 2 field trips/school semester; Restoration project interpretive brochure that incorporates invasive species awareness content incorporated with interpretive materials as they are developed

Progress Objective 2:

- We held three educational/work sessions in the field for teachers and students from the Dover High School. Students cut and removed knotweed and planted restoration plants in the stream buffer in September and October.
- During our work sessions we encountered several interested citizens and were able to talk with them about invasive plant management opportunistically
- We did not visit the classroom during the project period, although we did in April of 2014. At that time we discussed the knotweed issue in addition to other elements of the restoration project. We planned on doing one more classroom visit in December, but due to scheduling conflicts on our cooperating teacher's end we will not be able to get in until March 2015. We expect to debrief the knotweed cutting/removal at that time.
- We have secured additional funding from Community Foundation of Dutchess County for our work with Dover High on the Seven Wells Brook Restoration Project for January-June 2015. We will continue to use the project as a case study to teach general concepts about invasive plants.
- We were able to use the project to add invasive species management to our programming for our summer River Stewards, our summer internship program. Our River Stewards received training and cut and removed knotweed once during the month of July.
- During the project period we planted over 300 plants designed to enhance biodiversity, stabilize the streambank, improve habitat and ultimately replace knotweed and other invasive species

- We have developed an interpretive brochure, including information on invasive plants and their management. The brochure will be displayed at businesses in the vicinity of the project.

Objective 3: Build capacity at HVA to strategically manage invasive species as part of stream corridor restoration projects in the Ten Mile Watershed and elsewhere in the Housatonic River Basin

Deliverables Objective 3: Large knotweed patches along the Tenmile River and tributaries will be identified and incorporated into HVA's Riparian Buffer Analysis Tool; Knotweed reconnaissance will be conducted at 3 stream corridor restoration project sites; HVA Staff complete required coursework and pass Pesticide Applicator Technician Exam; Herbicide and equipment purchased; Knotweed at the Restoration Project Site treated.

Progress Objective 3:

- HVA has developed a GIS layer of the “ideal” variable-width riparian buffer for stream reaches in the Ten Mile watershed, based on soils, terrain and other information. We’ve also analysed a known knotweed patch (confirmed with site visit) on aerial photography of the Ten Mile watershed flown in 2013, and attempted to use the specific image signature of the knotweed to identify other potential knotweed patches in the “ideal” riparian buffer for the Wassaic Creek watershed. This was not as useful an exercise as we had hoped, and our attempted method proved unreliable for predicting knotweed locations in the field. We will continue to refine our approach in 2015, and we will also be actively seeking Japanese Knotweed patches in the Ten Mile watershed as we conduct shoreline surveys along priority stream reaches. Please see attached PowerPoint for a description of our work under this grant element.
- HVA's Water Protection Director has conducted self-directed study and obtained certification as a Pesticide Technician from NYSDEC Bureau of Pest Management. The testing took place in Albany on October 7 at DEC Region 4 in Schenectady. We plan to start applying a wetland-approved glyphosate to knotweed at the Seven Wells Brook restoration site in late summer 2015. A copy of Mr. Jastremski's Certification is attached;
- HVA has been registered as a Pesticide Business by NYSDEC Bureau of Pest Management. A copy of HVA's registration is attached;
- We have purchased pesticide application and personal protection equipment listed in the grant proposal. After researching the different options, we have decided to purchase a 4 x 6 utility trailer rather than the hitch-mounted box originally specified. This will not change the amount of funds requested.

- HVA was not able to treat the knotweed patch at Seven Wells Brook with herbicide during the project period as we had not obtained the necessary credentials before the end of the ideal treatment period. We did cut/remove knotweed at the site on two occasions. Treatment with herbicide at the restoration site will begin in late summer of 2015.