



Invasive Plants Management Plan

for the
Brodhead Watershed of
Monroe and Pike Counties, Pennsylvania



Prepared by
The Brodhead Watershed Association
June 2011



Invasive Plants Management Plan

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Although many hands contributed to the creation of this Plan, the Brodhead Watershed Association (BWA) wishes to dedicate it to Dr. Jerilyn Jewett-Smith, Associate professor and former director of the East Stroudsburg University Environmental Studies Program, who passed away on February 27, 2011.

Jeri was a prime instigator for this project, and a joyful force in its completion. It was Jeri who walked most of the 120 miles of streams in the watershed along with the many student interns and volunteer watershed stewards she supervised and inspired. It was Jeri who led the early workshops where the BWA trained volunteers, student interns, as well as club and community members. It was Jeri who had first hand experience with removal of some of her “favorite invasives,” among them the tenacious and prickly barberry. Jeri wielded a mean pickaxe on those occasions.

Jeri also enticed others to help with the plan. She brought Dr. Shixiong Hu, a hydrology professor in East Stroudsburg University’s geography department, into the project to help collect critical data. The BWA is grateful to Shawn and his students for the data compilation and mapping.

Jeri encouraged Jake Brunkard, now a graduate student at Cal-Berkeley, to assist with the data collection and writing. Jake and Jeri are the primary authors of the plan.

Jeri invited Lori Colgan, a former biology student turned attorney, to join her in the streams and field. Lori took over from Jake in the summer of 2010 and worked with community groups on demonstration projects. Lori wrote the Action Plan section of the Plan.

Jeri also supervised the work on the draft Plan, writing some sections herself. It is our regret that she did not live to see the Plan published.

Among those especially integral to the plan’s completion is Edie Stevens, longtime advocate for our local and regional waters, and the BWA’s current vice president for administration. The BWA is especially grateful to Edie bringing her superb organizational and editorial assistance to the project, helping to shepherd the Plan to its conclusion.

And, finally, I wish to thank Steven Natiello, an ESU Communication Studies major, whose close reading, persistence and computer skills helped me resolve many of the technical and clarity difficulties with the last stages this plan report.

A handwritten signature in black ink, appearing to read "Patricia M. Kennedy".

Dr. Patricia M. Kennedy
President, Brodhead Watershed Association

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EXECUTIVE SUMMARY

During the summers of 2006, 2007, and 2008 members and supporters of the Brodhead Watershed Association surveyed the location and density of non-native “invasive” plants in streamside, riparian corridors in the watershed. Fourteen invasive plant species were found in the watershed areas surveyed (*Japanese Barberry*, *Multiflora Rose*, *Japanese Stiltgrass*, *Japanese Knotweed*, *Garlic Mustard*, *Invasive Honeysuckles*, *Tree of Heaven*, *Oriental Bittersweet*, *Crown Vetch*, *Invasive Olive*, *Spotted Knapweed*, *Norway Maple*, *Purple Loosestrife*, *Common Reed*).

Of these species, six were regularly found at moderate to high density in the 120 waterway miles surveyed: *Japanese Barberry*, *Multiflora Rose*, *Japanese Stiltgrass*, *Japanese Knotweed*, *Garlic Mustard*, and *Invasive Honeysuckles*.

After analyzing these survey data, the BWA focused on three of those species as high-priority for management and control: *Japanese Barberry*, *Multiflora Rose*, and *Japanese Knotweed*. Each of those species was further studied to explore the relative effectiveness of various means of control.

Finally, an Invasive Plants “Action Plan” was developed to focus current and future efforts at further management of invasive species in the watershed. The BWA’s Action Plan consists of four categories of actions:

Public Awareness -- Activities aimed at raising awareness of the negative impacts of invasive plants on water quality, ecosystem services, natural communities and recreation.

Management and Control -- Activities focused on working with landowners, developers and county and local agencies to control invasive plants.

Ecosystem Service Maintenance and Biodiversity Protection -- Activities designed to prevent loss of ecosystem services and biodiversity by controlling invasive plants in the watershed.

Adaptive Management -- Activities that refine or alter actions to reflect results and new information.

Throughout this project’s study period, the BWA conducted demonstration projects, held workshops, and distributed information through local media, our website and our newsletter to educate the watershed community about invasive plants and their control. Four of these outreach efforts are summarized on pages 50-57 of this report.

Consequently, as the “adaptive management” step of the action plan promises, this report is not the final element of our project -- it is really a beginning. The BWA is committed to continuing active efforts to learn about new threats, experimenting with new management techniques and sharing that information with the watershed community. Even as this report is being prepared for publication, the BWA is working with the Josie Porter farm, a community supported agricultural effort in the Cherry Valley watershed, to replace invasive plants with native species.