



# 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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Prepared and submitted by

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**June 2011**

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## ACKNOWLEDGEMENTS



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

# Table of Contents

ACKNOWLEDGEMENTS .....	3
LIST OF MAPS AND TABLES.....	6
EXECUTIVE SUMMARY .....	8
Chapter One: The Brodhead Watershed and Invasive Plants.....	<b>Error! Bookmark not defined.</b>
A. Statement of Project and Goals .....	<b>Error! Bookmark not defined.</b>
B. Description of the Brodhead Watershed .....	<b>Error! Bookmark not defined.</b>
C. Reasons for Concern - Invasive Plant Species .....	<b>Error! Bookmark not defined.</b>
C1. What are invasive plant species? .....	<b>Error! Bookmark not defined.</b>
C2. Ecology: Invasive Plants and Biodiversity in Riparian Areas	<b>Error! Bookmark not defined.</b>
C3. Environmental Chemistry: Vibrant Riparian Ecosystems and Stream Quality	<b>Error! Bookmark not defined.</b>
C4. Invasion Vectors: How have these plant species invaded our region? .....	<b>Error! Bookmark not defined.</b>
D. Extent of Invasive Coverage -- Results of Mapping to Date ..	<b>Error! Bookmark not defined.</b>
Chapter Two: Managing Invasive Plant Species .....	<b>Error! Bookmark not defined.</b>
A. Designing a Management Plan.....	<b>Error! Bookmark not defined.</b>
B. Four Possible Goals of Invasive Species Management .....	<b>Error! Bookmark not defined.</b>
A. Criteria for Selecting High-Priority Invasive Plant Species ..	<b>Error! Bookmark not defined.</b>
B. Brodhead Watershed's Regional High-Priority Invasive Plant Species .....	<b>Error! Bookmark not defined.</b>
C. Multiflora Rose.....	<b>Error! Bookmark not defined.</b>
C1. Multiflora Rose Ecology .....	<b>Error! Bookmark not defined.</b>
C2. Managing Multiflora Rose.....	<b>Error! Bookmark not defined.</b>
D. Japanese Barberry.....	<b>Error! Bookmark not defined.</b>
D1. Japanese Barberry Ecology.....	<b>Error! Bookmark not defined.</b>
D2. Managing Japanese Barberry.....	<b>Error! Bookmark not defined.</b>
E. Japanese Knotweed .....	<b>Error! Bookmark not defined.</b>
E1. Origin and Spread.....	<b>Error! Bookmark not defined.</b>

E2. Regional Plans for Optimal Results .....	<b>Error! Bookmark not defined.</b>
E3. Herbicides NOT Effective against Japanese Knotweed....	<b>Error! Bookmark not defined.</b>
E4. Mechanically Controlling Japanese Knotweed...	<b>Error! Bookmark not defined.</b>
E5. The BWA Japanese Knotweed Management Strategy.....	<b>Error! Bookmark not defined.</b>
F. Medium-Priority Invasive Plant Species: Other Invasive Plants..	<b>Error! Bookmark not defined.</b>
F1. Invasive Honeysuckles .....	<b>Error! Bookmark not defined.</b>
F2. Garlic Mustard.....	<b>Error! Bookmark not defined.</b>
F3. Japanese Stiltgrass .....	<b>Error! Bookmark not defined.</b>
F4. Common Reed.....	<b>Error! Bookmark not defined.</b>
Chapter Four: Action Plan.....	<b>Error! Bookmark not defined.</b>
A1. Forested Riparian Buffers .....	<b>Error! Bookmark not defined.</b>
A2. Wetlands.....	<b>Error! Bookmark not defined.</b>
A3. Homeowner and Commercial Landscaping .....	<b>Error! Bookmark not defined.</b>
I. Public Awareness .....	<b>Error! Bookmark not defined.</b>
II. Management and Control.....	<b>Error! Bookmark not defined.</b>
II. Management and Control (continued) .....	<b>Error! Bookmark not defined.</b>
III. Ecosystem Service Maintenance and Biodiversity Protection..	<b>Error! Bookmark not defined.</b>
III. Ecosystem Service Maintenance and Biodiversity Protection (Continued) .	<b>Error! Bookmark not defined.</b>
IV. Adaptive Management.....	<b>Error! Bookmark not defined.</b>
Appendix A -- Demonstration Projects .....	<b>Error! Bookmark not defined.</b>
I. BROADHEAD FOREST AND STREAM ASSOCIATION.....	<b>Error! Bookmark not defined.</b>
II. Buck Hill Falls Community.....	<b>Error! Bookmark not defined.</b>
III. McMichael Streambank .....	<b>Error! Bookmark not defined.</b>
IV. Smithfield Township Parks.....	<b>Error! Bookmark not defined.</b>
References.....	<b>Error! Bookmark not defined.</b>

## LIST OF FIGURES, MAPS AND TABLES

	Page
Figure 1. Map of the Brodhead Watershed of Monroe and Pike counties in Northeastern Pennsylvania. Each subwatershed is labeled by its own color. Invasive plant populations were surveyed along the major tributaries of each subwatershed, shown here as blue lines.	10
Figure 2. The Brodhead Watershed (grey outlines) covers most of the townships and boroughs of Monroe County, as shown here. Each municipality is indicated by its own color.	11
Figure 3. Hay-scented fern.	12
Figure 4. The classic case: Invasives overwhelm natives.	12
Figure 5 and 5a. Why young plants need protection from white-tailed deer.	14
Figure 6. Riparian buffer.	15
Figure 7. Advertisement to purchase <i>Berberis thunbergii</i> (Japanese Barberry)	16
Figure 8. Images of top six most dense and numerous invasives found in Brodhead Watershed by survey shown on Table 1.	18
Table 1. Summary of Survey Results Ranked from High to Low by Number of Sites Where Species was Present.	19
Figure 9. Images of eight other, less dense and less numerous invasives found in Brodhead Watershed by survey shown on Table 1.	19
Figure 10. Very Eager Volunteers from BWA, Trout Unlimited and East Stroudsburg University Manually Remove Japanese Knotweed at East Stroudsburg Savings Association Site, April 2009 (See footnote 31).	22
Figure 11. Young volunteers clear Japanese Knotweed at Buck Hills Falls, May 2010.	23
Figure 12. <i>Rosa multiflora</i> (Multiflora Rose).	26
Figure 13. <i>Rosa multiflora</i> (Multiflora Rose) and other invasive plants in lighted area of Paradise Creek in the Brodhead Watershed.	27
Figure 14. The density of <i>Rosa multiflora</i> (Multiflora Rose) populations along streams in the Brodhead Watershed	29
Figure 15. <i>Berberis thunbergii</i> (Japanese Barberry) in winter.	30
Figure 16. The density of <i>Berberis thunbergii</i> (Japanese Barberry) plants along streams in the Brodhead Watershed	31
Figure 17. Path hacked through <i>Fallopia japonica</i> (Japanese Knotweed) to reach McMichael Creek in the Brodhead Watershed.	33
Figure 18. <i>Fallopia japonica</i> (Japanese Knotweed) plants along creek.	34
Figure 19. The density of <i>Fallopia japonica</i> (Japanese Knotweed) plants along streams in the Brodhead Watershed.	36
Figure 20. <i>Lonicera spp</i> (Invasive honeysuckles)	37
Figure 21. The density of invasive honeysuckles along streams in the Brodhead Watershed	38

## LIST OF FIGURES, MAPS AND TABLES (continued)

pages

Figure 22. <i>Alliaria petiolata</i> (Garlic mustard) plants	39
Figure 23. The density of garlic mustard plants along streams in the Brodhead Watershed.	39
Figure 24. <i>Microstegium vimineum</i> (Japanese Stiltgrass)	40
Figure 25. The density of stiltgrass plants along streams in the Brodhead Watershed.	41
Figure 26. <i>Phragmites australis</i> (Common Reed)	41
Figure 27. A BWA intern's exploration of removal of the Common Reed along the Brodhead Creek near Dansbury Park, East Stroudsburg, Summer 2009.	42
Figure 28. BWA Board and Brodhead Forest and Stream Club member, Doug Swift, painting herbicide on targeted plants as part of the Club's long-range invasive plant removal efforts.	51
Figure 29. View of the Brodhead Forest and Stream Fishing Club's site cleared of invasives along the Brodhead creek as part of long-range plan.	51
Figure 30. BWA Board member Lori Colgan working with Brodhead Forest and Stream Fishing Club members on long-range invasive plant removal plan	52
Figure 31. BWA Board and Brodhead Forest and Stream Club member, Doug Swift, places rocks around a newly planted native black willow during Spring 2011 as part of the Club's long-range plan.	52
Figure 32. Buck Hill Falls	53
Figure 33. Young workers at Buck Hills Falls invasive plant removal days, 2010	54
Figure 34. East Stroudsburg Saving Association (ESSA) McMichael Streamside knotweed removal site (Google earth, 2011)	55
Figure 35. Worker from partnership of Trout Unlimited, BWA and ESU Environmental Studies students removing Japanese Knotweed along the McMichael's streambank on the property of the East Stroudsburg Saving Association property, 2009	55
Figure 36. BWA/ESU Student intern working at ESSA's McMichael Creek site	55
Figure 37. Knotweed escapes composting efforts at McMichael Creek site	55
Figure 38. Truck full of knotweed at McMichael Creek site	55
Figures 39-41. Demonstration plot at McMichael's streambank on the property of the East Stroudsburg Saving Association property	56

## 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.