

## Planting Native Species to Control Re-Infestation by Japanese Knotweed

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Japanese knotweed (*Polygonum cuspidatum*) is an invasive species that has quickly become a serious problem both in riparian zones and in upland sites throughout the eastern U.S. It is a herbaceous perennial that can reach heights of 10 feet or more, and is capable of reproducing and quickly spreading by creeping rhizomes and root and stem fragments. Once established, it forms solid colonies that usually choke out all other herbaceous vegetation. This study focuses on planting native species mixtures in plots from which the Japanese knotweed has been suppressed by mowing and herbicide treatments for either one or two years beginning in 2006. The following mixtures were planted on June 1, 2007 and on June 3, 2008: 1) 27 species commercial riparian buffer mixture; 2) native cool season mixture including Virginia wildrye, autumn bentgrass, and fowl bluegrass; 3) Virginia wildrye-bluejoint mixture; 4) Virginia wildrye-prairie cordgrass mixture; 5) 'Hightide' switchgrass; and 6) 'Kanlow' switchgrass. All mixtures established well in 2007. By 16 months after planting, the Japanese knotweed had re-established itself to some degree in all plots (45-82% of ground cover), and by October 2009, only the riparian mixture provided adequate resistance to Japanese knotweed reinvasion. Only the commercial riparian and Virginia-prairie cordgrass mixtures had adequate establishment after the 2008 seeding. Both mixtures continued to show good suppression of Japanese knotweed in October 2009, suggesting that two years of knotweed control might increase the likelihood of reestablishing desirable plant cover at previously impacted sites.



Figure 1. Japanese Knotweed along streambank in Lamb's Creek Recreation area near Mansfield, PA. It has completely taken over the native vegetation in the area.



Figure 2. Prairie Cordgrass planted in previous infestation of knotweed. The prairie cordgrass is doing well, but the knotweed is starting to creep back in.