



Friends of Sylvania

Promoting the protection and careful management of the Sylvania Wilderness

www.friendsofsylvania.org

P.O. Box 6353, Monona WI

Title II RAC Project “Invasive plants in Sylvania”

2012 Annual Report

Background

Invasive plants spread aggressively and outcompete native plants, because of the absence of natural controls and because of specific traits such as the ability to produce numerous seeds (garlic mustard) or the ability to inject into the soil a chemical that inhibits the growth of other species (garlic mustard, spotted knapweed). The spread of invasive plants not only reduces native plant diversity and the wildlife that depends on it but can also affect water quality (Eurasian water-milfoil forms a dense, slimy mat; knapweed taproots lead to decreased soil water holding capacity which increases runoff and sedimentation). The spread of invasive plants is also a health concern (knapweed can cause severe skin reactions, thistle and Japanese barberry have serious thorns).

Several invasive plants are growing in the Sylvania Wilderness, threatening the beauty and natural diversity of this rare treasure. The Sylvania Perimeter Area (the Recreation Area to the north of the Wilderness which contains the Entrance Station, the Day Use building and the road between Clark and Crooked Lake, as well as Snap Jack Lake, a band west of FR 6380/CR535, and FR 6320) is the likely source of some of these invasive plants, with people’s boots and equipment, boats, and animals as potential vectors. It is therefore important to control invasives in both the Sylvania Wilderness and the Perimeter Area.

The Ottawa National Forest (ONF), with the help of the YCC and volunteers, has done some invasive plant monitoring and removal work in Sylvania. To assist ONF in this enormous task, the Friends of Sylvania began to work on the control of some of the invasives in Sylvania in 2010. In 2011, the Friends of Sylvania received a 3-year Title II RAC grant (2011-2013) which is permitting us to have a significant impact on the invasive plant monitoring and removal work in Sylvania. It permits us to hire part-time students and buy needed tools. With the help of these students and several volunteers, we are conducting large area invasives surveys, removing plants, and minimizing seed sources in the Sylvania Wilderness and the Perimeter Area. The results of our work during 2012 are summarized below.

Work Description

We covered 700-1,000 acres, visiting previously reported sites of invasives (coordinates provided to us by the ONF and coordinates we recorded in 2011) as well identifying new sites. The GPS location and number of plants at new sites were noted and entered into a data base provided by the ONF. 2-way radios permitted the team to spread out and thus cover a larger area while maintaining safety and coordination. At each site, any plants found were pulled and flower or seed heads were cut off and bagged. In the Sylvania Perimeter Area, we applied cut-stump treatment (using Garlon-4 supplied by ONF) to Japanese barberry. One of the project leaders (W. Brinkmann) is a 'Commercial Pesticide Applicator' with licenses for both Wisconsin and Michigan.

Since the time of year when an invasive is most easily identified (based on early leaf-out, blooming time, etc.) is different for each species, we conducted the survey throughout the growing season. Some areas were checked several times during the growing season because some plants flower later than others and small plants in large infestations can be easily missed. Since the landing on islands is prohibited from ice-off to July 15 to protect nesting loons, we checked all islands in August and removed first year thistle rosettes so that there will be few if any second-year seed-producing thistle growing on the islands in 2013.

With the collaboration of the ONF, we mowed a portion of the north-east beach of Clark Lake to minimize spotted knapweed there, and also mowed sections of the roads in the Recreational Area north of the Wilderness to reduce a variety of invasives.

Our emphasis initially was on what are generally considered to be the most serious invasives known to be growing and spreading in Sylvania: garlic mustard, Japanese barberry, European swamp thistle, Canada thistle, bull thistle, spotted knapweed. But after our invasive surveys and reviewing documentation in Sylvania for 2 field seasons, we are becoming increasingly concerned about other species. A prime example is tansy which we found in numerous locations both in the Perimeter and the Wilderness Areas and which, because of its rhizome root system, is extremely difficult to remove and control.

Work Results

We checked 54 of the previously reported (ONF provided) invasive plant sites (several sites more than once). We checked 125 sites we had identified in 2011 (several sites more than once). We GPS'd and treated 264 new sites. The following 3 Excel tables, documenting this work, were submitted to Ian Shackleford, Botanist, USFS ONF, earlier this year:

- Known Invasives Locations
- New Locations 2011
- New Locations 2012

Work Discussion

Invasive Plant Site Numbers

Table 1: Number of sites in Sylvania Wilderness and Perimeter Areas (totals for all species and for 4 of the most invasive plants)

Species	# sites previously identified (provided by ONF)	# sites identified during the 2011 field season	# sites identified during the 2012 field seasons	Total number of sites
All species	133	158	264	555
3 species of thistle	42	97	206	345
Japanese barberry	29	38	34	101
Tansy	2	19	8	29
Spotted knapweed	15	3	2	20

a. Total Number of Sites (Table 1)

In 2012, we doubled the number of known invasive sites. This is good news because ‘known’ sites can be revisited and the infestations can be controlled. The bad news is that it means more sites need to be visited in subsequent years to continue invasive reductions.

We suspect that there are additional ‘unknown’ sites, particularly in the eastern portion of the Wilderness which we have not yet surveyed as intensely as the western portion.

b. Specific species (Table 1)

The ONF had provided us with relatively few previously reported **thistle** sites when we started the project in 2011. There are so many sites around Clark, Loon, Deer Island, and Big Bateau Lakes that the ONF had stopped noting new sites; instead, the shores of these lakes are considered one continuous site. We, however, recorded sites around those lakes to make sure no sites are missed, particularly those hiding among the bushes, when we return next year.

Our number of **tansy** sites does not reflect the true spread of this invasive since we did not start recording such sites until near the end of the 2011 field season when we realized how prevalent and serious this invasive is. However, given the difficulty of controlling this plant, we have recorded sites only to document the seriousness of this invasive.

Because of the prevalence of **spotted knapweed** in the Perimeter Area, we recorded new sites only if there was some special reason, such as documenting its spread.

Invasive Plant Site Distribution

a. Japanese barberry (see Map 1, Attachment A)

This invasive is abundant on private and public properties to the west and northwest of Sylvania. The large number of previously known (ONF data base) and new (identified by us) sites along the western border (FR 6380) and around Snap Jack Lake are therefore not surprising.

Only a few sites have been identified deeper into the Wilderness. The most troubling site is the new one in the ditch along 6320. It serves as a reminder that Japanese barberry, although less abundant, also grows to the east of Sylvania.

b. Spotted knapweed (see Map 2, Attachment A)

The Clark Lake hiking trail runs through a large spotted knapweed infestation on the eastern portion of the north beach of Clark Lake. It is therefore not surprising to see evidence of spreading (2 spots) to the west, on the swimming beach. More troubling is the plant found along the trail from the shore to Mallard-2 campsite on Loon Lake. It is most likely due to campers carrying seeds from the infestation located at the Loon Lake end of the Clark/Loon portage.

c. Thistles (see Map 3, Attachment A)

The highest concentrations of infestations are found around the shores of Clark, Loon, Deer Island, and Big Bateau Lakes. There were only a few previously known (ONF data base) sites on Whitefish Lake and hardly any in the eastern portion of the Wilderness. Our survey resulted not only in the identification of numerous new thistle sites along the shores of Whitefish Lake and some of the other lakes to the east (and their islands) but also in the identification of several “Mega” infestations, most notably one on top of Deer Island Lake island (perhaps up to 1,000 plants on our first visit in 2011) and another along the Whitefish Lake outlet (exceeding 2,000 plants).

d. Garlic mustard

Two sites of this invasive had previously (ONF data base) been identified: at Birch and Ash campsites on Clark Lake. We did not find any plants at Ash during our 2011 and 2012 searches which made us think that the number of sites in Sylvania has been reduced to 1. Unfortunately, we discovered garlic mustard on the trail between the shore and the fire pit at Squirrel-1 campsite on Crooked Lake this summer.

e. Other species

As mentioned above, we are becoming increasingly concerned about the spread of **tansy** which, because it cannot be easily pulled without breaking root segments, is difficult to control.

Bird’s-foot trefoil, another difficult to control invasive, is wide-spread in an open area to the east of the Sewage Lagoon. It also grows around the Sylvania Entrance Station. These could be the source of patches of this plant found elsewhere within the Recreational Area and which are spreading. On the north beach of Clark Lake, for example, we identified a small patch beneath a fallen tree about 3 years ago. This year it had spread and formed 3 separate patches.

Recent road work on FR 6320 (which represents the eastern boundary of the Sylvania Wilderness) resulted in a band of disturbed soil along either side of the road. These disturbed areas have become infested with a variety of invasives, particularly **curly dock** (*Rumex crispus*) but also thistle, spotted knapweed, burdock, sweet clover. Our crew of 3 students and 3-5 volunteers spent **2.5 full days** pulling plants and cutting off seed heads in August 2012. About **35 construction-size** plastic bags filled with seed heads were deposited in the Sylvania dumpsters.

Evidence of Work Effectiveness

Although we have been pulling plants and cutting off flower and seed heads for only 2 field seasons, we are already beginning to see evidence of the effectiveness of our work:

The **difference in the number of hours of work** it took to pull thistle plants on top of Deer Island island is a good example: A fire about 20 years ago had opened up the forest there. Nobody realized that thistle plants had become established. So, when we discovered that infestation in 2011, it took 3 people over 6 hours (total of 18 work hours) to pull all of the plants. In 2012 there were fewer plants and it took 5 people only 0.75 hours (a total of about 4 hours, most of which was searching) – a reduction of 75%.

Another example is the **number of thistle plants** pulled at a hidden spot about ¼ mile SE of the Clark Lake parking lot: We happened to be counting them in 2011 (92 plants). In 2012 we found only about 30 plants, a reduction of 66%.

Personnel

1. Hired personnel:
 - a. 3 part-time college students who worked a total of 767 hours between May and August
2. Volunteers:
 - a. 2 Project Leaders who donated a total of 513 hours of field work
 - b. 10 local (Watersmeet area) and 3 out-of-town (Madison area) volunteers who donated a total of 301 hours of field work

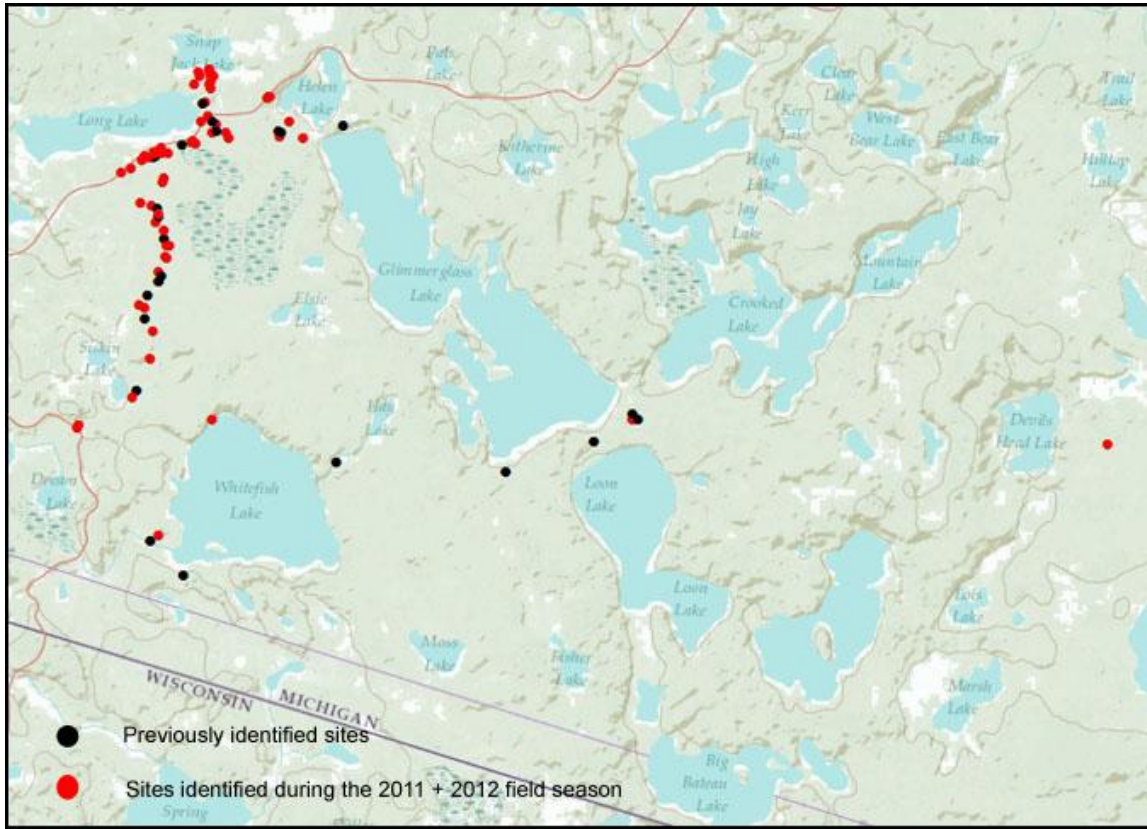
Budget

1. Student stipends	\$ 10,738.85
2. Supplies	<u>\$ 688.05</u>
Total Dollar Expenses for 2012	\$ 11,426.90
3. Forest Service Non-Cash contribution: day passes, camping permits, use of aluminum boat	\$ 940.00
4. Friends of Sylvania Non-Cash contribution: 814 hours of volunteer field work @ \$21.36/hr* (our MOU with the FS required the contribution 130 hours)	\$ 17,387.04

*The rate of \$21.36 for volunteer work is the one the FS uses to determine matching funds

Attachment A

Map 1: Japanese barberry (*berberis thunbergii*) sites in Sylvania



Map 2: Spotted knapweed (*Centaurea maculosa*) sites in Sylvania



Map 3: Thistles (*Cirsium palustre*, *arvense* & *vulgare*) sites in Sylvania

