



Plants Out of Place

the newsletter of the

INVASIVE PLANTS ASSOCIATION OF WISCONSIN

Issue 4—March 2003

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IPAW Working List of the Invasive Plants of Wisconsin - March 2003: A call for comments and information

Introduction

The mission of the Invasive Plants Association of Wisconsin (IPAW) is to advance understanding of invasive plants and encourage their control to promote stewardship of the natural resources of Wisconsin. A recognized key to accomplishing this mission is to develop a *working* list of the plants that are invasive in the natural plant communities and wild areas of the state. A listing of the invasive plants of Wisconsin will serve several useful functions. As stewards of the natural and wild areas of the state, many of us have watched some plant species become established and begin to spread at our sites long before we became aware that the species was already known to act invasively in natural communities. A list will provide a reference for species that we should consider managing at an early stage of establishment while they can be effectively controlled. This list will give IPAW a focus for our educational efforts.

This working list also represents a call for more information about the ecology, distribution, and control of the listed species. Several species on the list are well known to be seriously invasive, and there is a considerable amount of information about the habitats they invade, their distribution in the state, and methods for their control. Many other species on this working list have been observed to be aggressive invaders somewhere within the state, but little information has been compiled about just what native plant communities are at risk or effective methods for management. IPAW is committed to maintaining this list to reflect the most current information available on the invasive plants of the state. As more information is obtained some species will undoubtedly be added to the IPAW list of known invasive plants. Other species may be removed when it is revealed that they do not pose the threat currently thought to exist.

IPAW has already developed clear **definitions** of various categories of troublesome plants:

Invasive Plants are non-indigenous species or strains that become established in natural plant communities and wild areas and replace native vegetation.

Weeds are undesirable and troublesome plants growing in disturbed areas, especially cultivated ground.

Potentially Invasive Plants (for Wisconsin) are species that are invasive in parts of North America having similar climates and plant communities, and that are thought to have the potential to colonize and become invasive in Wisconsin.

Sometimes Invasive Natives are native plants that can become overly abundant in a plant community to which they are indigenous, often in response to a change in the disturbance regime.

Indigenous means occurring naturally in a specific area or plant community, not introduced.

The “IPAW Working List of the **Invasive Plants** of Wisconsin” is presented here. This list is not intended to include weeds, nor does it include plants that are native to the state. A list of the worst agricultural weeds of Wisconsin would be useful to some groups in the state, but the focus of IPAW is plants that invade natural plant communities, and combining a list of weeds with a list of invasive plants has the potential to create considerable confusion. If a need is demonstrated for IPAW to catalogue the weeds of the state, formation of that list will be a separate project. There are of course some species that are *both* invasive plants and weeds (e.g. Canada thistle, *Cirsium arvense*), and these are catalogued on this working list. Those non-native species that are not known to be currently invasive in Wisconsin, but that are invasive in similar ecoregions and may have the potential to become invasive in the state, are presented separately in the “IPAW Working List of the **Potentially Invasive Plants** for Wisconsin”.

Methods - How this working list was formed

The IPAW Science Committee was asked to create a draft, working list of invasive plants for review by the IPAW Board of Directors. There are already some formal or informal lists of invasive plants of Wisconsin and wider regions that include Wisconsin. The Wisconsin DNR website (www.dnr.state.wi.us/) currently lists 116 non-native plants as invasive or potentially invasive in Wisconsin. The Wisconsin State Herbarium database (www.botany.wisc.edu/wisflora) lists 67 vascular plants as “Ecologically Invasive” in Wisconsin, based on “Wisconsin DNR Status Information”; and the U.S. Forest Service maintains a list of the invasive plants of the Eastern Region of the United States. While other catalogues of invasive plants exist, they are either not specific to Wisconsin, or were not developed with a formal process that involved the collection of a wide variety of personal observations from people concerned with invasive plants. IPAW considers development of a Wisconsin list to be an important function of the organization.

There are currently no broad studies of non-native species that provide the empirical measures of plant populations and their spread that would allow us to categorize plants as invasive. However, we all know from personal experience that there are many “non-indigenous species or strains that become established in natural plant communities and wild areas and replace native vegetation”. The IPAW Science Committee felt that for the “IPAW Working List of the Invasive Plants of Wisconsin” to have credibility, it must be based on the observations and experience of many people who live and work across the state.

In early 2002 IPAW collaborated with The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to develop a survey to gather observations from people familiar with the impact and ecology of invasive plants. GLIFWC staff compiled the survey responses as part of a larger non-native plant database being developed with EPA-Great Lakes National Program Office funds (grant# GL00557201). The survey was adapted from the *Alien Plant Ranking System* (Hiebert and Stubbendieck 1993). The survey included a list of 311 non-native species that could possibly be considered to be invasive in some situations. This initial comprehensive list was formed by combining the U.S. Forest Service’s list of invasive plants for the Eastern Region (USDA, NRCS, 2002. <http://plants.usda.gov>), and the Wisconsin State Herbarium’s (www.botany.wisc.edu/wisflora) list of ecologically invasive plants. Nomenclature for this list and for all species included in this report follows Gleason and Cronquist (1991), except for a few species not included in that manual, which follow the nomenclature in Kartesz (1994). Survey respondents were encouraged to add species that they had observed as invasive, but which were not included in the original list on the survey form.

A request for volunteers to complete the survey was distributed widely. The survey was distributed by email and regular mail using a list of known Wisconsin natural area and plant experts and all appropriate email lists available to IPAW. People receiving the email were requested to forward the survey to others they thought might be able to contribute. A call for volunteers to complete the survey was published in “*Plants out of Place*”, IPAW’s newsletter; and a call for volunteers, including the complete, downloadable survey was posted on both the IPAW and GLIFWC websites. Anyone having personal experience with any invasive plant was encouraged to submit his or her observations, and every completed survey received by IPAW and GLIFWC was accepted and included in a database of responses. After circulation of the survey, responses were accepted for almost one year before the results of the survey were tabulated and summarized.

People who volunteered to complete the survey were asked to answer questions only about those species with which they had personal experience. These respondents, therefore, constituted a large “panel of experts” on the invasive plants of the state. The survey asked the volunteers to record the ecoregion in which they had observed the plant, and to identify the habitats or communities in which they observed the species. It also asked observers to score species based on: 1) the level of disturbance required for a species to become established and spread, 2) the current abundance of the species in vulnerable sites, 3) the ecological impact of the species in sites where it currently occurs, 4) the competitive ability of the species, 5) the observed rate of spread of the species in the past 5 years, and 6) their observations concerning the feasibility of effective long-term control of the species. A description of the range of scores for each variable is given in the heading for the Appendix 1 table. For a full description of the form and questions of the survey see the IPAW website: www.ipaw.org.

IPAW and GLIFWC received 60 completed surveys. These 60 completed surveys provided 2993 observations on the listed plants; individual observers provided information on an average of nearly 50 species. Two surveys provided information on only a single species; the maximum number of species reported from a single volunteer was 161; and seven volunteers each provided information for over 100 species.

By definition an *Invasive Plant* both invades native plant communities and impacts those native communities by displacing or replacing native vegetation. A plant that establishes and invades only in seriously disturbed areas (especially in disturbed ground) is defined as a “Weed” rather than an “Invasive Plant”. Considering the six plant characteristic variables in the survey (Disturbance, Abundance, Impact, Competitive ability, Rate of Spread, and Feasibility of Control), the IPAW Science Committee determined that level of **Impact**, and level of **Disturbance** required for the plant to establish, were the most appropriate variables to use to sort the list to determine which species the survey respondents had clearly observed as invasive. In the survey responses the variables “Impact” and “Competitive Ability” were very highly correlated ($r^2 = 0.863$), and sorting the list by either of these variables would provide nearly identical results. Information on “Abundance”, “Rate of Spread”, and “Feasibility of Control” was considered important data to collect for the species, but these variables do not have as direct a bearing on the definition of whether or not a plant is invasive.

Three criteria were used to determine which species to place on this initial working list of the invasive plants of Wisconsin. The first criterion was that only species with a mean survey response greater than 2.25 for “Impact” (indicating some tendency to “invade and modify native communities”) were placed on the list. Secondly, only species having a mean survey response for “Disturbance” of 5.0 or greater (indicating species found frequently in sites that have not been disturbed within the past 10 years) were included. The third criterion was the number of survey respondents that provided observations of the species. It was the intention of IPAW to begin the formation of a working list with those species for which we had gathered an adequate number of observations. Therefore, only species for which we have received 10 or more survey responses have been placed on this working list. A separate list of species having mean Impact and Disturbance scores high enough to suggest that they are invasive, but for which we only received between 3 and 9 reports, is provided as a list of species for which we need more information. These species are also included on the “IPAW Working List of the **Potentially Invasive Plants** for Wisconsin”.

Using these criteria based on the average scores calculated from the survey, there were 112 species for which we had 10 or more observers; of these 112 species, there were 67 species that had a mean Impact greater than 2.25 and a mean Disturbance score of 5.0 or greater. In order to determine if this list of 67 species included those plants that other individuals and organizations have previously recognized as the invasive plants of the state, we compared this survey-generated list with the Wisconsin DNR list provided on their website (www.dnr.state.wi.us/), with the Wisconsin State Herbarium database (www.botany.wisc.edu/wisflora) list of “Ecologically Invasive” plants, and with a list in a draft manuscript kindly provided by Elizabeth Czarapata (In press).

Results of the Survey – The Working List

There were 72 species for which IPAW received 10 or more surveys, and that had mean impact scores greater than 2.25. Of these 72 species, 5 species were removed from the list because their disturbance scores averaged less than 5.0. Low disturbance scores suggested that these species may be primarily weedy rather than invasive (*Bromus tectorum*, Downy chess; *Carduus nutans*, Musk thistle; *Cirsium vulgare*, Bull thistle; *Lactuca serriola*, Prickly lettuce; and *Silene latifolia*, White campion). One additional species, *Lonicera japonica*, was eliminated from the list. Nineteen respondents reported observing *Lonicera japonica*, Japanese honeysuckle, in Wisconsin. However, because there was reason to suspect the field identification of this species, it was excluded from the working list pending more data or verification. The “IPAW Working List of the **Invasive Plants** of Wisconsin”, including 66 species, is presented in Table 1.

Of the 66 species catalogued on the “IPAW Working List of the Invasive Plants of Wisconsin”, only two species (*Crepis tectorum*, Hawksbeard; and *Leonurus cardiaca*, Motherwort) are not listed as invasive plants on the Wisconsin DNR website, and all 66 species are catalogued as invasive in the draft list contained in Czarapata (In press). Sixteen of the 66 species listed in Table 1 are not on the Wisconsin State Herbarium database list of “Ecologically Invasive” plants, however, all but three of these 16 species are described as “potentially invasive” in the Herbarium’s species description, and these three are described as “naturalized”.

Since “Impact” was judged to be the survey variable that best defined the invasiveness of these non-native species in natural plant communities, it is helpful to sort the list by mean impact scores (Table 2). Survey respondents described the top species on this list as having the highest negative impact on natural communities when they were present.

The species reported as having the highest “Impact” are not necessarily the most abundant naturalized or invasive species currently found in Wisconsin. The variable “Impact” was defined in the survey as modification or replacement of native communities at sites *where the species occurs*. Average “Impact” scores do not correlate well with the current “Abundance” scores given the same species (Table 3). Impact is highly correlated with competitive ability (Figure 1), rate of spread, and feasibility of

Table 1. IPAW Working List of the Invasive Plants of Wisconsin.

Number of survey respondents (**Obs. No.**) and average scores for the **Impact** and **Disturbance Level** survey variables are shown. **(nn)** following a species name indicates a non-native strain of a species that also has native strains occurring in Wisconsin.

Growth Form: F, forb; G, grass; S, shrub; T, tree; V, vine.

Wet. Ind. Status, Wetland Indicator Status for Region 3 from the “National List of Plant Species that Occur in Wetlands”; plants with no indicator status listed are presumed to be upland, or species that occur >99% of the time in upland habitats.

Habitats Invaded: A, Aquatic; B, Barrens; G, Grassland; F, Forest; W, Wetland. Taken from the most common responses on the IPAW-GLIFWC survey; almost all species were recorded as also occurring in disturbed habitats (not reported here).

Scientific Name	Common Name	Obs No.	Mean Responses		Growth Form	Wet. Ind. Status	Habitats Invaded
			Impact	Disturbance Level			
<i>Acer platanoides</i>	Norway maple	15	3.8	10.2	T		F
<i>Alliaria petiolata</i>	Garlic mustard	44	9.4	12.6	F	Fac	F
<i>Arctium minus</i>	Common burdock	38	3.3	6.4	F		F,G
<i>Berberis thunbergii</i>	Japanese barberry	29	3.8	10.7	S	FacU-	F
<i>Bromus inermis</i>	Smooth brome	36	6.5	9.9	G		G,B
<i>Campanula rapunculoides</i>	Creeping bellflower	11	3.6	5.7	F		F,G
<i>Celastrus orbiculatus</i>	Oriental bittersweet	14	6.3	9.4	V		F
<i>Centaurea maculosa</i>	Spotted knapweed	44	7.5	6.4	F		G,B
<i>Cirsium arvense</i>	Canada thistle	44	6.3	6.6	F	FacU	G,B
<i>Convallaria majalis</i>	Lily of the valley	13	5.8	10.2	F		F
<i>Convolvulus arvensis</i>	Field bindweed	24	2.3	5.0	F,V		G
<i>Coronilla varia</i>	Crown vetch	37	7.9	7.6	F,V		G
<i>Crepis tectorum</i>	Hawksbeard	13	3.9	5.0	F		G,B
<i>Daucus carota</i>	Queen Anne's lace	38	3.8	6.9	F		G
<i>Dipsacus laciniatus</i>	Cut-leaved teasel	15	7.0	6.8	F		G,W
<i>Dipsacus sylvestris</i>	Common teasel	18	5.8	6.0	F		G
<i>Elaeagnus angustifolia</i>	Russian olive	15	4.2	8.1	T,S	FacU-	G
<i>Elaeagnus umbellata</i>	Autumn olive	19	6.7	8.3	S		G,F
<i>Elytrigia repens</i>	Quackgrass	30	5.6	7.3	G		G
<i>Epipactis helleborine</i>	Helleborine	12	2.5	11.8	F		F
<i>Euphorbia cyparissias</i>	Cypress spurge	18	5.4	8.3	F		G,B
<i>Euphorbia esula</i>	Leafy spurge	29	8.3	8.5	F		G,B
<i>Festuca elatior</i>	Tall fescue	10	5.6	8.1	G		G
<i>Glechoma hederacea</i>	Creeping Charlie	19	3.8	7.5	F	FacU	F,G
<i>Hemerocallis fulva</i>	Orange day-lily	13	5.0	7.3	F		G
<i>Hesperis matronalis</i>	Dame's rocket	33	5.9	8.5	F		F,G
<i>Hieracium aurantiacum</i>	Orange hawkweed	28	4.4	9.7	F		G,B
<i>Hieracium caespitosum</i>	Yellow hawkweed	11	4.0	8.5	F		G,B
<i>Hypericum perforatum</i>	St. John's wort	32	2.3	7.9	F		G,B
<i>Iris pseudacorus</i>	Yellow Iris	15	3.6	8.8	F	Obl	W,A
<i>Leonurus cardiaca</i>	Motherwort	19	2.5	6.0	F		F
<i>Lonicera maackii</i>	Amur honeysuckle	13	8.3	10.8	S		F,G
<i>Lonicera morrowii</i>	Morrow honeysuckle	21	8.4	11.6	S		F,G
<i>Lonicera tatarica</i>	Tartarian honeysuckle	33	8.5	11.0	S	FacU	F,G
<i>Lonicera x bella</i>	Bell's honeysuckle	14	8.9	12.3	S		F,G
<i>Lotus corniculatus</i>	Bird's-foot trefoil	32	4.8	5.5	F	Fac-	G
<i>Lysimachia nummularia</i>	Moneywort	12	5.7	10.6	F	FacW+	W,F
<i>Lythrum salicaria</i>	Purple loosestrife	45	9.3	11.6	F	Obl	W,A
<i>Melilotus alba</i>	White sweet clover	41	6.9	9.5	F	FacU	G,B

(Table 1 continued)

Scientific Name	Common Name	Obs No.	Mean Responses		Growth Form	Wet. Ind. Status	Habitats Invaded
			Impact	Disturbance Level			
Melilotus officinalis	Yellow sweet clover	41	6.6	9.5	F	FacU	G,B
Morus alba	White mulberry	15	2.8	8.2	T	Fac	F,G
Myosotis scorpioides	Forget me not	17	4.4	8.8	F	Obl	W,F
Myriophyllum spicatum	Eurasian water milfoil	25	9.3	11.7	F	Obl	A
Pastinaca sativa	Wild parsnip	40	6.6	8.9	F		G
Phalaris arundinacea (nn)	Reed canary grass (nn)	47	9.9	11.6	G	FacW+	W,G
Phragmites australis (nn)	Common reed grass (nn)	16	8.4	9.2	G	FacW+	W
Pinus sylvestris	Scotch pine	13	2.7	9.2	T		F,G
Poa compressa	Canada bluegrass	23	2.5	10.6	G	FacU+	G,B
Poa pratensis	Kentucky bluegrass	34	4.8	10.0	G	Fac-	G,B
Polygonum cuspidatum	Japanese knotweed	17	7.7	5.2	F	FacU	F,G
Populus alba	White poplar	10	5.5	8.5	T		G
Potamogeton crispus	Curly-leaf pondweed	18	5.3	12.5	F	Obl	A
Rhamnus cathartica	Common buckthorn	40	9.3	12.0	S,T	FacU	F,G,W
Rhamnus frangula	Glossy buckthorn	25	9.0	12.7	S	Fac+	W,F
Robinia pseudoacacia	Black locust	33	7.5	10.9	T	FacU-	G,F
Rosa multiflora	Multiflora rose	27	6.5	10.4	S	FacU	G,F
Rumex acetosella	Sheep sorrel	21	3.2	7.8	F	Fac	G,B
Saponaria officinalis	Soapwort	19	3.3	6.4	F	FacU	G
Solanum dulcamara	Climbing nightshade	19	3.3	7.9	F	Fac	W,F
Tanacetum vulgare	Tansy	22	4.2	5.1	F		G,B
Trifolium pratense	Red clover	29	3.1	6.7	F	FacU+	G
Trifolium repens	White clover	29	2.9	5.7	F	FacU+	G
Typha angustifolia	Narrow-leaved cattail	21	7.4	9.1	F	Obl	W,A
Typha x glauca	Hybrid cattail	11	7.7	9.1	F	Obl	W,A
Ulmus pumila	Siberian elm	17	4.8	8.0	T,S		G
Vinca minor	Common periwinkle	10	6.9	7.5	F,V		F

(Continued from Page 3)

control. As one would expect the number of observers that provided data on a species is well correlated with the current Abundance score given the species. The Abundance variable was defined on the survey to estimate the percent of vulnerable sites in which the species currently occurs. The distribution of mean Abundance scores (Figure 2) shows that for the majority of invasive species it was the judgment of survey respondents that the species currently occupies only a small fraction of the sites that might be vulnerable to its invasion. Relatively few species were thought to have achieved an invasion rate of even 50% of vulnerable sites. On the survey a score of 15 was given to species that currently occurred in >50% of vulnerable sites.

We received a total of 2993 observations on the plants listed in the survey. Several respondents had observed some of the species in more than one ecoregion (Figure 3), so there were a total of 4062 records of species in specific ecoregions (Table 4). The unadjusted counts of plant observations by ecoregions cannot be considered a good index of the relative level of the invasive plant problem in different ecoregions of Wisconsin, because the familiarity of observers with the various ecoregions was not uniform. For example, if all observers had by chance only been familiar with the Green Bay area then all reports of invasives would have been from the Northeast ecoregion. We compared the number of reports of all species in each ecoregion with the percent of our observers that were familiar with our seven ecoregions (Table 4). Reports by a survey respondent of any plant from an ecoregion were used as an indication that that observer had some familiarity with that ecoregion. There was a slight tendency for a higher percent of reports of non-native species from the southeast region (35.8%, Region SE) compared with the percent of respondents familiar with the southeast (29.2%); but in general the proportion of reports of species by ecoregions matched very closely the proportion of respondents familiar with the ecoregions (Table 4). The frequency of species reports in each ecoregion contained in this data set should, therefore, not be interpreted as an accurate representation of the density distribution of the species in Wisconsin, since the ecoregion reports in these data seem to be primarily an artifact of where respondents were from.

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Table 2. IPAW Working List of the Invasive Plants of Wisconsin, sorted in order of descending survey scores for average Impact. Mean responses for Impact and Disturbance scores are shown.

Scientific Name	Common Name	Mean Resp.		Scientific Name	Common Name	Mean Resp.	
		Imp.	Dist.			Imp.	Dist.
<i>Phalaris arundinacea</i> (nn)	Reed canary grass (nn)	9.9	11.6	<i>Elytrigia repens</i>	Quackgrass	5.6	7.3
<i>Alliaria petiolata</i>	Garlic mustard	9.4	12.6	<i>Populus alba</i>	White poplar	5.5	8.5
<i>Lythrum salicaria</i>	Purple loosestrife	9.3	11.6	<i>Euphorbia cyparissias</i>	Cypress spurge	5.4	8.3
<i>Rhamnus cathartica</i>	Common buckthorn	9.3	12.0	<i>Potamogeton crispus</i>	Curly-leaf pondweed	5.3	12.5
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	9.3	11.7	<i>Hemerocallis fulva</i>	Orange day-lily	5.0	7.3
<i>Rhamnus frangula</i>	Glossy buckthorn	9.0	12.7	<i>Ulmus pumila</i>	Siberian elm	4.8	8.0
<i>Lonicera x bella</i>	Bell's honeysuckle	8.9	12.3	<i>Lotus corniculatus</i>	Bird's-foot trefoil	4.8	5.5
<i>Lonicera tatarica</i>	Tartarian honeysuckle	8.5	11.0	<i>Poa pratensis</i>	Kentucky bluegrass	4.8	10.0
<i>Phragmites australis</i> (nn)	Common reed grass (nn)	8.4	9.2	<i>Hieracium aurantiacum</i>	Orange hawkweed	4.4	9.7
<i>Lonicera morrowii</i>	Morrow honeysuckle	8.4	11.6	<i>Myosotis scorpioides</i>	Forget me not	4.4	8.8
<i>Lonicera maackii</i>	Amur honeysuckle	8.3	10.8	<i>Elaeagnus angustifolia</i>	Russian olive	4.2	8.1
<i>Euphorbia esula</i>	Leafy spurge	8.3	8.5	<i>Tanacetum vulgare</i>	Tansy	4.2	5.1
<i>Coronilla varia</i>	Crown vetch	7.9	7.6	<i>Hieracium caespitosum</i>	Yellow hawkweed	4.0	8.5
<i>Typha x glauca</i>	Hybrid cattail	7.7	9.1	<i>Crepis tectorum</i>	Hawksbeard	3.9	5.0
<i>Polygonum cuspidatum</i>	Japanese knotweed	7.7	5.2	<i>Glechoma hederacea</i>	Creeping Charlie	3.8	7.5
<i>Centaurea maculosa</i>	Spotted knapweed	7.5	6.4	<i>Daucus carota</i>	Queen Anne's lace	3.8	6.9
<i>Robinia pseudoacacia</i>	Black locust	7.5	10.9	<i>Acer platanoides</i>	Norway maple	3.8	10.2
<i>Typha angustifolia</i>	Narrow-leaved cattail	7.4	9.1	<i>Berberis thunbergii</i>	Japanese barberry	3.8	10.7
<i>Dipsacus laciniatus</i>	Cut-leaved teasel	7.0	6.8	<i>Campanula rapunculoides</i>	Creeping bellflower	3.6	5.7
<i>Melilotus alba</i>	White sweet clover	6.9	9.5	<i>Iris pseudacorus</i>	Yellow Iris	3.6	8.8
<i>Vinca minor</i>	Common periwinkle	6.9	7.5	<i>Solanum dulcamara</i>	Climbing nightshade	3.3	7.9
<i>Elaeagnus umbellata</i>	Autumn olive	6.7	8.3	<i>Saponaria officinalis</i>	Soapwort	3.3	6.4
<i>Pastinaca sativa</i>	Wild parsnip	6.6	8.9	<i>Arctium minus</i>	Common burdock	3.3	6.4
<i>Melilotus officinalis</i>	Yellow sweet clover	6.6	9.5	<i>Rumex acetosella</i>	Sheep sorrel	3.2	7.8
<i>Rosa multiflora</i>	Multiflora rose	6.5	10.4	<i>Trifolium pratense</i>	Red clover	3.1	6.7
<i>Bromus inermis</i>	Smooth brome	6.5	9.9	<i>Trifolium repens</i>	White clover	2.9	5.7
<i>Celastrus orbiculatus</i>	Oriental bittersweet	6.3	9.4	<i>Morus alba</i>	White mulberry	2.8	8.2
<i>Cirsium arvense</i>	Canada thistle	6.3	6.6	<i>Pinus sylvestris</i>	Scotch pine	2.7	9.2
<i>Hesperis matronalis</i>	Dame's rocket	5.9	8.5	<i>Epipactis helleborine</i>	Helleborine	2.5	11.8
<i>Dipsacus sylvestris</i>	Common teasel	5.8	6.0	<i>Leonurus cardiaca</i>	Motherwort	2.5	6.0
<i>Convallaria majalis</i>	Lily of the valley	5.8	10.2	<i>Poa compressa</i>	Canada bluegrass	2.5	10.6
<i>Lysimachia nummularia</i>	Moneywort	5.7	10.6	<i>Hypericum perforatum</i>	St. John's wort	2.3	7.9
<i>Festuca elatior</i>	Tall fescue	5.6	8.1	<i>Convolvulus arvensis</i>	Field bindweed	2.3	5.0

(Continued from Page 5)

More Survey Data – A Call for More Information

Complete survey data for all 112 species for which there were 10 or more respondents are presented in Appendix 1. The data in Appendix 1 shows more fully the results of the survey, and is presented as a call for volunteers to help IPAW collect more information. The frequency of reported ecoregions are shown for each species because, 1) if the proportion of observations in the seven ecoregions are very different from the proportion of observers familiar with each ecoregion (Table 4), that may indicate that the species occurs primarily in specific parts of the state, and 2) the ecoregion report frequencies may encourage other observers to provide information for their part of the state. If the data in Appendix 1 are dramatically different from your observations regarding the species, please contact IPAW and complete the invasive plant survey.

(Continued on Page 8)

Table 3. Correlations of mean scores for six survey variables, and the number of observers for 183 species for which the survey received 3 or more respondents. Numbers shown in the table are Pearson correlation coefficients. Obs. No., number of observers for each species; Disturb., Disturbance; Abund., Abundance; Comp., Competitive ability; Spread, Rate of Spread; Control, Feasibility of Control

	Obs. No.	Disturb.	Abund.	Impact	Comp.	Spread	Control
No. Observers	1.000						
Disturbance	0.291	1.000					
Abundance	0.696	0.384	1.000				
Impact	0.331	0.590	0.325	1.000			
Comp.	0.401	0.634	0.423	0.929	1.000		
Spread	0.204	0.443	0.166	0.783	0.766	1.000	
Control	0.281	0.480	0.279	0.768	0.769	0.681	1.000

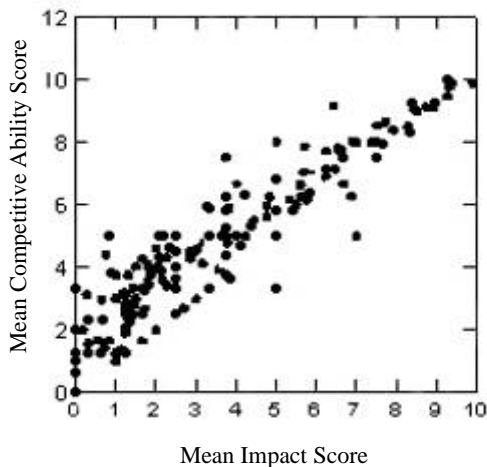


Figure 1. Relationship between average “Impact” scores and average “Competitive Ability” scores for 183 species that had 3 or more respondents on the IPAW-GLIFWC non-native plant survey ($r^2 = 0.863$).

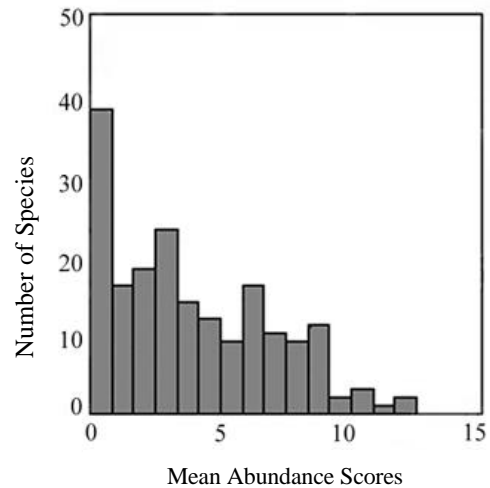


Figure 2. Frequency distribution of average “Abundance” scores for 183 species that had 3 or more respondents on the IPAW-GLIFWC non-native plant survey.

Table 4. Summary of species reports and observers by ecoregion.

Counts and percentages of all species reports are shown in the ecoregion where the respondent reported the species. A respondent making any observations within an ecoregion was counted as an observer for that ecoregion to calculate the counts and percentages of observers by ecoregion.

	Ecoregion							Total
	SE	SW	WC	NE	NC	NW	IL	
Species by Ecoregions	1454	868	302	376	663	257	142	4062
Percent of Total	35.8	21.4	7.4	9.3	16.3	6.3	3.5	
Observers by Ecoregion	35	23	11	12	24	11	4	120
Percent of Total	29.2	19.2	9.2	10	20	9.2	3.3	

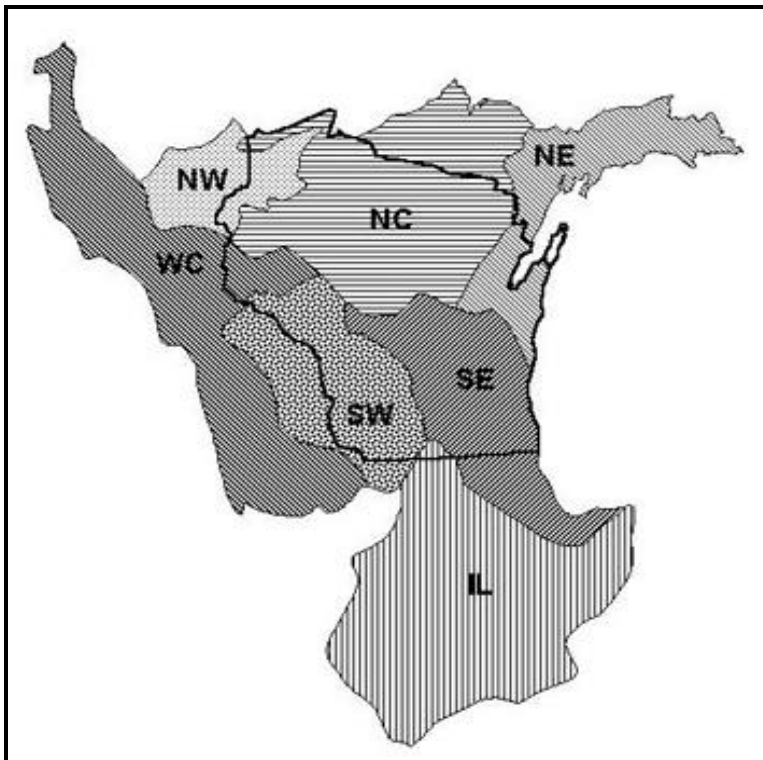


Figure 3. Ecoregions as defined on the IPAW-GLIFWC non-native plant survey.

Ecoregion boundaries are identical to those on the survey, but the ecoregion identifiers have been recoded. Ecoregion codes are the same as those used in Appendix 1. All seven of the defined ecoregions extend outside of Wisconsin. Only a small portion of the Illinois (IL) and West-Central (WC) ecoregions extend into Wisconsin.

Source of ecoregion map: Bailey, R. G.; Avers, P. E.; King, T.; McNab, W. H., eds. 1994. *Ecoregions and subregions of the United States (map)*. Washington, DC: USDA Forest Service. 1:7,500,000. Available at: www.fs.fed.us/institute/ecolink.html

(Continued from Page 6)

Average survey scores for species with 3 to 9 survey respondents are presented in Appendix 2. This list includes many species that have mean “Impact” scores greater than 2.25 and “Disturbance” scores of 5.0 or more. However, since the “IPAW Working List of the Invasive Plants of Wisconsin” (Table 1) is based strictly on the results of our survey, IPAW felt that there are insufficient data to be confident of the results for these species. There is a need for more information regarding these plants. Many of these species are listed as potentially invasive in Wisconsin on a list presented separately. For several species of non-native plants that are currently not common in Wisconsin, the Wisconsin State Herbarium needs voucher specimens to document the occurrence of the species in the state. On the Wisconsin State Herbarium website (www.botany.wisc.edu/wisflora) you can find records of whether the herbarium has any specimens of a species from a particular Wisconsin county. If there are currently no specimens from a county, collections would be useful. Please contact the herbarium for information about how to submit specimens [Phone: (608) 262-2792].

Uses of the “IPAW Working List of the Invasive Plants of Wisconsin”

In order to fulfill its educational mission, IPAW must develop and distribute a list of the plants that are invasive in the natural communities of the state. Several plants that are invasive are commercially important, especially in the agricultural and horticultural industries. An analysis of the social and economic benefits derived from a plant, and a comparison of those benefits with the environmental, social, and economic costs associated with the species, requires a separate effort from that needed to determine whether or not the plant invades and impacts natural communities. The list and analysis presented here is an objective assessment of the available evidence of whether a non-native species invades and impacts natural plant communities in Wisconsin; it is not an evaluation of the costs and benefits of that species in the Wisconsin landscape.

There is currently adequate information to present this “IPAW Working List of the Invasive Plants of Wisconsin” for review, comments, and suggestions. A primary goal of IPAW is to collect more information on the distribution and ecology of the non-native plants of Wisconsin. Learning as much as we can about the ecology, population biology, distribution, effect on native communities, and control of non-native plant species will further IPAW’s mission “to promote stewardship of the natural resources of Wisconsin”. If you have experience with non-native plants in the natural landscape of the state, please become involved by sharing your experience with IPAW. IPAW will continue to accept surveys completed by volunteers reporting their observations of the non-native plants of Wisconsin; and the results of these surveys will be added to the existing database. If you have not yet completed the invasive plant survey, and you have some personal experience with non-native plants in natural areas, please download and complete the survey on the IPAW website: www.ipaw.org.

With suggestions and comments regarding the “IPAW Working List of the Invasive Plants of Wisconsin” please contact:

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Survey Data Tabulated By:

Great Lakes Indian Fish and Wildlife Commission,
Miles Falck and Steve Garske

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- Wisconsin State Herbarium website: (www.botany.wisc.edu/wisflora).

Appendix 1. IPAW-GLIFWC Invasive Plant Survey Results for all species having 10 or more respondents

(nn) following a species name indicates a non-native strain of a species that also has native strains occurring in Wisconsin.

Obs No., Number of survey respondents

Mean Survey Scores:

Dist, Disturbance (0 = only in sites disturbed within last 3 years; up to 20 = in high-quality, undisturbed natural areas)

Abund, Abundance (0 = in <10% of vulnerable sites; up to 15 = in >50% of vulnerable sites)

Imp, Impact (0 = little or no ecological impact; up to 10 = invades and replaces native communities)

Cmp, Competitive ability (0 = poor competitor; up to 10 = highly competitive)

Spred, Rate of Spread (0 = decreased in past 5 years; up to 15 = more than doubled in the past 5 years)

Cntr, Feasibility of Control (0 = no control required, species declines over time; up to 20 = no feasible control known)

Ecoregion Counts:

Numbers of observations of each species in each of 7 ecoregions. Refer to Figure 3 for Ecoregion boundaries.

Habitat Counts:

A, Aquatic; B, Barrens; G, Grasslands; F, Forests; W, Wetlands; D, Disturbed ground

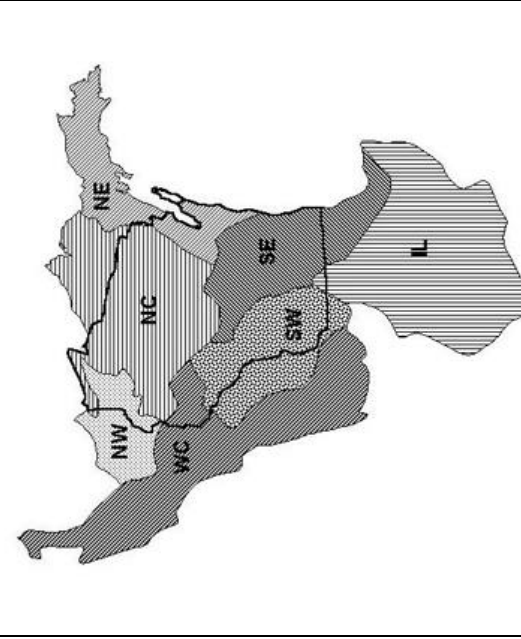


Figure 3. Ecoregions as defined on the IPAW-GLIFWC non-native plant survey.

Scientific Name	Common Name	Obs No.	Mean Survey Scores						
			Dist	Abnd	Imp	Cmp	Spred	Cntr	
<i>Abutilon theophrasti</i>	Velvet leaf	31	1.6	6.7	0.7	2.3	5.9	3.0	
<i>Acer platanoides</i>	Norway maple	15	10.2	1.8	3.8	5.0	9.2	8.5	
<i>Achillea millefolium</i>	Common yarrow	36	9.4	8.7	0.8	4.4	5.1	6.3	
<i>Agrostis stolonifera</i>	Redtop	21	9.0	8.2	2.0	4.0	5.3	6.5	
<i>Ailanthus altissima</i>	Tree of heaven	10	7.2	0.5	1.5	4.0	7.0	7.5	
<i>Alliaria petiolata</i>	Garlic mustard	44	12.6	8.7	9.4	9.9	13.5	15.6	
<i>Amaranthus retroflexus</i>	Pigweed	25	1.7	6.2	1.3	3.2	5.0	5.5	
<i>Arctium minus</i>	Common burdock	38	6.4	6.9	3.3	5.9	6.2	7.3	
<i>Asparagus officinalis</i>	Asparagus	31	8.1	2.5	0.2	2.0	4.7	2.0	
<i>Berberis thunbergii</i>	Japanese barberry	29	10.7	3.5	3.8	5.3	7.6	8.6	
<i>Bertiera incana</i>	Hoary alyssum	23	5.4	6.7	1.9	3.8	5.5	6.1	
<i>Bromus inermis</i>	Smooth brome	36	9.9	10.1	6.5	7.1	7.8	11.9	
<i>Bromus tectorum</i>	Downy chess	10	2.5	1.3	2.5	2.5	5.6	6.7	
<i>Campanula rapunculoides</i>	Creeping bellflower	11	5.7	1.8	3.6	5.0	7.7	11.3	
<i>Cannabis sativa</i>	Hemp	16	4.2	0.6	0.3	1.6	3.8	2.1	
<i>Capsella bursa-pastoris</i>	Shepard's purse	21	2.8	4.8	0.7	1.4	5.3	4.2	
<i>Carduus nutans</i>	Musk thistle	17	4.8	4.6	4.1	4.7	8.2	9.8	
<i>Celastrus orbiculatus</i>	Oriental bittersweet	14	9.4	3.2	6.3	7.1	10.4	12.7	
<i>Centaurea maculosa</i>	Spotted knapweed	44	6.4	6.8	7.5	8.5	11.6	14.1	
<i>Cerastium vulgatum</i>	Mouse-ear chickweed	13	3.9	3.8	1.3	2.1	6.7	8.5	
<i>Chrysanthemum leucanthemum</i>	Ox-eye daisy	30	6.4	4.6	2.1	3.9	6.7	8.4	

Ecoregion Counts	Habitat Counts											
	SE	SW	WC	NE	NC	NW	IL					
18	10	5	6	6	3	4	A	B	G	F	W	D
10	3	0	1	1	0	2	0	0	1	12	0	6
20	10	6	6	7	3	3	0	9	31	1	0	18
9	9	7	4	4	3	0	0	2	14	1	9	11
9	0	0	0	0	0	1	0	0	3	2	0	10
28	14	3	4	4	0	4	1	1	5	40	3	15
13	8	4	3	5	4	1	0	0	3	0	0	22
19	12	5	5	7	2	3	0	2	17	17	1	29
15	11	4	2	3	1	3	0	3	26	1	0	18
15	7	1	2	8	2	1	0	2	2	28	0	5
8	5	3	3	5	3	2	0	4	19	0	0	13
17	14	6	4	9	4	2	0	9	33	1	0	20
3	4	2	0	1	0	0	0	1	4	0	0	8
6	1	0	2	3	1	0	0	0	4	4	0	10
9	8	3	0	0	0	2	0	1	8	0	1	13
12	5	2	4	5	1	0	0	3	7	1	0	19
13	7	3	1	0	0	2	0	1	11	0	0	12
9	3	0	0	2	1	0	0	2	4	11	1	1
18	11	5	4	14	5	2	0	14	38	2	1	31
6	5	2	3	5	3	1	0	2	7	2	0	9
15	8	4	4	9	3	2	0	7	23	1	0	19

(Appendix I Continued)

Scientific Name	Common Name	Obs	Mean Survey Scores							Ecoregion Counts										Habitat Counts			
			No.	Dist	Abnd	Imp	Cmp	Sprd	Cntr	SE	SW	WC	NE	NC	NW	IL	A	B	G	F	W	D	
<i>Cichorium intybus</i>	Chicory	28	4.8	5.0	1.7	3.3	6.4	6.5	16	10	2	3	5	3	2	0	14	0	0	19			
<i>Cirsium arvense</i>	Canada thistle	44	6.6	7.6	6.3	7.7	8.9	13.6	22	13	6	6	10	5	4	0	7	40	4	11	32		
<i>Cirsium vulgare</i>	Bull thistle	26	4.6	6.0	3.0	4.6	6.8	9.6	13	10	3	5	9	2	1	0	4	20	3	2	15		
<i>Convallaria majalis</i>	Lily of the valley	13	10.2	1.3	5.8	6.2	7.9	11.4	8	5	0	2	4	0	0	0	3	2	11	0	6		
<i>Convolvulus arvensis</i>	Field bindweed	24	5.0	3.9	2.3	4.3	6.2	8.5	13	8	2	4	3	2	0	0	1	14	1	5	18		
<i>Coronilla varia</i>	Crown vetch	37	7.6	2.5	7.9	8.4	9.5	14.8	20	14	6	3	6	3	3	0	6	32	3	0	24		
<i>Crepis tectorum</i>	Hawksbeard	13	5.0	3.4	3.9	3.6	6.8	6.7	3	5	2	1	4	1	0	0	5	7	0	0	10		
<i>Dactylis glomerata</i>	Orchard-grass	27	7.1	4.6	1.8	4.1	5.5	9.9	12	13	7	4	4	0	2	0	2	22	3	0	12		
<i>Daucus carota</i>	Queen Anne's lace	38	6.9	8.5	3.8	4.8	8.3	11.9	18	11	3	6	7	2	2	0	4	31	1	1	25		
<i>Dianthus armeria</i>	Deptford pink	18	5.3	2.2	0.3	1.3	6.0	4.2	6	4	2	1	4	2	2	0	3	14	1	0	10		
<i>Dipsacus laciniatus</i>	Cut-leaved teasel	15	6.8	2.5	7.0	8.0	11.0	14.2	10	2	0	0	1	0	2	0	0	11	0	5	11		
<i>Dipsacus sylvestris</i>	Common teasel	18	6.0	3.5	5.8	6.4	9.7	12.7	12	4	0	0	1	0	1	0	0	11	0	2	13		
<i>Echinochloa crusgalli</i>	Barnyard-grass	22	3.4	3.3	1.3	3.8	3.9	5.0	8	7	5	4	5	2	0	0	2	6	0	12	17		
<i>Elaeagnus angustifolia</i>	Russian olive	15	8.1	1.5	4.2	5.0	8.5	10.0	10	5	1	2	1	1	1	0	0	11	2	0	6		
<i>Elaeagnus umbellata</i>	Autumn olive	19	8.3	3.6	6.7	7.5	10.7	11.3	7	8	0	2	2	2	3	0	3	14	9	1	11		
<i>Elytrigia repens</i>	Quackgrass	30	7.3	8.1	5.6	6.6	6.5	13.2	14	9	3	4	8	3	2	0	6	26	1	2	24		
<i>Epipactis helleborine</i>	Helleborine	12	11.8	1.8	2.5	3.6	8.3	10.4	5	2	0	4	1	1	0	0	0	0	12	1	1		
<i>Euphorbia cyparissias</i>	Cypress spurge	18	8.3	1.9	5.4	5.8	8.5	13.1	11	5	2	1	3	1	2	0	6	15	2	0	11		
<i>Euphorbia esula</i>	Leafy spurge	29	8.5	3.1	8.3	8.5	11.3	15.3	13	8	2	2	6	3	2	0	11	23	1	2	21		
<i>Festuca elatior</i>	Tall fescue	10	8.1	4.4	5.6	6.3	8.1	13.6	4	3	1	3	2	2	0	0	2	9	0	0	6		
<i>Glechoma hederacea</i>	Creeping Charlie	19	7.5	6.5	3.8	5.9	6.3	11.5	9	6	3	3	2	1	1	0	1	6	8	4	13		
<i>Hemerocallis fulva</i>	Orange day-lily	13	7.3	2.1	5.0	6.8	6.4	12.5	8	5	1	2	2	1	1	0	0	8	3	1	9		
<i>Hesperis matronalis</i>	Dame's rocket	33	8.5	7.0	5.9	7.1	10.2	13.3	17	9	0	3	4	2	3	0	2	11	22	5	21		
<i>Hieracium aurantiacum</i>	Orange hawkweed	28	9.7	7.9	4.4	5.5	7.4	11.8	12	6	3	4	9	2	0	0	14	23	7	0	13		
<i>Hieracium caespitosum</i>	Yellow hawkweed	11	8.5	4.5	4.0	6.7	7.8	16.4	5	3	0	3	5	2	0	0	6	10	1	0	6		
<i>Hypericum perforatum</i>	St. John's wort	32	7.9	6.5	2.3	4.6	6.4	9.1	15	9	4	3	6	2	3	1	6	27	1	5	16		
<i>Iris pseudacorus</i>	Yellow Iris	15	8.8	1.1	3.6	3.9	7.5	6.7	8	3	0	1	3	0	0	4	0	0	1	12	1		
<i>Lactuca serriola</i>	Prickly lettuce	12	3.8	5.9	2.3	3.4	5.5	4.3	6	4	1	2	2	0	0	0	1	7	1	2	8		
<i>Leonurus cardiaca</i>	Motherwort	19	6.0	5.8	2.5	3.6	5.6	6.0	10	9	2	3	3	2	2	0	1	4	11	1	14		
<i>Linaria vulgaris</i>	Butter and eggs	33	6.2	4.3	1.7	2.7	5.7	8.2	14	9	4	3	9	2	2	0	5	22	2	0	25		
<i>Lolium perenne</i>	Rye grass	10	3.9	2.2	0.3	3.1	5.7	5.7	5	3	0	2	2	1	0	0	0	5	0	3	7		
<i>Lonicera japonica</i>	Japanese honeysuckle	19	11.5	7.6	8.8	9.1	10.0	12.1	9	4	1	1	2	1	1	0	1	6	16	1	7		
<i>Lonicera maackii</i>	Amur honeysuckle	13	10.8	6.5	8.3	8.3	10.7	12.7	6	3	1	0	3	0	0	0	1	4	11	1	7		
<i>Lonicera morrowii</i>	Morrow honeysuckle	21	11.6	8.9	8.4	9.3	10.1	12.6	11	6	1	2	4	1	1	0	1	9	18	3	12		
<i>Lonicera tatarica</i>	Tartarian honeysuckle	33	11.0	9.3	8.5	9.0	10.3	12.8	19	10	3	2	7	3	3	0	1	15	30	4	19		
<i>Lonicera x bella</i>	Bell's honeysuckle	14	12.3	11.7	8.9	9.1	9.8	12.7	8	5	2	2	2	2	1	0	1	8	14	1	8		

(Appendix 1 Continued)

Scientific Name	Common Name	Obs No.	Mean Survey Scores					Ecoregion Counts							Habitat Counts						
			Dist	Abnd	Imp	Cmp	Sprd	Cntr	SE	SW	WC	NE	NC	NW	IL	A	B	G	F	W	D
<i>Lotus corniculatus</i>	Bird's-foot trefoil	32	5.5	2.8	4.8	6.0	8.3	11.1	13	10	3	3	8	1	2	0	4	20	1	2	27
<i>Lysimachia nummularia</i>	Moneywort	12	10.6	6.5	5.7	7.0	8.9	17.5	7	5	0	2	2	1	1	1	0	0	8	11	2
<i>Lythrum salicaria</i>	Purple loosestrife	45	11.6	7.4	9.3	9.8	12.3	14.3	23	11	6	7	13	4	3	8	0	3	1	44	10
<i>Malva neglecta</i>	Common mallow	13	1.9	3.8	1.3	2.7	4.1	2.5	7	5	1	2	3	1	0	0	0	3	2	0	12
<i>Matricaria matricarioides</i>	Pineapple-weed	17	1.7	3.3	1.3	2.0	4.3	4.5	7	5	2	4	6	1	1	0	3	5	0	0	16
<i>Medicago lupulina</i>	Black medic	19	4.3	5.0	1.5	2.8	5.3	4.6	7	6	4	3	5	2	0	0	3	11	1	1	15
<i>Melilotus alba</i>	White sweet clover	41	9.5	8.7	6.9	8.0	8.5	13.8	20	16	3	6	6	2	3	0	7	36	1	0	27
<i>Melilotus officinalis</i>	Yellow sweet clover	41	9.5	8.6	6.6	7.7	8.0	13.5	23	16	4	4	6	2	3	0	8	36	1	0	26
<i>Morus alba</i>	White mulberry	15	8.2	5.3	2.8	4.5	8.2	9.1	9	3	0	0	1	0	3	0	1	8	12	0	7
<i>Myosotis scorpioides</i>	Forget me not	17	8.8	2.3	4.4	5.3	8.1	8.4	7	3	1	2	6	2	0	4	0	1	4	11	2
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	25	11.7	6.1	9.3	10.0	12.5	16.3	12	6	3	4	7	4	0	24	0	0	0	1	0
<i>Nepeta cataria</i>	Catnip	24	5.2	5.5	1.3	2.4	5.0	3.1	16	9	3	2	2	1	2	0	2	11	7	1	20
<i>Pastinaca sativa</i>	Wild parsnip	40	8.9	6.5	6.6	7.8	11.8	14.6	21	16	4	4	6	1	2	0	5	32	1	7	28
<i>Phalaris arundinacea</i> (nn)	Reed canary grass (nn)	47	11.6	12.3	9.9	9.9	11.3	16.8	26	18	6	6	10	4	3	3	1	25	5	46	22
<i>Phleum pratense</i>	Timothy	28	7.8	6.4	1.8	3.4	4.8	5.6	14	12	6	3	6	1	1	0	1	25	1	5	14
<i>Phragmites australis</i> (nn)	Common reed grass (nn)	16	9.2	2.5	8.4	9.1	11.6	16.9	10	6	3	5	4	4	2	3	0	1	1	16	8
<i>Pinus sylvestris</i>	Scotch pine	13	9.2	1.9	2.7	2.7	7.3	5.9	6	4	3	3	3	1	0	0	4	7	7	0	5
<i>Plantago lanceolata</i>	Lance-leaved plantain	13	4.3	3.6	1.8	4.0	6.0	5.0	7	6	1	1	4	1	0	0	1	5	0	0	11
<i>Plantago major</i>	Plantain	27	5.1	7.2	1.8	3.5	5.2	4.7	8	6	4	3	9	4	1	0	0	9	4	1	23
<i>Poa compressa</i>	Canada bluegrass	23	10.6	9.1	2.5	4.5	5.3	9.0	10	6	4	4	4	3	1	0	7	18	3	1	12
<i>Poa pratensis</i>	Kentucky bluegrass	34	10.0	10.4	4.8	5.6	5.8	10.0	17	12	6	4	8	5	1	0	7	31	6	4	19
<i>Polygonum cuspidatum</i>	Japanese knotweed	17	5.2	0.0	7.7	7.9	10.9	15.4	8	5	1	1	6	1	0	0	1	5	7	1	11
<i>Populus alba</i>	White poplar	10	8.5	0.5	5.5	6.0	7.5	8.5	8	2	0	1	3	1	0	0	1	8	3	2	7
<i>Potamogeton crispus</i>	Curly-leaf pondweed	18	12.5	4.0	5.3	6.2	8.6	16.7	7	3	1	2	7	2	0	15	0	0	0	2	0
<i>Potentilla argentea</i>	Silvery cinquefoil	13	5.2	4.2	0.8	1.7	5.0	4.3	6	4	2	2	2	1	0	0	5	9	1	0	7
<i>Potentilla recta</i>	Sulphur cinquefoil	17	7.3	4.1	0.3	2.3	5.4	3.5	8	6	4	3	3	1	0	0	6	15	0	0	11
<i>Prunella vulgaris</i>	Heal-all	23	8.1	6.4	1.2	3.2	5.3	6.8	9	9	4	4	6	3	2	0	4	10	11	5	15
<i>Ranunculus acris</i>	Tall buttercup	16	8.2	3.8	1.4	2.5	5.8	6.5	5	3	1	3	8	3	0	0	2	7	10	6	8
<i>Rhamnus cathartica</i>	Common buckthorn	40	12.0	10.4	9.3	9.5	11.4	12.3	23	15	5	4	6	2	3	0	2	15	34	9	18
<i>Rhamnus frangula</i>	Glossy buckthorn	25	12.7	9.2	9.0	9.3	11.0	12.0	16	8	1	5	5	1	1	0	1	7	14	20	8
<i>Robinia pseudoacacia</i>	Black locust	33	10.9	3.9	7.5	8.0	9.4	10.4	19	14	2	2	1	0	4	0	7	24	22	2	10
<i>Rosa multiflora</i>	Multiflora rose	27	10.4	5.5	6.5	7.8	9.1	11.8	16	10	1	3	2	2	3	0	2	24	12	2	13
<i>Rumex acetosella</i>	Sheep sorrel	21	7.8	6.3	3.2	4.1	5.0	6.9	7	8	3	4	7	3	1	0	8	16	2	1	14
<i>Rumex crispus</i>	Curly dock	22	6.3	5.4	2.0	4.6	5.6	5.5	10	6	2	4	4	7	3	0	2	13	1	9	15
<i>Saponaria officinalis</i>	Soapwort	19	6.4	2.8	3.3	5.0	6.7	8.5	10	4	1	3	2	2	1	0	4	12	2	1	15
<i>Setaria glauca</i>	Yellow foxtail	17	3.2	9.1	0.9	3.8	5.6	4.0	7	5	2	4	6	2	0	0	3	11	0	1	15

(Appendix 1 Continued)

Scientific Name	Common Name	Obs No.	Mean Survey Scores							Ecoregion Counts							Habitat Counts					
			Dist	Abnd	Imp	Cmp	Sprd	Cntr	SE	SW	WC	NE	NC	NW	IL	A	B	G	F	W	D	
<i>Silene latifolia</i>	White campion	12	4.0	6.1	3.0	3.0	7.0	9.3	6	3	0	2	5	2	0	0	3	10	1	0	10	
<i>Silene vulgaris</i>	Bladder campion	20	4.4	4.3	1.3	1.9	5.3	4.5	11	8	1	2	6	3	1	0	4	11	0	0	17	
<i>Solanum dulcamara</i>	Climbing nightshade	19	7.9	6.5	3.3	5.9	6.5	8.9	8	7	1	2	4	1	1	0	2	4	8	10	13	
<i>Sonchus arvensis</i>	Field sow thistle	17	5.8	6.4	2.2	3.6	6.8	6.8	8	7	4	3	3	2	0	0	3	12	1	3	12	
<i>Sonchus asper</i>	Prickly sow thistle	12	3.6	3.2	1.4	2.3	5.5	6.4	5	4	2	2	3	2	0	0	3	8	1	1	10	
<i>Tanacetum vulgare</i>	Tansy	22	5.1	2.8	4.2	6.3	6.7	8.1	5	2	4	2	9	4	0	0	3	12	2	2	17	
<i>Taraxacum officinale</i>	Common dandelion	33	7.4	11.3	2.1	4.3	6.1	7.2	15	11	4	5	12	5	1	0	6	19	10	5	28	
<i>Thlaspi arvense</i>	Field pennycress	12	2.3	3.6	1.1	1.4	5.5	6.0	6	2	2	3	4	3	0	0	3	4	1	0	12	
<i>Tragopogon pratensis</i>	Yellow goat's beard	26	6.2	4.9	0.7	3.0	5.5	5.3	12	9	4	4	7	3	2	0	4	18	1	0	18	
<i>Trifolium pratense</i>	Red clover	29	6.7	7.7	3.1	4.8	4.8	7.6	14	11	5	4	10	4	1	0	4	22	1	2	19	
<i>Trifolium repens</i>	White clover	29	5.7	6.7	2.9	4.4	5.2	6.5	14	9	4	4	10	4	1	0	4	19	1	0	24	
<i>Typha angustifolia</i>	Narrow-leaved cattail	21	9.1	7.4	7.4	8.0	8.7	14.7	11	7	5	4	5	1	0	6	0	0	0	19	2	
<i>Typha x glauca</i>	Hybrid cattail	11	9.1	7.7	7.7	8.6	10.0	15.0	6	3	2	2	3	2	0	4	0	0	0	10	2	
<i>Ulmus pumila</i>	Siberian elm	17	8.0	5.5	4.8	6.3	9.1	9.1	9	6	3	2	0	0	1	0	3	14	3	2	11	
<i>Verbascum thapsus</i>	Giant mullein	30	5.7	8.3	1.4	3.3	5.8	5.0	15	9	5	3	6	4	2	0	5	22	4	0	24	
<i>Veronica officinalis</i>	Speedwell	10	5.6	3.8	1.3	3.1	6.3	7.5	4	2	0	2	5	1	0	0	0	2	4	1	5	
<i>Vicia cracca</i>	Cow vetch	10	4.4	1.3	1.9	3.8	5.6	8.6	4	4	1	3	4	2	0	0	2	5	0	0	9	
<i>Vicia villosa</i>	Hairy vetch	12	6.0	3.0	1.5	3.0	5.0	6.3	5	5	0	3	3	2	0	0	4	8	1	0	9	
<i>Vinca minor</i>	Common periwinkle	10	7.5	1.3	6.9	6.3	8.8	15.0	4	2	0	2	3	1	0	0	1	0	7	1	6	

Appendix 2. IPAW-GLIFWC Invasive Plant Survey Results for all species having 3 to 9 respondents.**Obs No.**, Number of survey respondents**Mean Survey Scores:****Dist**, Disturbance (0 = only in sites disturbed within last 3 years; up to 20 = in high-quality, undisturbed natural areas)**Abund**, Abundance (0 = in <10% of vulnerable sites; up to 15 = in >50% of vulnerable sites)**Impact**, Impact (0 = little or no ecological impact; up to 10 = invades and replaces native communities)**Comp**, Competitive ability (0 = poor competitor; up to 10 = highly competitive)**Spread**, Rate of Spread (0 = decreased in past 5 years; up to 15 = more than doubled in the past 5 years)**Contr**, Feasibility of Control (0 = no control required, species declines over time; up to 20 = no feasible control known)

Scientific Name	Common Name	Obs No.	Mean Survey Scores					
			Dist	Abund	Impact	Comp	Spread	Contr
<i>Acer ginnala</i>	Amur maple	8	10.7	1.3	2.1	4.3	9.3	5.8
<i>Aegopodium podagraria</i>	Goutweed	3	8.3	0.0	8.3	8.3	10.0	15.0
<i>Ajuga reptans</i>	Carpet bugle	5	7.5	1.3	3.8	7.5	10.0	12.5
<i>Alnus glutinosa</i>	Black alder	7	9.3	1.7	2.1	4.3	7.1	8.3
<i>Amaranthus hybridus</i>	Green amaranthus	6	1.7	3.0	0.8	1.7	2.5	5.0
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	3	10.8	1.7	2.5	3.3	5.8	6.7
<i>Anthriscus sylvestris</i>	Wild chervil	3	2.5	0.0	0.0	0.0	10.0	5.0
<i>Arctium vulgare</i>	Woodland burdock	3	9.2	8.3	2.5	3.3	5.8	6.7
<i>Arenaria serpyllifolia</i>	Thyme-leaf sandwort	6	2.0	0.0	0.0	0.0	5.0	0.0
<i>Artemisia absinthium</i>	Common wormwood	5	4.5	2.0	0.0	0.0	5.0	1.0
<i>Aruncus dioicus</i>	Goat's beard	8	7.5	3.1	0.0	1.3	5.6	1.3
<i>Berberis vulgaris</i>	Common barberry	3	5.0	0.0	2.5	5.0	10.0	15.0
<i>Bromus japonicus</i>	Japanese brome	6	3.5	2.0	2.0	2.0	5.0	5.0
<i>Butomus umbellatus</i>	Flowering rush	4	6.3	0.0	6.3	6.9	7.5	9.4
<i>Caragana arborescens</i>	Siberian pea shrub	6	6.5	0.0	2.1	5.0	5.0	9.0
<i>Carduus acanthoides</i>	Plumeless thistle	7	7.1	5.7	2.9	4.3	9.3	8.5
<i>Chelidonium majus</i>	Greater celandine	4	6.9	0.0	3.8	3.8	10.0	8.8
<i>Cirsium palustre</i>	Marsh thistle	7	8.6	4.6	6.4	9.2	13.6	15.0
<i>Commelina communis</i>	Dayflower	5	2.5	3.0	1.0	1.0	6.0	1.3
<i>Conium maculatum</i>	Poison hemlock	3	9.2	0.0	1.7	3.3	5.0	
<i>Cynoglossum officinale</i>	Common hound's-tongue	8	5.3	1.9	0.6	1.3	6.3	5.0
<i>Datura stramonium</i>	Jimsonweed	8	2.9	0.0	1.3	2.9	5.8	5.0
<i>Deschampsia cespitosa</i>	Small-flowered tickle grass	3	5.0	0.0	0.0	0.0	0.0	0.0
<i>Echium vulgare</i>	Viper's bugloss	5	3.5	1.0	1.0	3.0	7.0	5.0
<i>Epilobium hirsutum</i>	Hairy willow herb	6	6.5	1.0	7.0	5.0	9.0	10.0
<i>Euonymus alatus</i>	Winged Euonymus	7	10.0	0.0	1.7	4.3	6.7	5.0
<i>Festuca ovina</i>	Sheep fescue	6	9.0	0.0	2.5	4.0	4.0	3.8
<i>Galeopsis tetrahit</i>	Hemp-nettle	5	4.2	1.9	3.8	5.0	8.8	11.3
<i>Galinsoga quadriradiata</i>	Quickweed	5	3.0	0.0	0.0	0.0	7.5	1.7
<i>Galium mollugo</i>	Wild madder	5	3.0	0.0	1.0	3.8	7.5	6.9
<i>Galium verum</i>	Yellow bedstraw	3	1.7	0.0	0.0	3.3	5.0	5.0
<i>Glyceria maxima</i>	Tall mannagrass	4	6.7	0.0	8.3	8.3	13.3	12.5
<i>Gypsophila paniculata</i>	Baby's breath	3	3.3	0.0	1.7	1.7	6.7	5.0
<i>Hieracium lachenalii</i>	Hawkweed	6	8.0	9.0	5.0	8.0	11.0	13.3
<i>Humulus lupulus</i> var. <i>lupulus</i>	Hops	7	11.0	1.0	1.0	1.3	1.3	5.0
<i>Kochia scoparia</i>	Summer cypress	4	1.9	2.5	3.8	4.4	6.7	8.3
<i>Lapsana communis</i>	Nipplewort	5	6.3	0.0	0.0	0.0	3.8	10.0
<i>Lathyrus latifolius</i>	Everlasting pea	3	5.0	0.0	2.5	5.0	5.0	0.0
<i>Ligustrum vulgare</i>	European privet	5	9.4	3.0	3.8	5.0	8.8	10.0

(Appendix 2 Continued)

Scientific Name	Common Name	Obs No.	Mean Survey Scores					
			Dist	Abund	Impact	Comp	Spread	Contr
Lupinus polyphyllus	Lupine	6	6.0	1.0	4.0	5.0	8.5	10.6
Lysimachia vulgaris	Garden-loosestrife	3	8.3	3.3	3.3	3.3	6.7	7.5
Maclura pomifera	Osage orange	3	6.7	0.0	1.7	1.7	2.5	2.5
Mentha spicata	Spearmint	4	8.8	1.3	3.8	3.8	7.5	0.0
Mentha x piperita	Peppermint	4	7.5	1.3	1.3	2.5	6.3	3.3
Miscanthus sinensis	Eulalia	3	5.8	0.0	6.7	6.7	11.7	8.3
Myosotis sylvatica	Garden forget me not	3	8.3	0.0	5.0	5.0	10.0	7.5
Najas minor	Naiad	3	11.7	5.0	0.8	5.0	6.7	5.0
Poa annua	Annual bluegrass	7	3.3	3.3	1.7	2.5	5.8	4.2
Polygonum caespitosum	Smartweed	3	7.5	6.7	5.0	5.0	3.3	7.5
Polygonum sachalinense	Giant knotweed	3	3.8	0.0	7.5	7.5	7.5	15.0
Rorippa microphylla	Watercress	8	11.8	7.9	5.7	7.9	6.4	13.0
Rorippa nasturtium-aquaticum	Watercress	5	10.0	4.5	3.8	6.3	6.3	13.3
Rumex obtusifolius	Bitter dock	6	5.5	0.0	0.0	2.0	5.0	0.0
Salix alba	White willow	3	7.5	1.7	3.3	5.0	5.0	0.0
Salix babylonica	Weeping willow	9	8.6	0.0	0.6	1.7	4.2	5.4
Salix fragilis	Crack willow	8	8.4	2.8	2.2	5.0	5.6	9.3
Sedum acre	Yellow sedum	6	6.0	0.0	3.0	3.0	5.0	8.0
Sedum purpureum	Live forever	3	2.5	0.0	5.0	3.3	6.7	11.7
Senecio vulgaris	Common groundsel	6	1.0	1.0	0.0	1.0	5.0	6.7
Sonchus oleraceus	Common sow thistle	6	2.5	2.5	1.3	1.3	6.3	5.0
Sorbaria sorbifolia	False Spiraea	3	7.5	0.0	5.0	5.0	7.5	2.5
Sorbus aucuparia	Eurasian mountain ash	6	6.0	0.0	1.0	1.0	5.0	6.0
Stellaria aquatica	Giant chickweed	8	7.1	2.1	2.5	2.5	6.7	8.3
Stellaria graminea	Common stitchwort	4	3.8	1.7	1.7	2.5	5.0	20.0
Torilis japonica	Japanese hedge-parsley	7	5.4	2.5	5.0	5.8	13.3	12.0
Ulmus parvifolia	Chinese elm	3	6.7	0.0	1.7	1.7	5.0	15.0
Valeriana officinalis	Garden-heliotrope	7	5.0	0.7	1.4	2.9	8.3	7.5
Verbascum blattaria	Moth-muellin	8	3.1	1.3	0.0	0.6	5.0	5.0
Viburnum lantana	Wayfaring tree	7	6.5	0.8	1.7	3.3	8.0	10.0
Viburnum opulus var. opulus	European cranberry bush	6	8.8	7.5	3.8	5.8	9.2	10.8
Vincetoxicum nigrum	Black swallow wort	6	10.4	0.0	8.3	8.3	10.8	15.8

IPAW Working List of the Potentially Invasive Plants for Wisconsin—March 2003: A call for comments and information

Introduction

It is apparent to anyone managing natural plant communities that the most effective time to control a non-native plant species that has the potential to invade and damage native vegetation is before the species becomes well established and abundant. Effective control of invasive plants is often very difficult with available methods and resources once the species is well established. It is for this reason that awareness of the plants that are **potentially** invasive in Wisconsin may be one of the most important tools that IPAW has to accomplish its mission to promote stewardship of the natural resources of Wisconsin.

If it is used effectively a list of potentially invasive plants will require frequent revision. Information required to make these revisions will be provided by the entire community of people who watch natural areas and naturalized non-native plants in Wisconsin and beyond. Formation of an initial list of potential invasives for review by this broad community must rely on the professional judgment of those who make a study of natural areas and invasive plants of the region. Since potentially invasive plants are by definition not well established in Wisconsin natural areas, it is unreasonable to expect that a large number of Wisconsin naturalists will have personal experience with these species.

IPAW hopes this list will serve an educational function, and will help to heighten awareness of plants that may be, or become, invasive in our area. Many of us can think of examples of naturalized species for which we first became aware that they were non-native by seeing them on a list like this.

Formation of the “IPAW Working List of the Potentially Invasive Plants for Wisconsin”

In early 2002 IPAW collaborated with The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to develop a survey to gather observations from people with experience of the impacts and ecology of invasive plants. That survey is described fully in the previous article, which presents a working list of Wisconsin’s invasive plants. Thirty of the 114 species on the “IPAW Working List of the Potentially Invasive Plants for Wisconsin” are those for which the survey data suggest that they might be invasive (average “Impact” score > 2.25, and “Disturbance” score > 5.0), but for which the survey provided too little data to be confident that they should be catalogued as currently invasive. Other species were added to the list based on the professional judgment of the IPAW Science Committee, and using information available for other states, provinces, and federal agencies.

There are four primary reasons that a non-native plant species was placed on this list as a potentially invasive plant for Wisconsin:

- A. The species is seriously invasive elsewhere in a similar ecoregion but is not currently found, or is not widespread, in Wisconsin.
- B. The species is locally abundant in Wisconsin and warrants surveillance of whether it establishes aggressively in native plant communities. This category also includes species that may currently be invasive in Wisconsin, but for which IPAW received fewer than 10 survey responses.
- C. The species is spreading elsewhere in a similar ecoregion, but it is unknown if it will become a serious invader of native plant communities.
- D. The species is invasive in ecoregions farther south or west and is expanding its range so may become invasive in Wisconsin in the future.

These are the same categories that are listed as the Invasiveness Category (Inv. Cat.) for each species in Table 1.

Some of the species on this working list should undoubtedly be considered to be *currently* invasive, as opposed to *potentially* invasive, in Wisconsin. With more information these species will be added to the working list of Wisconsin’s invasive plants. Conversely, additional information will likely show that there is little reason to suspect that some other species have the potential to become invasive in our state, either because they grow almost exclusively in disturbed ground (are weeds) or because observation reveals that they are unlikely to persist and be aggressive in Wisconsin. These species will be removed from the “IPAW Working List of the Potentially Invasive Plants for Wisconsin”.

The IPAW Working List of Potentially Invasive Plants

Table 1 presents the “IPAW Working List of the Potentially Invasive Plants for Wisconsin”. Nomenclature for this list follows Gleason and Cronquist (1991), except for a few species not included in that manual, which follow the nomenclature in Kartesz (1994). The average survey scores for those species for which the survey obtained three or more responses are shown in Appendix 2 of the previous article.

Photographs, range maps, and other information about most of these species can be found in the USDA national PLANTS database (<http://plants.usda.gov>). If many observers familiarize themselves with these plants, we can gather valuable information about their distribution and behavior in Wisconsin. If you find any of these species naturalized (reproducing in the wild) in Wisconsin, please contact the Wisconsin State Herbarium [Phone: (608) 262-2792] (www.botany.wisc.edu/wisflora) to inquire whether they need voucher specimens and for directions on how they should be collected and submitted. Several species are marked with an asterisk (*) in the column labeled "Information Needed" in Table 1. For these species there are no (or very few) records of naturalized plants in Wisconsin. Information and specimens for these species would be particularly valuable.

If you have experience with non-native plants in the natural landscape of the state, **please become involved** by sharing your experience with IPAW. IPAW will continue to accept surveys reporting observations of the non-native plants of Wisconsin, and the results of these surveys will be added to the existing database. If you have not yet completed the invasive plant survey, and you have some personal experience with non-native plants in natural areas, **please download and complete the survey on the IPAW website: www.ipaw.org**. Instructions for how to submit the survey are included on the survey form.

Table 1. IPAW Working List of the Potentially Invasive Plants for Wisconsin.

Growth Form: F, forb; G, grass; S, shrub; T, tree; V, vine.

Inv. Cat.: Invasiveness Category, See explanation in second paragraph of *Formation of the "IPAW Working List of the Potentially Invasive Plants for Wisconsin"*.

Habitat Invaded: A, Aquatic; B, Barrens; G, Grassland; F, Forest; W, Wetland.

Information Needed: An asterisk (*) in this column indicates species for which there are no (or very few) records of naturalized plants in Wisconsin. Information and specimens for these species would be particularly valuable.

Scientific Name	Common Name	Growth Form	Inv. Cat.	Habitat Inv.	Info. Needed
<i>Acer ginnala</i>	Amur maple	T,S	C	F,G	
<i>Aegopodium podagraria</i>	Goutweed	F	B	G	
<i>Agrostis gigantea</i>	Redtop	G	B	W	
<i>Agrostis stolonifera</i>	Creeping bent-grass	G	B	G	
<i>Ailanthus altissima</i>	Tree of Heaven	T	A	G,F	
<i>Ajuga reptans</i>	Carpet bugle	F	B	F,G	
<i>Alnus glutinosa</i>	Black alder	T,S	B	W	
<i>Ampelopsis brevipedunculata</i>	Porcelain berry	V	A	G,F	*
<i>Angelica sylvestris</i>	Woodland angelica	F	B	F,G	
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	G	B	G	
<i>Anthriscus sylvestris</i>	Wild chervil	F	B	F	*
<i>Arctium vulgare</i>	Woodland burdock	F	B	G	
<i>Artemisia absinthium</i>	Absinth wormwood	F	B	G,B	
<i>Berberis vulgaris</i>	Common barberry	S	B	G	
<i>Betula pendula</i>	European weeping birch	T	C	W	
<i>Bromus tectorum</i>	Cheat grass	G	A	G	
<i>Butomus umbellatus</i>	Flowering rush	F	A	A	*
<i>Cabomba caroliniana</i>	Fanwort	F	D	A	*
<i>Calamagrostis epigejos</i>	Feathertop	G	C	F,G	
<i>Callitriche stagnalis</i>	Water star-wort	F	D	A	*
<i>Caragana arborescens</i>	Siberian peashrub	S	B	G	
<i>Carduus acanthoides</i>	Plumeless thistle	F	B	G	
<i>Carduus nutans</i>	Musk thistle	F	B	G	
<i>Centaurea diffusa</i>	Tumble knapweed	F	D	G	
<i>Centaurea repens</i>	Russian knapweed	F	D	G	
<i>Centaurea solstitialis</i>	Yellow Starthistle	F	A	G	*
<i>Chelidonium majus</i>	Greater celandine	F	B	F	
<i>Chrysanthemum leucanthemum</i>	Ox-eye daisy	F	B	F,G,B	
<i>Cirsium palustre</i>	Marsh thistle	F	B	W	
<i>Conium maculatum</i>	Poison hemlock	F	B	W	

(Table 1 Continued)

Scientific Name	Common Name	Growth Form	Inv. Cat.	Habitat Inv.	Info. Needed
<i>Crateagus monogyna</i>	Oneseed hawthorn	T,S	C	G	
<i>Cynoglossum officinale</i>	Common hound's-tongue	F	B	G	
<i>Cytisus scoparius</i>	Scotch broom	F	D	G	*
<i>Dioscorea oppositifolia</i>	Chinese yam	V	A	F	*
<i>Egeria densa</i>	Brazilian waterweed	F	D	A	*
<i>Eichhornia crassipes</i>	Water hyacinth	F	B	A	*
<i>Epilobium hirsutum</i>	Hairy willow-herb	F	B	W	
<i>Euonymus alatus</i>	Winged euonymus	S	B	F,G	
<i>Euonymus fortunei</i>	Winter creeper	V	D	F	
<i>Festuca ovina</i>	Sheep fescue	G	B	G	
<i>Filipendula ulmaria</i>	Queen-of-the-prairie	F	B	W,F	
<i>Galeopsis tetrahit</i>	Hemp-nettle	F	B	F,B	
<i>Glaucium flavum</i>	Yellow horn poppy	F	C	G,B	
<i>Glyceria maxima</i>	Tall mannagrass	G	B	W	*
<i>Gypsophila paniculata</i>	Baby's breath	F	B	Dunes	*
<i>Hedera helix</i>	English ivy	V	D	F	
<i>Heracleum mantegazzianum</i>	Giant hogweed	F	A	W	*
<i>Hieracium lachenalii</i>	Hawkweed	F	B	G	
<i>Humulus japonicus</i>	Japanese hops	V	B	G	
<i>Hydrilla verticillata</i>	Hydrilla	F	D	A	*
<i>Hydrocharis morsus-ranae</i>	Frog-bit	F	A	A,W	*
<i>Impatiens glandulifera</i>	Ornamental jewelweed	F	C	F,W	*
<i>Isatis tinctoria</i>	Dyer's woad	F	D	G	*
<i>Juncus ensifolius</i>	Sword-leaf rush	G	C	W	
<i>Lapsana communis</i>	Nipplewort	F	B	F	
<i>Lathyrus latifolius</i>	Everlasting pea	F	C	G	
<i>Lespedeza cuneata</i>	Chinese lespedeza	F	D	G	*
<i>Ligustrum ovalifolium</i>	California privet	S	D	W,F	
<i>Ligustrum sinense</i>	Chinese privet	S	D	F	
<i>Ligustrum vulgare</i>	European privet	S	D	W,F,G	
<i>Lonicera japonica</i>	Japanese honeysuckle	V	D	F,G	*
<i>Lupinus polyphyllus</i>	Big-leaf lupine	F	B	G,B	
<i>Lysimachia vulgaris</i>	Garden yellow loosestrife	F	B	G,W	
<i>Maclura pomifera</i>	Osage orange	T,S	D	F,G	
<i>Marsilea quadrifolia</i>	European water-clover	F	C	A	*
<i>Mentha spicata</i>	Spearmint	F	B	W	
<i>Microstegium vimineum</i>	Japanese stilt grass	G	A	F	*
<i>Miscanthus sacchariflorus</i>	Chinese silver grass	G	B	G	
<i>Miscanthus sinensis</i>	Eulalia	G	C	G	
<i>Myosotis sylvatica</i>	Garden forget me not	F	B	F,W	
<i>Myriophyllum aquaticum</i>	Parrot's feather	F	D	A	*
<i>Najas minor</i>	Lesser naiad	F	D	A	*
<i>Nymphoides peltata</i>	Yellow floating-heart	F	C	A	*
<i>Paulownia tomentosa</i>	Princess tree	T	C	F	*
<i>Phellodendron amurense</i>	Cork tree	T	C	F	*
<i>Pimpinella saxifraga</i>	Burnett saxifrage	F	B	W	
<i>Pistia stratiotes</i>	Water lettuce	F	B	A	*
<i>Poa bulbosa</i>	Bulbous bluegrass	G	C	G	
<i>Polygonum cespitosum</i>	Smartweed	F	B	W	
<i>Polygonum perfoliatum</i>	Mile-a-minute vine	V, F	D	F,G,W	*
<i>Polygonum sachalinense</i>	Giant knotweed	F	B	F,G	*
<i>Pueraria lobata</i>	Kudzu	V	A	F,G	*
<i>Quercus acutissima</i>	Sawtooth oak	T	C	F	*
<i>Ranunculus acris</i>	Tall buttercup	F	B	G	

(Table 1 Continued)

Scientific Name	Common Name	Growth Form	Inv. Cat.	Habitat Inv.	Info. Needed
Ranunculus ficaria	Lesser celandine	F	C	G,F	
Ranunculus repens	Creeping buttercup	F	B	F,G	
Robinia hispida	Bristly locust	S	B	G	
Rorippa microphylla	Watercress	F	B	A	
Rorippa nasturtium-aquaticum	Watercress	F	B	A	
Rubus phoenicolasius	Wineberry	S	C	G	*
Salix alba	White willow	T	B	W	
Salix fragilis	Crack willow	T	B	W	
Sedum acre	Yellow sedum	F	B	G	
Sedum purpureum	Live forever	F	B	G,W	
Senecio jacobaea	Tansy ragwort	F	D	G	*
Silene latifolia	White campion	F	B	G	
Silene vulgaris	Bladder campion	F	B	G	
Silybum marianum	Milk thistle	F	C	G	
Sorbaria sorbifolia	False spiraea	S	C	G,F	
Sorbus aucuparia	European mountain-ash	T	C	F	
Spiraea japonica	Japanese spiraea	S	C	F,G	
Stellaria aquatica	Giant chickweed	F	B	W	
Torilis arvensis	Field hedge-parsley	F	C	G,F	*
Torilis japonica	Japanese hedge-parsley	F	B	G,F	*
Trapa natans	Water chestnut	F	A	A	*
Trifolium hybridum	Alsike clover	F	B	G	
Tussilago farfara	Colt's foot	F	C	G	
Urtica dioica var. dioica	Stinging nettle	F	C	W,F	
Valeriana officinalis	Garden heliotrope	F	B	G,F	
Viburnum lantana	Wayfaring tree	S	B	F	
Viburnum opulus var. opulus	European cranberry bush	S	B	F	
Vincetoxicum nigrum	Black swallow-wort	V	A	G,F	*
Vincetoxicum rossicum	Pale swallow-wort	V	A	G,F	*
Wisteria sinensis	Chinese wisteria	V	C	F	*

With suggestions and comments regarding this list of the Potentially Invasive Plants of Wisconsin please contact:

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Wisconsin State Herbarium website: (www.botany.wisc.edu/wisflora).

Plants out of Place

is a periodic newsletter distributed to the members of **IPAW**.

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Production and distribution of this newsletter made possible through a grant from We Energies

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