

NAME OF SPECIES: <i>Pastinaca sativa</i> L.	
Synonyms:	
Common Name: Parsnip, Wild Parsnip, Poison Parsnip	
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	2. <u>Abundance</u> : Widely distributed throughout Wisconsin (1).
	3. <u>Geographic Range</u> : Herbarium records exist from 46 counties in Wisconsin (1).
	4. <u>Habitat Invaded</u> : Disturbed Prairie. Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin</u> : Earliest herbarium specimen was collected in 1916 in Dane County (1). Probably spread throughout the state along highways and railroad rights-of-ways.
	6. <u>Proportion of potential range occupied</u> : Ubiquitous in Wisconsin, but most abundant in South 1/2 of State. Much more potential habitat could be invaded.
II. Invasive in Similar Climate Zones	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> <u>Where (include trends)</u> : Midwestern United States.
III. Invasive in Similar Habitat Types	1. Upland <input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Dune <input type="checkbox"/> Prairie <input checked="" type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input type="checkbox"/> Grassland <input checked="" type="checkbox"/> Bog <input type="checkbox"/> Fen <input checked="" type="checkbox"/> Swamp <input type="checkbox"/> Marsh <input type="checkbox"/> Lake <input type="checkbox"/> Stream <input type="checkbox"/> Other: Prairie edges, disturbed patches within high-quality natural areas, railroad rights-of-ways, roadsides, pastures, abandoned agricultural fields, CRP grasslands, forest edges, oak openings.
IV. Habitat Effected	1. <u>Soil types favored (e.g. sand, silt, clay, or combinations thereof, pH)</u> : Thrives in many soils.
	2. <u>Conservation significance of threatened habitats</u> : Prairie and grassland communities provide ecosystem services (carbon sequestration) and habitat for arthropods and birds.
V. Native Habitat	1. <u>List countries and native habitat types</u> : Eurasia (2).
VI. Legal Classification	1. <u>Listed by government entities?</u> No.
	2. <u>Illegal to sell?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Notes:
B. ESTABLISHMENT POTENTIAL AND LIFE HISTORY TRAITS	
I. Life History	1. <u>Type of plant</u> : Annual <input type="checkbox"/> Biennial <input checked="" type="checkbox"/> Monocarpic Perennial <input checked="" type="checkbox"/> Herbaceous Perennial <input type="checkbox"/> Vine <input type="checkbox"/> Shrub <input type="checkbox"/> Tree <input type="checkbox"/>
	2. <u>Time to Maturity</u> : Often two growing seasons (2), possibly more because this species can act as a monocarpic perennial (3).
	3. <u>Length of Seed Viability</u> : Four years (4). Seeds become viable three weeks after flowering occurs (3).
	4. <u>Methods of Reproduction</u> : Asexual <input type="checkbox"/> Sexual <input checked="" type="checkbox"/> <u>Please note abundance of propagules and other important information</u> :
	5. <u>Hybridization potential</u> : Unknown.

II. Climate	1. <u>Climate restrictions</u> : Shade-intolerant (3).
III. Dispersal Potential	<p>2. <u>Effects of potential climate change</u>: Unknown.</p> <p>1. <u>Pathways - Please check all that apply</u>:  <u>Intentional</u>: Ornamental <input type="checkbox"/> Forage/Erosion control <input type="checkbox"/>  Medicine/Food: Roots are purportedly edible, but doubtful if anyone has intentionally planted the wild type in recent years.  Other:</p> <p><u>Unintentional</u>: Bird <input type="checkbox"/> Animal <input type="checkbox"/> Vehicles/Human <input checked="" type="checkbox"/>  Wind <input type="checkbox"/> Water <input checked="" type="checkbox"/> Other: Rapid seed development.</p> <p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u>: Toxic sap makes mowing and hand-pulling problematic. The sap is most potent at flowering (2).</p>
IV. Ability to go Undetected	1. HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/>

### C. DAMAGE POTENTIAL

I. Competitive Ability	<p>1. <u>Presence of Natural Enemies</u>: The Parsnip Worm damages some plants severely, but does not eradicate entire stands (2).</p> <p>2. <u>Competition with native species</u>: Generally does invade high-quality prairie sod (2) (basal rosettes probably can't compete for sunlight under a diverse (structured) prairie canopy). Burning and improperly timed mowing may increase parsnip abundance by reducing competition from native species (which emerge later in the growing season than parsnip).</p> <p>3. <u>Rate of Spread</u>:  HIGH(1-3 yrs) <input checked="" type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/>  Notes: Invades slowly until a threshold population density is reached, then spreads rapidly (3).</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u>  YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>  Notes: Decreases species richness and diversity (3).</p> <p>2. <u>Alteration of ecosystem/community structure?</u>  YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>  Notes: Mature parsnip plants are taller than the dry prairie species they replace.</p> <p>3. <u>Alteration of ecosystem/community functions and processes?</u>  YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>  Notes: Fuel connectivity in solid thistle patches is often insufficient to carry a fire (4).</p> <p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input type="checkbox"/>  Notes: unknown</p>

### D. SOCIO-ECONOMIC Effects

I. Positive aspects of the species to the economy/society:	Notes: Same species as garden vegetable, not known to spread.
II. Potential socio-economic effects of restricting use:	Notes: Due to its widespread distribution and abundance, it will be costly to contain this species from all highways and roadsides. A regional effort would probably be necessary, involving carefully timed mowing.
III. Direct and indirect effects :	Notes: Increased taxes for roadside control projects.
IV. Increased cost to a sector:	Notes: N/A

**F. REFERENCES USED:**

V. Effects on human health:	Notes: Dermally toxid.. If sap comes in contact with skin and is then exposed to UV radiation, photophytoprodermatitis results. Skin blisters, leaving behind scars that slowly fade over the course of a couple of years. Burn victims frequently visit the doctor, some of whom cannot identify parsnip burns.
<b>E. CONTROL AND PREVENTION</b>	
I. Costs of Prevention (including education; please be as specific as possible):	Notes: N/A
II. Responsiveness to prevention efforts:	Notes: Fairly easy to control (in the short term) when populations are small.
III. Effective Control tactics:	Mechanical <input checked="" type="checkbox"/> Biological <input type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses: Dicamba, 2,4-D, at rosette stage. Mowing is effective if timed to occur before seed set. Parsnip can resprout when mowed too early in the growing season. Hand pulling or digging are also effective, but labor-intensive, and toxic sap makes cultural methods dangerous. Burning and improperly timed mowing can increase parsnip abundance by reducing competition from other perennial species (2).
IV. Minimum Effort:	Notes: Several growing seasons. If the species is present on adjacent sites, some level of management may be required indefinitely.
V. Costs of Control:	Notes: Variable and site-specific.
VI. Cost of prevention or control vs. Cost of allowing invasion to occur:	Notes: N/A
VII. Non-Target Effects of Control:	Notes: Control may require the use of herbicides and/or mowing. Mowing at improper times may impact nesting birds.
VIII. Efficacy of monitoring:	Notes: Early detection and intervention can greatly reduce the time and resources that must be invested into controlling established parsnip stands. Monitoring is critical.
IX. Legal and landowner issues:	Notes: Uncontrolled infestations can spread to adjacent lands and along roads.

- UW Herbarium
- WI DNR
- TNC
- Native Plant Conservation Alliance
- IPANE
- USDA Plants

Number	Reference
1	Wisconsin State Herbarium. 2007. WISFLORA: Wisconsin Vascular Plant Species ( <a href="http://www.botany.wisc.edu/wisflora/">http://www.botany.wisc.edu/wisflora/</a> ). Dept. Botany, Univ. Wisconsin, Madison, WI 53706-1381 USA.
2	Kennay, J. and G. Fell. 1992. Vegetation Management Guideline: Wild Parsnip ( <i>Pastinaca sativa</i> L.). <i>Natural Areas Journal</i> 12(1):42-43.
3	Hoffman, R.A. and S. K. Kearns. 1997. Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants. WDNR Publication Publ ER-090 97.
4	Eckardt, N. 1987. Element Stewardship Abstract for <i>Pastinaca sativa</i> -Wild Parsnip. The Nature Conservancy.

	Arlington, VA.
5	***** Parsnip weed profile by Doll. Agry website! Need to put in!!

**Author(s), Draft number, and date completed:** Craig A. Annen, Draft 1, June 19, 2007.

**Reviewer(s) and date reviewed:** Jerry Doll, Aug 21, 2007

**Approved and Completed Date:**