

NAME OF SPECIES: <i>Solidago sempervirens</i> L.	
Synonyms: None	
Common Name: Seaside Goldenrod, Salt Marsh Golden Rod, Evergreen Goldenrod	Cultivars? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
A. CURRENT STATUS AND DISTRIBUTION	
I. In Wisconsin?	1. YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
	2. <u>Abundance:</u> n/a
	3. <u>Geographic Range:</u> Southeast Wisconsin
	4. <u>Habitat Invaded:</u> Along I-94 in Milwaukee county in drainage ditches – moving out of freeway corridor eastward in drainage ditches along Hwy 11 in Racine County (11) Disturbed Areas <input checked="" type="checkbox"/> Undisturbed Areas <input checked="" type="checkbox"/>
	5. <u>Historical Status and Rate of Spread in Wisconsin:</u> first reported in Racine County 2007, by SEWRPC.
	6. <u>Proportion of potential range occupied:</u> n/a
II. Invasive in Similar Climate Zones	1. YES <input type="checkbox"/> NO <input type="checkbox"/> <u>Where (include trends):</u> Native to Eastern North America.
III. Invasive in Which Habitat Types	1. Upland <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Dune <input checked="" type="checkbox"/> Prairie <input type="checkbox"/> Aquatic <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Grassland <input type="checkbox"/> Bog <input type="checkbox"/> Fen <input type="checkbox"/> Swamp <input checked="" type="checkbox"/> Marsh <input checked="" type="checkbox"/> Lake <input type="checkbox"/> Stream <input type="checkbox"/> Other:
IV. Habitat Affected	1. <u>Soil types favored or tolerated:</u> Requires a soil pH from 5.5 to 7.5 (1) Tolerates dry, moist, or wet soil of average, poor, sand, gravel, or rock quality. – Sandy soils (6) Appears to be a halophyte, found primarily in soils altered by roadside salts.(11)
	2. <u>Conservation significance of threatened habitats:</u> Seems it grows in high saline wetlands which will get more prevalent with high salt use on roads.
V. Native Range and Habitat	1. <u>List countries and native habitat types:</u> Atlantic coast (4) and Golf coast (6). Grows naturally along roadsides, in pinewoods, coastal marshes, estuarine, bay shores, and in dry to damp soils. It is a wetland species that has high saline soil and salt spray tolerance (6). Well adapted to coastal habitats including the backside of primary dunes, low secondary dunes, and edges of salt marshes (12).
VI. Legal Classification	1. <u>Listed by government entities?</u> In New York its' sub species var. Mexicana is listed as endangered (1).
	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 type="checkbox"/> Monocarpic Perennial <input type="checkbox"/> Herbaceous Perennial <input checked="" type="checkbox"/> Vine <input type="checkbox"/> Shrub <input type="checkbox"/> Tree <input type="checkbox"/>
	2. <u>Time to Maturity:</u> Late spring/early summer, mid summer, late summer/early fall, or mid fall (2).
	3. <u>Length of Seed Viability:</u>
	4. <u>Methods of Reproduction:</u> Asexual <input checked="" type="checkbox"/> Sexual <input checked="" type="checkbox"/> <u>Notes:</u> Vegetative clumps are slow to form and are best left undisturbed (5).

	5. <u>Hybridization potential</u> : See below (8)
II. Climate	<p>1. <u>Climate restrictions</u>: Precipitation min is 35 inches and the max is 60 inches, the plant needs full sun. It tolerates USDA Zones 5a: to 10b. (2) It prefers full sun, is shade intolerant and can withstand part-shade at best (5). USDA Zones 3-11 (-40F minimum) (6).</p> <p>2. <u>Effects of potential climate change</u>: It could potentially find new habitat in salt laden rights-of-way; More snow = more salt on roads.</p>
III. Dispersal Potential	<p>1. <u>Pathways - Please check all that apply</u>:</p> <p><u>Unintentional</u>: Bird <input checked="" type="checkbox"/> Animal <input type="checkbox"/> Vehicles/Human <input type="checkbox"/> Wind <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other:</p> <p><u>Intentional</u>: Ornamental <input checked="" type="checkbox"/> Forage/Erosion control <input checked="" type="checkbox"/> Medicine/Food: Other: Wildflower gardens, flower gardens, attracts birds and insect pollinators (6).</p> <p>2. <u>Distinguishing characteristics that aid in its survival and/or inhibit its control</u>: It is salt tolerant and can be grown in environmental extremes ranging from dry seaside sand dunes rocky crags and slopes, to wet marshlands. It will also thrive in temperature extremes ranging from zone 4 (possibly colder) to 11 (5). Seaside goldenrod is a prolific seeder. Consequently, new seedlings will appear in nearby areas of the landscape the following seasons (6).</p>
IV. Ability to go Undetected	1. HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/> (6)
C. DAMAGE POTENTIAL	
I. Competitive Ability	<p>1. <u>Presence of Natural Enemies</u>: No major pest (6)</p> <p>2. <u>Competition with native species</u>:</p> <p>2. Rate of Spread: -changes in relative dominance over time: -change in acreage over time: HIGH(1-3 yrs) <input checked="" type="checkbox"/> MEDIUM (4-6 yrs) <input type="checkbox"/> LOW (7-10 yrs) <input type="checkbox"/> Notes: fast growth rate (6)</p>
II. Environmental Effects	<p>1. <u>Alteration of ecosystem/community composition?</u> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Notes: Capable of propagating through their root systems and taking over large tracts of a wildflower garden or a pasture (7).</p> <p>2. <u>Alteration of ecosystem/community structure?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (7) Notes:</p> <p>3. <u>Alteration of ecosystem/community functions and processes?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (7) Notes:</p> <p>4. <u>Allelopathic properties?</u> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (7) Notes:</p>

D. SOCIO-ECONOMIC EFFECTS	
I. Positive aspects of the species to the economy/society:	Notes: It provides nectar for butterflies such as: clouded sulphur, purplish copper, gray hairstreak, snout butterfly, silver-bordered fritillary, pearl crescent, Milbert's tortoise shell, viceroy, wood nymph, monarch, eastern tailed blue (4, 6). Used for dune restoration, wildlife habitat (butterflies, birds, small mammals – excellent food source for migrating monarch butterflies), and ornamentals (butterfly gardens) (12).
II. Potential Socio-Economic Effects of Requiring Controls:	Positive: Negative: Used ornamentally for butterfly gardens – nurseries would need to get rid of stock.
III. Direct and indirect Socio-Economic Effects of Plant :	Notes:
IV. Increased Costs to Sectors Caused by the Plant:	Notes:
V. Effects on human health:	Notes:
VI. Potential socio-economic effects of restricting use:	Positive: Negative: Used ornamentally for butterfly gardens – nurseries would need to get rid of stock.
E. CONTROL AND PREVENTION	
I. Costs of Prevention:	Notes:
II. Responsiveness to prevention:	Notes:
III. Effective Control tactics: (provide only basic info)	Mechanical <input type="checkbox"/> Biological <input type="checkbox"/> Chemical <input checked="" type="checkbox"/> Times and uses: Fire resistant (1) Use an herbicide that contains picloram to treat. Spray each individual goldenrod plant with the herbicide. Wet each plant thoroughly until the goldenrod is saturated, but not to the point where the herbicide drips. Allow one growing season to pass before mowing the area. Do not disturb the plants or try to remove them during this time (10).
IV. Costs of Control:	Notes:
V. Cost of prevention vs. Cost of allowing invasion to occur:	Notes:
VI. Non-Target Effects of Control:	Notes:
VII. Efficacy of monitoring:	Notes:
VIII. Legal and landowner issues:	Notes:
F. HYBRIDS AND CULTIVARS AND VARIETIES	
I. Known hybrids? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Name of hybrid: <i>Solidago</i> × <i>asperula</i> Desf. (<i>S. rugosa</i> × <i>S. sempervirens</i>), <i>Solidago</i> × <i>beaudryi</i> Boivin (<i>S. rugosa</i> × <i>S. uliginosa</i>), <i>Solidago</i> × <i>erskinei</i> Boivin (<i>S. canadensis</i> × <i>S. sempervirens</i>), <i>Solidago</i> × <i>ovata</i> Friesner (<i>S. sphacelata</i> × <i>S. ulmifolia</i>), and <i>Solidago</i> × <i>ulmicaesia</i> Friesner (<i>S. caesia</i> × <i>S. ulmifolia</i>) (8) Names of hybrid cultivars: <i>Solidago sempervirens</i> var. <i>mexicana</i> (1)

II. Species cultivars and varieties	<p>Names of cultivars, varieties and any information about the invasive behaviors of each:</p> <p>Plants cultivated in European gardens have been labeled <i>S. sempervirens</i> var. <i>viminea</i> (Aiton) A. Gray. Plants found from Florida to Texas and Mexico are recognized by some experts as a different species (<i>S. mexicana</i>), but as another variety of this single species by others. It also hybridizes regularly with Rough-stemmed Goldenrod (<i>S. rugosa</i>) (4).</p>
	<p>Notes: Subordinate taxa:</p> <p><i>S. sempervirens</i> ssp. <i>mexicana</i> (L.) Semple; syn: <i>S. angustifolia</i> Elliott, <i>S. mexicana</i> L., <i>S. petiolata</i> auct. non Mill.</p> <p><i>S. sempervirens</i> ssp. <i>sempervirens</i> L.</p>

G. REFERENCES USED:

- UW Herbarium (Madison or Stevens Point)
- WI DNR
- Bugwood (Element Stewardship Abstracts)
- Native Plant Conservation Alliance
- IPANE
- USDA Plants

Number	Reference
1	USDA, NRCS. 2011. The PLANTS Database (http://plants.usda.gov , 12 December 2011). National Plant Data Team, Greensboro, NC 27401-4901 USA.
2	Dave's Garden. http://davesgarden.com/guides/pf/go/127217/
3	Connecticut Botanical Society. Connecticut Wildflowers < http://www.ct-botanical-society.org/galleries/solidago semp.html >
4	R. Sturtevant and V. Howard. 2011. <i>Solidago sempervirens</i> . USGS Nonindigenous Aquatic Species Database, Gainesville, FL. http://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=2710 RevisionDate: 3/13/2008
5	Izel Plants LLC, 2009-2011. http://www.izelplants.com/plants/mapsearch/perennials/item/solidago-sempervirens
6	University of Florida – IFAS Extension Lee County. http://lee.ifas.ufl.edu/Hort/GardenPubsAZ/Seaside_goldenrod.pdf
7	eHow: Home. < http://www.ehow.com/info_8608841_goldenrod-weeds.html >
8	Absolute Astronomy: Exploring the Universe of Knowledge. < http://www.absoluteastronomy.com/topics/Goldenrod >
9	University of Wisconsin Extension. Yard and Garden Brief: Horticulture. < http://www.extension.umn.edu/yardandgarden/ygbriefs/h530goldenrod.html >
10	eHow. Home < http://www.ehow.co.uk/how_8614151_kill-goldenrod.html >
11	Email communications from Don Reed
12	Snell, S. 2010. Plant fact sheet for Seaside Goldenrod (<i>Solidago sempervirens</i>). USDA-Natural Resources Conservation Service, Plant Materials Center. Cape May, NJ. http://plants.usda.gov/factsheet/pdf/fs_sose.pdf

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