

**Final Recovery Planning Outline with Listing Status Review Triggers  
for the Illinois Endangered Shore St. John's Wort (*Hypericum adpressum*)**

Bob Edgin, Illinois Nature Preserves Commission  
Anne Mankowski, Illinois Endangered Species Protection Board  
August 2013

Approved by the Illinois Endangered Species Protection Board at the February 20, 2014 Special Meeting.

**Common Name:** Shore St. John's Wort  
**Scientific Name:** *Hypericum adpressum* (Raf. ex W. Bart.)  
**Family:** Clusiaceae  
**Synonyms:** Creeping St. Johnwort

### **Status**

Shore St. John's Wort (*Hypericum adpressum*) is endangered in Illinois (17 Ill. Adm. Code 1050). It was first listed in 1980 as an endangered species due to restricted habitats or low populations in Illinois (Mankowski 2012).

The species is not listed as federally endangered or threatened.

NatureServe gives the species a global rank of G3 (vulnerable) and a national rank of N3 (vulnerable). It is ranked as S1 (critically imperiled) in Illinois. Other state rankings include SX (presumed extirpated) in Pennsylvania; SH (possibly extirpated) in Connecticut, Kentucky, North Carolina, and West Virginia; S1 rank (critically imperiled) in Arkansas, Georgia, Indiana, Maryland, Michigan, Missouri, Tennessee, and Virginia; and, S2 (imperiled) in Delaware, Massachusetts, New Jersey, New York, Rhode Island, and, South Carolina.

### **Total Range**

*Hypericum adpressum* is found primarily on the Atlantic coastal plain from Georgia to Massachusetts and ranges across the eastern United States with more concentrated distribution from New Jersey north and several scattered and disjunct population in the Midwest, including Illinois (Herkert and Ebinger 2002; NatureServe 2013; Figure 1) .

### **Illinois Distribution**

In Illinois, the species reaches its northwestern range limit in the Kankakee Sands Area Section of the Grand Prairie Natural Division (Herkert and Ebinger 2002). There are historic museum and/or the Illinois Natural Heritage (Biotics 4) Database (Database) element occurrence records (EOs) from 4 counties (EOs have been established from all 4 counties) and 3 Natural Division Sections (1 EO occurs on the border between 2 Sections and EOs have been established in all 3 Sections) (Herkert and Ebinger 2002, INHD 2013; Tables 1 and 2, Figure 2).

Currently, there are a total of 5 EOs (across 4 counties) in the Database for Shore St. John's Wort. At the time of initial listing, location information was brought forth to establish 1 EO (across 2 counties and within a single Natural Division Section) and since then 4 EOs (across 9 counties and on the border of 2 additional Natural Division Sections) have been added for the species: 1 in the 1980s, 1 in the 1990s, and 2 in the 2000s. While new EOs have been added every decade since listing, not every EO is surveyed each year or regularly (1 EO has no reports since at least 1996), so the number of EOs with observations in any given year or 5-year interval may not reflect the true status of the species (see Figure 3). There have been recent observations (since 2002) at 4 EOs across 3 counties; representing 3 of the 4 counties and 1 of

the 3 Natural Division Sections with known historic distribution. All 5 EOs occur on properties that are formally protected by dedication as an Illinois Nature Preserve or registration as an Illinois Land and Water Reserve (INHD 2013; Tables 1, 2, and 3, and Figure 2).

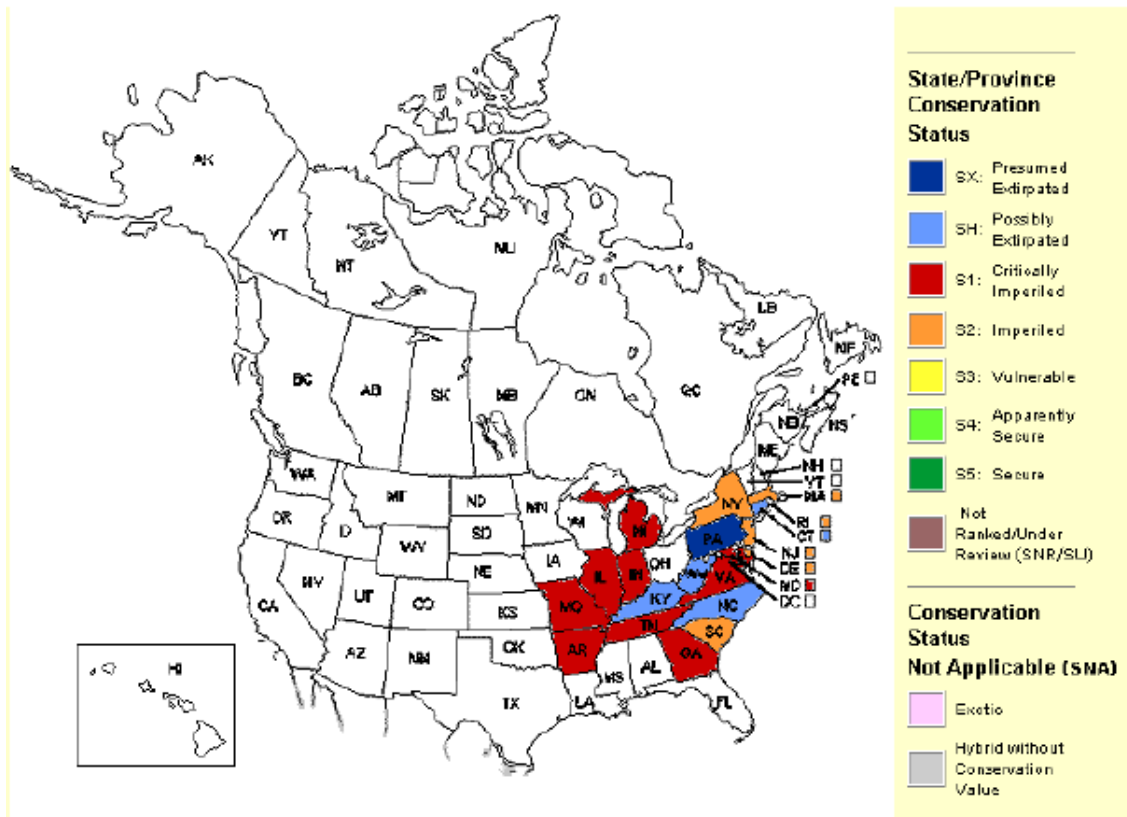


Figure 1. Distribution and NatureServe status of *Hypericum adpressum*, by state and province (NatureServe 2013).

Table 1. Illinois county distribution of *Hypericum adpressum*

	Historic (with no EO)	EO with historic obs	EO w/ recent (since 2002) obs
Cass		X	
Iroquois		X	X
Kankakee		X	X
Will		X	X

Table 2. Illinois Natural Division and Section distribution of *Hypericum adpressum*

DIVISION	SECTION	Historic (with no EO)	EOs with historic obs	EOs with recent (w/in last 10 yrs) obs
Wisconsin Driftless				
Rock River Hill Country	Freeport			
	Oregon			
Northeastern Morainal	Morainal			
	Lake Michigan Dunes			
	Chicago Lake Plain			
	Winnebago Drift			
Grand Prairie	Grand Prairie			
	Springfield	?	1	
	Western			
	Green River Lowland			
	Kankakee Sand Area	?	3	4
Upper Mississippi River and Illinois River Bottomlands	Illinois River	?	1	
	Mississippi River			
Western Forest-Prairie	Galesburg			
	Carlinville			
Middle Mississippi Border	Glaciated			
	Driftless			
Southern Till Plain	Effingham Plain			
	Mt. Vernon Hill Country			
Wabash Border	Bottomlands			
	Southern Uplands			
	Vermilion River			
Ozark Division	Northern			
	Central			
	Southern			
Lower Mississippi River Bottomlands	Northern			
	Southern			
Shawnee Hills	Greater Shawnee Hills			
	Lesser Shawnee Hills			
Coastal Plain	Cretaceous Hills			
	Bottomlands			

Note: "Historic with no EO" location information is not precise and assignment to Natural Division Section is based on a combination of known county occurrence, habitat association, and other Natural Division Section occurrences.

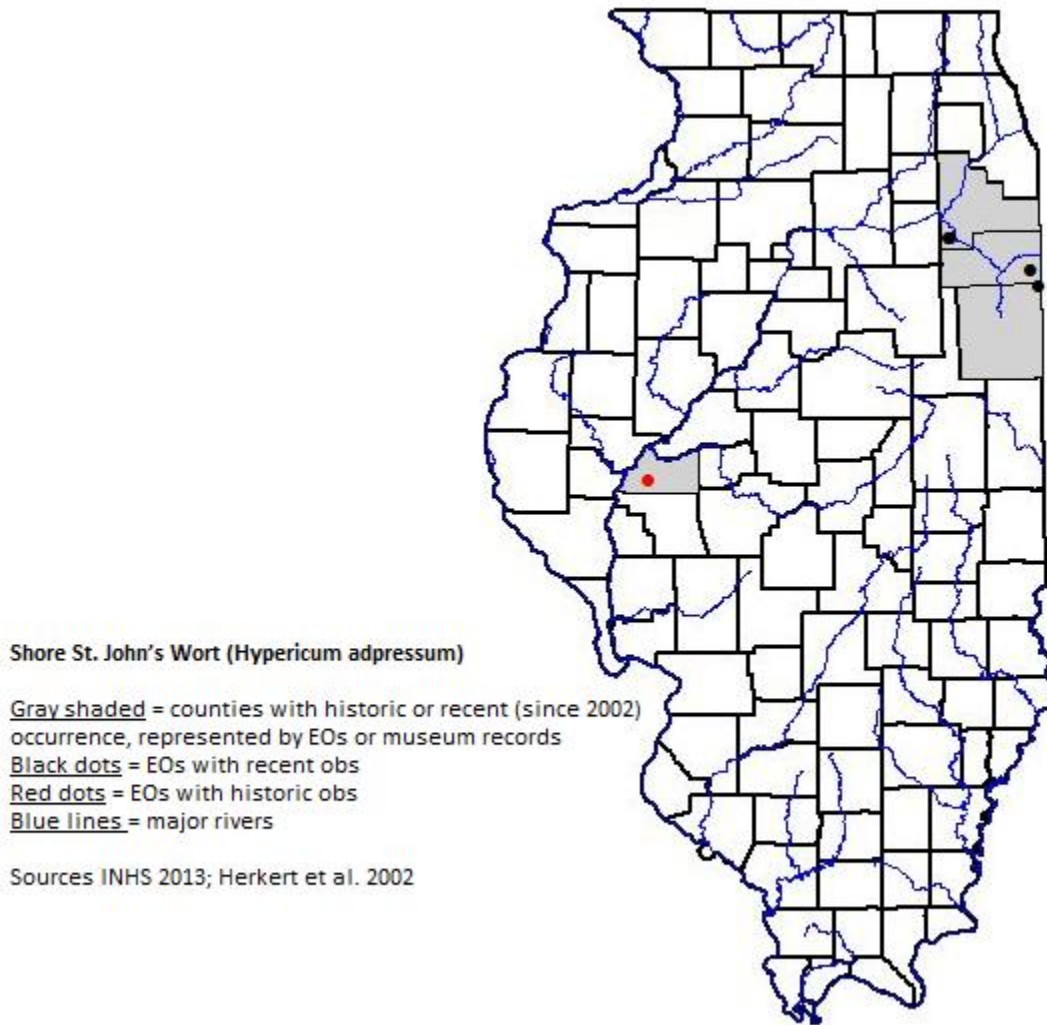


Figure 2. Historic and current distribution of *Hypericum adpressum* in Illinois.

Table 3. Select Illinois Natural Heritage (Biotics 4) Database information for *Hypericum adpressum*: Last observation date; total number of element occurrences (EOs); number of EOs observed since 2002; number of EOs protected as Illinois Nature Preserves or Illinois Land and Water Reserves; number of topographic quadrangles captured by total EOs; number of counties captured by total EOs; and, number of counties captured by EOs observed since 2002.

Last Observation	Total # EOs	# EOs observed since Jan 2002	# of EOs protected as NP/LWR	# topo quads	# Counties	# Counties since 2002
07/13/2012	5	4	5	4	4	3

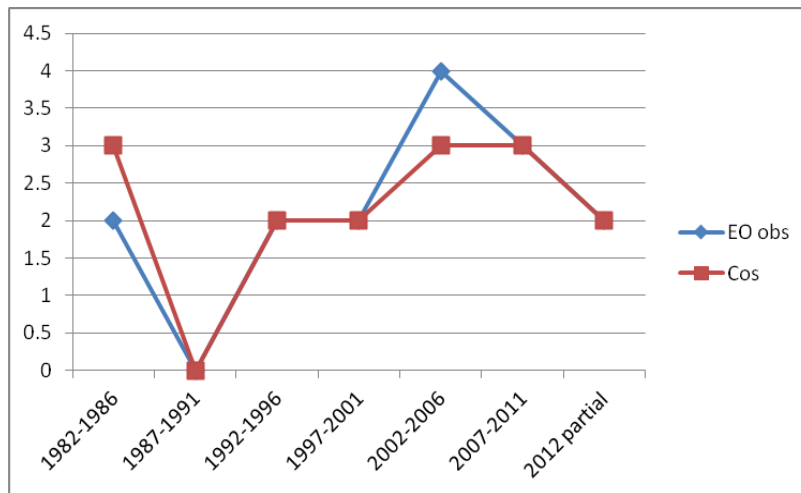


Figure 3. The number of *Hypericum adpressum* EOs in Illinois with observation during respective 5-year intervals and for 2012 (partial).

## Description, Biology, and Habitat

### Description

*Hypericum adpressum* is a rhizomatous or stoloniferous herb with stems that are 30-80 cm long, erect and sparsely branched (Gleason and Cronquist 1963, Herkert and Ebinger 2002, Mohlenbrock 2002). The stem bases have a tendency to become thickened and spongy when the plants are submerged for extended periods. The ascending leaves are arranged in whorls of 2 or more which support smaller leaves in axillary fascicles. Leaf shape is linear-lanceolate to oblong, 3-6 cm long by 5-10 mm wide, tapered at both ends with revolute (rolled-under) margins. The inflorescence is a multi-flowered cyme that is leafy toward the base. Flowers are yellow, terminal, with minute and subulate bracts, bright yellow, 1.5-2 cm wide with 5 petals surrounding a prominent cluster of 20 to 100 yellow stamens (Gleason and Cronquist 1963, Mohlenbrock 2002; NatureServe 2013). Fruit is an ovoid capsule 3-6 mm in length, 2-2.5 mm broad, gradually narrowing towards the beak, unilocular or partially 3-locular with intruded placentas. It blooms in July and August in Illinois (Mohlenbrock 2002).

### Species Biology

Seeds are small, but larger than dust size, and are presumably dispersed by waterfowl. Reproduction can be from seed or from rhizomes and stolons of existing plants (Witcell 2007). It is possible that the species' limited distribution is driven by dispersal limitation rather than habitat limitation (NatureServe 2013).

### Habitat

*Hypericum adpressum* is an aquatic/semi-aquatic species that is typically found growing in damp sands, gravels, and peats on the exposed shores of marshes and wet meadows and inundated margins of freshwater ponds with highly fluctuating water levels (Enser 2000, Gleason and Cronquist 1963). In Arkansas, *Hypericum adpressum* occurs in abandoned stream channel scars on older stream terraces above present day floodplains (Witcell 2007). These wetlands are poorly drained, have clay soils, and typically have standing water up to 10 cm deep in the winter and spring but dry out on the surface in the summer or are deeper, open water ponds fringed by concentric zones of emergent herbaceous vegetation and shrubs. On the more shallow wetlands, water levels fluctuate throughout the growing season as water is lost to evaporation, exposing a ring of mudflats colonized primarily by annual species. The deeper ponds are dominated by open water with a fringe of scattered *Cephalanthus occidentalis* and dense stands of emergent vegetation dominated by perennial species including *Juncus effusus*, *Juncus nodatus*, *Carex lurida*, *Carex jorii*, *Carex ozarkana*, *Carex gigantea*, *Dulichium arundinaceum*, *Rhynchospora glomerata*, *Scirpus cyperinus*, *Rhexia virginica*, *Xyris jupicai*, *Viola lanceolata*, *Eleocharis quadrangulata*, *Sagittaria platyphylla*, *Hypericum lobocarpum*, *Triadenum walteri*, and *Panicum rigidulum*. Population vigor in a given year may be extremely variable depending on depth of water during the growing season (Enser 2000). It was observed and a voucher specimen collected was collected by Dr. John E. Ebinger in a pin

oak/swamp white flatwoods near Venedy in Washington County, Illinois in 2001. This Washington County record had not yet been submitted to the Database when this current iteration of the recovery outline was written, but will be incorporated into planning and implementation of strategies and will be added to future iterations of the document once it is reflected in the Database.

## Reasons for Status and Threats

*Hypericum adpressum* is at its northwestern range limit in Illinois and occurs in restricted habitat of seasonal, ground water-driven depressional wetlands with somewhat fluctuating water levels where it occupies the area between low and high water (Herkert and Ebinger 2002; NatureServe 2013). Threats include conversion of habitat, excessive alteration of hydrology (including draining or inundation), user disturbances/impacts to shoreline habitat areas, woody encroachment, and alteration of canopy that may cause excessive shading. It should be communicated to local land managers that local hydrology should be managed in a manner compatible with the habitat needs for Shore St. John's Wort so that it is not maintained at constant levels or subjected to extreme fluctuation and that saturated soils should also not be drained in areas where it occurs (NatureServe 2013).

Low population numbers is also a threat to *Hypericum adpressum* in Illinois. The species is currently known from only five EOs, with one not having observations since 1992 and the remaining four EOs having most recent observations of about 45 plants, 1,311 stems, 8 plants, and 92 stems.

## Recovery Objectives and Criteria

The Illinois Endangered Species Protection Board is required by law to review, and revise as necessary, the Illinois List of Endangered and Threatened Species at least every five years. We propose that measures of population size and distribution, as documented in the Illinois Department of Natural Resources (Biotics 4) Database, be used to trigger a detailed review of the species' status by the Illinois Endangered Species Protection Board. The measures were developed relative to the status and distribution of the species at the time of original listing and the definitions of "endangered" and "threatened". Achieving the levels of population size and distribution proposed in this outline shall not prompt an "automatic" change in the status of the species in Illinois, and the Endangered Species Protection Board may review the status or status review criteria of the species at any time. Other factors, including known threats, productivity, and extent and condition of protected habitat, should be considered with population size and distribution data to judge whether a change in status is warranted.

### Definitions of "endangered" and "threatened" under the Illinois Endangered Species Protection Act.

*Endangered in Illinois* – in danger of extinction in the wild in Illinois due to one or more causes including but not limited to, the destruction, diminution or disturbance of habitat, overexploitation, predation, pollution, disease, or other natural or manmade factors affecting its prospects of survival.

*Threatened in Illinois* – likely to become endangered in the wild in Illinois within the foreseeable future.

### **Listing Status Review Triggers**

Endangered – Over the last 5-years, the Natural Heritage (Biotics 4) Database has element occurrence reports for the species that fall below the levels identified in the "Threatened" Listing Status Review Trigger.

Threatened – Over the last 5 years, the Natural Heritage (Biotics 4) Database has element occurrence reports for the species of at least 6 EOs with observations that demonstrate natural recruitment across 2 counties and within one Natural Division Section known for historic distribution and at least 3 of the 6 EOs should have observations in more than one year during the last 10 years. At least 4 EOs must be protected. For EOs that have undergone population

manipulation, they must have been liberated from population interventions for at least 3 years and meet the above criteria.

Secure – Remove from the IL List – Over the last 5 years, the Natural Heritage (Biotics 4) Database has element occurrence reports for the species of at least 12 EOs with observations that demonstrate natural recruitment across 4 counties and within 3 Natural Division Section known for historic distribution and at least 6 of the 12 EOs should have observations in more than one year during the last 10 years. At least 8 EOs must be protected. For EOs that have undergone population manipulation, they must have been liberated from population interventions for at least 3 years and meet the above criteria.

### **Recommended Recovery Strategies**

Recommended recovery strategies include a combination of monitoring, management, and protection for known populations and a prescription for testing a translocation program for the species to establish new populations. Translocations will be compliant with the INPC/IESPB/IDNR Plant Translocation and Restoration Policy (current version) and will be conducted according to site-specific prescriptions that will include a schedule of review to evaluate the success or failure of individual translocations, the need for prescription adjustments, and whether they should be continued. Translocations will need to be successful and liberated from population manipulation as described above in the Listing Status Review Triggers before they will be considered “wild” occurrences in the statewide population.

#### Recovery Strategy 1: Assess current status and distribution

- a. Conduct surveys at 1/5 of known EOs annually to confirm presence/absence and population numbers of all EOs, within each 5-year cycle. Surveys should cover information necessary to complete an Element Occurrence Reporting form and include the following specific information: the total number of individuals at a location (indicate count or estimate); the number or percent of individuals from younger age classes that demonstrate natural recruitment (indicate count or estimate); the area surveyed and what % of proximate suitable habitat the survey area represents (include a map); and, search effort (person hours).
- b. Conduct surveys at three historic locales with no EOs to confirm presence/absence and population numbers (if present), within a 5-year period.
- c. Survey for additional suitable habitat and new occurrences in counties/Natural Division Sections known for historic and current populations where EOs have been established.
- d. Report results annually to the Illinois Natural Heritage (Biotics 4) Database.
- e. At the end of the initial 5-year period, assess whether additional surveys are warranted for areas identified in (b) and (c) or if these locales should be considered low priority areas in allocating future resources.

#### Recovery Strategy 2: Promote management and protection of known populations.

- a. Work with landowners to gain commitment for developing management plans to promote compatible land uses and minimize threats for properties with extant populations.
- b. Work with landowners to promote enrollment of properties with extant populations into land protection programs such as dedication as an Illinois Nature Preserve, registration as an Illinois Land and Water Reserve, or a similar conservation easement program.

#### Recovery Strategy 3: Assess need and potential for augmenting existing populations and/or establishing reintroduced/introduced populations within appropriate habitat.

- a. Review status and distribution against Listing Status Review Triggers to determine if augmenting existing populations and/or reestablishing/establishing new populations is necessary.
- b. Determine whether local ecotype stock is available for collection of seed and either direct dispersal to receiving sites or for propagation and later planting of propagules to receiving sites. If local ecotype

stock is not available, conduct genetic analysis of proposed translocation stock to determine genetic health and compatibility. If propagation of stock is prescribed, methods with demonstrated success should be used – at this time, methods should follow those used for propagation and planting of *Silene regia* by Edgin (Edgin 2012).

- c. Perform an assessment of potential translocation areas based on results from Recovery Strategy 1 and relative to Recovery Strategy 3a and assess for potential impacts to other listed species in the proposed receiving sites.
- d. Relative to determinations about origin of proposed translocation stock from 3b, and consistent with the INPC/IESPB/IDNR Plant Translocation and Restoration Policy, conduct translocations at sites that have formal protection agreements in place.
- e. Translocated occurrences will be monitored annually for at least the first 3 years. Results of the first 3 years monitoring will be reviewed to determine survivorship at the receiving site and success of translocation methods and whether translocation efforts should be continued, ceased, or otherwise adjusted.
- f. Report results annually to the Illinois Natural Heritage (Biotics 4) Database.

### Recovery Outline Review & Revision

This outline will be reviewed annually by the authors and staff involved with implementation. The need for revisions may be identified at any time. All substantive revisions to this outline, including but not limited to recovery objectives and recovery strategies, should be considered a new recovery plan and follow the protocol described in “The Illinois Department of Natural Resources’ Recovery Planning in the Office of Resource Conservation” (current version). As such, recovery planning may be initiated by any staff and follows an established process to ensure proper review and potential conflicts are identified. Updated information – such as new data on distribution and abundance, research results relevant to recovery considerations, changes in taxonomy or nomenclature, and corrections to factual errors in this document – may be posted as addendums to the recovery outline without changing the original document.

### Estimated Timing of Strategies

Implementation is expected to take 10 or more years: Strategies will be somewhat implemented in phases and results from the first 5-year interval will greatly inform the overall estimate. Many activities such as landowner contacts, site-specific habitat management plan development, contract administration, etc., will be ongoing throughout the year. A basic schedule of some key implementation activities is presented below.

January	Conduct annual review of recovery outline strategies to confirm priority activities for calendar year. Recovery activities of INPC and IDNR staff are included in respective annual plan of work processes.
February	
March	Confirm information and resources are in place to conduct annual field work.
April	Primary window for spring plantings for translocations (April-May). Primary window for surveys of element occurrence and potential habitat (flowering is in July-August).
May	
June	
July	
August	If fall plantings are prescribed for translocations, September is the target window.
September	
October	Ensure element occurrence survey reports have been submitted to the Biotics 4 Database. Compile information on annual surveys, translocation activities, and habitat protection.
November	
December	Complete and post biennial progress reports on <i>Hypericum adpressum</i> recovery.



## Estimated Costs of Strategies

Estimated total cost for establishing 300 plants on 8 protected sites (what is currently estimated as necessary to achieve the population threshold for the Listing Status Review Trigger for “Secure – Remove from the IL List”) is between \$7,500 and \$10,000 plus labor for transplanting. The estimate for staff time for monitoring, habitat searches, and reporting is approximately 0.75 day/occurrence

### References:

520 ILCS 10/ Illinois Endangered Species Protection Act (1972 et seq.).

Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford. (Accessed online 06/30/2013).

Edgin, R. 2012. Recovery of *Silene regia* Sims (Royal Catchfly) in the Prairie Ridge Conservation Opportunity Area – Report 2010-2012. Unpublished report. Illinois Nature Preserves Commission. Springfield, Illinois. 26 pp.

Enser, R.W. 2000. New England Plant Conservation Program Conservation and Research Plan - *Hypericum adpressum* Barton Creeping St. John’swort, New England Wild Flower Society 180 Hemenway Road, Framingham, MA 01701.

Gleason, H. A., and A. Cronquist. 1963. Manual of vascular plants of northeastern United States and adjacent Canada. Van Nostrand Reinhold Co., New York. 810 pp.

Herkert, J.R, and J.E. Ebinger, editors. 2002. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 1 – Plants. Illinois Endangered Species Protection Board, Springfield, Illinois. 161 pp.

ILL. ADM. CODE. Conservation § 1050: Illinois List of Endangered and Threatened Flora (1980 et seq.).

Illinois Natural Heritage Biotics 4 Database (INHD). 2013. Illinois Natural Heritage Biotics 4 Database, Illinois Department of Natural Resources, Springfield, Illinois. (Accessed January, 2013).

Illinois Nature Preserves Commission (INPC), Illinois Endangered Species Protection Board (IESPB), and Illinois Department of Natural Resources (IDNR). 1992. Illinois Plant Translocation and Restoration Policy. INPC, IESPB, IDNR, Springfield, Illinois. 8 pp.

Mankowski, A. 2012. The Illinois Endangered Species Protection Act at Forty: a Review of the Act’s Provisions and the Illinois List of Endangered and Threatened Species. Illinois Endangered Species Protection Board, Springfield, Illinois. 152 pp. Published online at <http://www.dnr.illinois.gov/ESPB/Pages/default.aspx>.

Mohlenbrock, R.H. 2002. Vascular Flora of Illinois. Southern Illinois University Press, Carbondale. 490 pp.

NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed June 8, 2013).

Schwegman, J.E. 1973. Comprehensive Plan for the Illinois Nature Preserves System, Part 2. The Natural Divisions of Illinois. Illinois Nature Preserves Commission, Rockford. 32pp.

Witcell, T.C. 2007. *Hypericum adpressum* (Clusiaceae) New to Arkansas and the Ouachita Mountains, U.S.A. Journal of the Botanical Research Institute of Texas 1(1): 713-716.