ILLINOIS ENDANGERED SPECIES PROTECTION BOARD

MINUTES OF THE 159th MEETING

MIDEWIN NATIONAL TALLGRASS PRAIRIE, WILMINGTON, IL

16 AUGUST, 2013
(Approved at the 160th meeting, November 15, 2013)

BOARD MEMBERS PRESENT: Chair Dan Gooch, Vice-chair Glen Kruse, Secretary John Clemetsen, Dr. Joyce Hofmann, Mr. Jim Robinett, Ms. Susanne Masi, Dr. John Taft, Dr. Jeff Walk.

BOARD MEMBERS ABSENT: Dr. Jim Herkert and Ms. Laurel Ross

BOARD MEMBER VACANCIES: One

OTHERS PRESENT: Ms. Jeannie Barnes (Illinois Natural History Survey), Mr. Randy Heidorn (Illinois Nature Preserves Commission), Ms. Maggie Cole and Mr. Don McFall (Illinois Department of Natural Resources), Mr. Louis Luksander and Mr. Rob Sulski (Great Lakes Falconers Association), and Ms. Anne Mankowski (Endangered Species Protection Board).

159-1 Call to Order Welcome and Introduction of Guests
Chair Gooch called the meeting to order at 9:30 A.M., asked Board members to introduce themselves, and noted that there was a quorum. He then asked audience members to introduce themselves.

159-2 Adoption of Agenda
Chair Gooch asked for a motion to approve the agenda. Dr. Walk so **moved**, Vice-chair Kruse seconded the motion,and it was **approved** unanimously.

159-3 Approval of Minutes of the 158th (05/17/13) Meeting
Chair Gooch asked for a motion to approve the 158th meeting minutes. Dr. Hofmann so **moved**, Ms. Masi seconded the motion, and it was **approved** unanimously.

159-4 ESPB Staff Report
Ms. Mankowski, Director of the Illinois Endangered Species Protection Board, gave her report (Attachment A).

159-5 IDNR Staff Report
Mr. McFall, Chief of IDNR Division of Natural Heritage, gave his report (Attachment B).

159-6 INPC Staff Report
Mr. Heidorn, Director of the Illinois Nature Preserves Commission, gave his report (Attachment C).

159-7 Board Appointments
Ms. Mankowski reported that since the May 2012 meeting, the Governor's Office had confirmed the appointment of Jim Robinett. The Board had not received information regarding any action on the Board recommended appointment of Jill Riddell.

Ms. Masi stated that she would be retiring from the Chicago Botanic Garden at the end of calendar year 2013 and would not seek reappointment for her membership on the Board when her current term expires in May 2014.

Chair Gooch reminded members of the Board's proposed member nomination process, established in 2012, for considering individuals that the Board might recommend to the Governor's Office for appointment. He asked Board members to contact Ms. Mankowski according to the process if they have individuals they would like the Board to consider for nomination as a Board member.

159-8 Semi-Annual Review of Whether to Keep Closed Minutes from Previous Closed

Ms. Mankowski reviewed that the Open Meetings Act requires that the Board semi-annually review and approve keeping closed the minutes from previous closed-sessions. The Board is required to make a determination that (1) the need for confidentiality still exists as to all or part of those minutes, or (2) that the minutes or portions thereof no longer require confidential treatment and are available for public inspection.

Ms. Mankowski reviewed a list of closed sessions and noted that all closed sessions have been held to review personnel matters. She noted that the discussion of personnel matters is allowed under closed session and minutes from closed session are allowed to remain closed because the need for confidentiality still exists. She recommended that the minutes remain closed.

Dr. Taft **moved** to keep closed minutes from previous closed meetings, Secretary Clemetsen seconded the motion, and it was **approved** unanimously.

159-9 ESPB Budget – FY2014 Revisions

Ms. Mankowski reviewed her revised spending plan for the Board's appropriated FY2014 budget, noting that in the absence of headcount, she planned to use funding allocated for personnel and contractual to hire two professional staff contractually during FY2014. She explained that while the Board is exempt from personnel code, there are procurement code restrictions about hiring staff contractually and she was working with IDNR staff regarding the contracts. Secretary Clemetsen **moved** to approve Ms. Mankowski's revised spending plan, Dr. Walk seconded the motion, and it was **approved** unanimously.

159-10 2014 Illinois List Review: A Review of the Process, Board Preliminary Approvals to Date, and Outstanding Species Issues

Ms. Mankowski reviewed the Illinois List 5-year review process and schedule including information about legal requirements, individual species' status and distribution data and information that is being considered, and the process by which she and the Board are engaging advice of the ESPB technical expert consultants (ESPB TECs) (see Attachment D).

Ms. Mankowski reviewed that there are quite a few outstanding issues to date and resolving them will require a good deal of work by both IDNR Database staff and ESPB staff. She also noted that for several mammals, the IDNR was expected to bring to the Board proposals for the requested actions – essentially revised species reviews - and if ESPB staff is required to do all of the work instead, it may take longer than originally anticipated. The intention is that all outstanding issues should be resolved by the time the Board moves to confirming preliminary decisions – currently planned for the February 2014 meeting.

Ms. Mankowski asked the Board for clarification about its previous decisions to delist and then relist *Isotria medeoloides* (Small Whorled Pogonia) relative to the requirement for Illinois-listing of species designated as Federally endangered or threatened. She noted that at the May Board meeting, the Board had agreed to add it back to the List because of the requirement, but the Board also agreed that if JCAR approves Board listing decisions, they should stand, and she was unclear then whether the species should be added back to the List because JCAR had approved its removal. There was discussion about the fact that the Board considered the species extirpated in Illinois, but the US Fish and Wildlife Service still lists the species as extant in Illinois. Vice-chair Kruse **moved** to not include an individual listing for the species in the printed Illinois List promulgated under Illinois Administrative Rule, but instead to reference it's general protection under the

Illinois Endangered Species Protection Act in the introductory paragraph that Ms. Mankowski proposed adding to the Ad Rule during this revision to clarify the protections afforded all federally-listed species under the Illinois Endangered Species Protection Act. Ms. Masi seconded the motion and it was **approved** unanimously.

Dr. Taft expressed concern that the explanation regarding nomenclature changes for *Platanthera flava* var. *flava* (Tubercled Orchid) and *P. flava* var. *herbiola* (Tubercled Orchid) in parts of the previous meeting minutes might be interpreted as one variety being delisted. Ms. Mankowski reviewed that the decision of the Board was to delist one variety and change the nomenclature of the other to capture both varieties – since the final listing status for the combined varieties was to be threatened, the Board elected to make the most efficient administrative changes, which were to delist the *P. flava* var. *flava* from endangered and change the name of the threatened *P. flava* var. *herbiola* to *P. flava*, noting that the species *P. flava* would capture any and all varieties and/or subspecies of the species in the state. Vice-chair Kruse added that the explanation provided is administratively correct and Chair Gooch noted that this additional discussion should help clarify.

<u>159-11 2014 Illinois List Review: Recommendation for Changes to Part 2 of the List of Illinois Endangered and Threatened Plants</u>

Ms. Mankowski presented her recommendations for listing status changes for Part 2 of the plants (see Attachment E) and engaged Board members in reviewing the species data and information compiled and answered Board member questions.

Secretary Clemetsen **moved** to approve no changes in the status of all species included in Part 2 of the plant review for which Board staff recommended no change and Dr. Walk seconded the motion. Dr. Taft asked for **amendment** to change the scientific specific designation of *Juncus alpinus* to *alpinoarticulatus* after Mohlenbrock and Dr. Hofmann seconded the amendment. Dr. Hofmann asked for discussion about *Lathyrus ochroleucus* (Pale vetchling), for which staff did not recommend change, but she thought the numbers suggested improvement. Ms. Mankowski reviewed her comments in the species review and Ms. Masi commented that the species has low reproductive success. Dr. Hofmann indicated that those comments satisfied her concern and she had no alternate recommendation for the species. The Board voted on the motion as amended and it was **approved** unanimously.

Ms. Masi **moved** to maintain the status of *Isoetes butleri* (Butler's Quillwort) as endangered and Dr. Taft seconded the motion. Ms. Masi reviewed her Technical Expert Consultant (TEC) comments on staff recommendation and staff response to comments. Dr. Taft discussed some of the threats for the species because it occupies bedrock areas, due to competition and encroachment, and there was discussion about the need for and lack of prescribed burning at some locations. Dr. Walk asked about the discrepancy between Database EO population numbers compared to Ms. Masi's Plants of Concern population numbers and Ms. Mankowski explained that the Plants of Concern 2012 data was submitted in the spring of 2013, which was too late to be included in the Database information that she used for her species reviews. Ms. Mankowski and Ms. Barnes also noted that the EO numbers cited in the Plants of Concern information did not match EO numbers from the Database. Chair Gooch asked for a review of the protection status of the EOs. There was also discussion that the fluctuations in population numbers probably reflect both environmental conditions as well as impacts from threats. Following discussion, the Board voted and **approved** unanimously to maintain *Isoetes butleri* as endangered.

Secretary Clemetsen **moved** to change the status of *Oxalis illinoensis* (Illinois Wood Sorrel) from endangered to threatened, Dr. Hofmann seconded the motion, and it was **approved** unanimously.

Secretary Clemetsen **moved** to change the status of *Polygonatum pubescens* (Downy Solomon's Seal) from endangered to threatened and Vice-chair Kruse seconded the motion. Ms. Masi reviewed her TEC comments on staff recommendation and staff response to comments. Dr. Hofmann noted that the species' status has been changed several times and Ms. Mankowski reviewed the previous changes and relative number of EOs at each

change, explaining that her current recommendation was partly based on similar evidence when the species was previously changed from endangered to threatened. Chair Gooch asked for a review of the protection status of the EOs. Following discussion, the Board voted and the motion to change the status of *Polygonatum pubescens* from endangered to threatened was **approved,** with members Clemetsen, Gooch, Hofmann, Kruse, Robinett, Ross, and Walk voting for and member Masi voting against.

Dr. Hofmann **moved** to change the status of *Lechea intermedia* (Pinweed) from threatened to endangered, Ms. Masi seconded the motion, and it was **approved** unanimously.

Vice-chair Kruse **moved** to remove from endangered status *Paspalum dissectum* (Bead Grass) due to extirpation, Dr. Walk seconded the motion, and it was **approved** unanimously.

Secretary Clemetsen **moved** to remove from threatened status *Liatris scariosa* var. *nieuwlandii* (Blazing Star) as recovered and/or more common than previously thought, Ms. Masi seconded the motion, and it was **approved** unanimously.

Vice-chair Kruse **moved** to remove from threatened status *Matelea obliqua* (Climbing Milkweed) as more common than previously thought, Mr. Robinett seconded the motion, and it was **approved** unanimously.

Dr. Hofmann **moved** to remove from threatened status *Oenothera perennis* (Small Sundrops) as recovered and/or more common than previously thought, Mr. Robinett seconded the motion, and it was **approved** unanimously.

Ms. Masi **moved** to add as endangered *Juglans cinera* (Butternut) and Mr. Robinett seconded the motion. Ms. Masi reviewed her TEC nomination and comments on staff recommendation against listing. She noted that based on the information brought forth, TEC comments, and staff response, it appears that current information may be insufficient for the Board to make a decision to list the species. Chair Gooch agreed. Following discussion, the Board voted and the motion **failed** unanimously.

All Board preliminarily approved revisions to Part 2 of the Illinois lists of endangered and threatened plants during the meeting, included:

Board preliminarily approved revisions to the Illinois List – Part 2 of plants

Endangered to threatened:	Oxalis illinoensis	Illinois Wood Sorrel
	Polygonatum pubescens	Downy Solomon's Seal
Threatened to endangered:	Lechea intermedia	Pinweed
Remove from endangered:	Paspalum dissectum	Bead Grass
Remove from threatened:	Liatris scariosa var. nieuwlandii	Blazing Star
	Matelea obliqua	Climbing Milkweed
	Oenothera perennis	Small Sundrops
Add as endangered:	None	
Add as threatened:	None	

No listing status change recommended: (data do not warrant change)

Hymenopappus scabiosaeus	Old Plainsman
Hypericum adpressum	Shore St. John's Wort
Iresine rhizomatosa	Bloodleaf

Isoetes butleri	Butler's Quillwort
Juncus alpinus	Richardson's Rush
Juniperus communis	Ground Juniper
Larix laricina	Tamarack
Lathyrus ochroleucus	Pale vetchling
Lespedeza leptostachya	Prairie Bush Clover
Lonicera flava	Yellow Honeysuckle
Luzula acuminata	Hairy Woodrush
Lycopodium clavatum	Running Pine
Lycopodium dendroideum	Ground Pine
Matelea decipiens	Climbing Milkweed
Melanthium virginicum	Bunchflower
Melothria pendula	Squirting Cucumber
Menyanthes trifoliata	Buckbean
Mimulus glabratus	Yellow Monkey Flower
Minuartia patula	Slender Sandwort
Nothocalais cuspidata	Prairie Dandelion
Orobanche ludoviciana	Broomrape
Penstemon grandiflorus	Large Flowered Beard Tongue
Penstemon tubaeflorus	Tube Beard Tongue
Phaeophyscia leana	Lea's Bog Lichen
Planera aquatica	Water Elm
Plantago cordata	Heart-leaved Plantain
Platanthera clavellata	Wood Orchid
Platanthera flava	Tubercled Orchid
Platanthera leucophaea	Eastern Prairie Fringed Orchid
Platanthera psycodes	Purple Fringed Orchid
Poa alsodes	Grove Bluegrass
Poa wolfii	Wolf's Bluegrass
Pogonia ophioglossoides	Snake-mouth
Polygala incarnata	Pink Milkwort
Polygonum careyi	Carey's Smartweed
Populus balsamifera	Balsam Poplar
Potamogeton gramineus	Grass-leaved Pondweed
Potamogeton praelongus	White-stemmed Pondweed
Potamogeton robbinsii	Fern Pondweed
Quercus montana	Rock Chestnut Oak
Quercus phellos	Willow Oak

Name Change:
Juncus alpinus to Juncus alpinoarticulatus

159-12 Select Meeting Dates and Locations for 2014 Regular Meeting Schedule

Chair Gooch reminded the Board that it used to move the location of its meetings around the state to better accommodate the public and that he would like to do so for at least some of the meetings in 2014. Mr. Robinett asked why the Board had been meeting only at Midewin for the last few years and Ms. Mankowski explained that it was to reduce costs by eliminating overnight travel for Board members. Chair Gooch recommended the February and November meetings be held at Midewin, that the May meeting be held downstate, and the August meeting be held up north. The Board discussed some possible dates and Ms. Mankowski indicated that she would try to arrange for locations before the November 2013 meeting when she would present the schedule and locations to Board members for approval

159-13 Next Meeting Information

The Board's next regularly scheduled meeting will be November 15, 2013 at 9:30 A.M. at Midewin National Tallgrass Prairie.

159-14 Public Comment Period (3 minutes per person)

There were no public comments.

159-15 Other Business (Board members complete travel forms and time reporting sheets)

Ms. Mankowski noted that she received the day prior an email from the IDNR Office of Realty and Environmental Planning asking for Board comments on their proposed changes to the Endangered and Threatened Species Consultation Administrative Rule. She explained that they previously had circulated for review proposed amendments to the Illinois Endangered Species Protection Act and that she had advised the Department that the Board would prefer to review any proposed changes to Ad Rules and the Act in concert and that she and staff from IDNR Legal Counsel had developed some recommendations for correcting and addressing multiple areas of inconsistency and conflict between and across the Act and the Ad Rules supporting it. She noted that the current request would likely not allow enough time for her to review recommendations with the Board at the November meeting and asked how the Board wanted to handle this? Chair Gooch asked for clarification of how proposed changes make it to the Legislature and Ms. Mankowski explained that if IDNR were developing proposed amendments to the Ad Rules or the Act, it would present them to JCAR and the Legislature, respectively. Chair Gooch recommended that Ms. Mankowski review the proposed changes to the Ad Rule and make a recommendation to him and/or the Board about the need for a special meeting for the whole Board to review and comment on the proposed changes.

159-16 Adjournment

Chair Gooch asked for a motion to adjourn. Dr. Walk **moved** to adjourn, Dr. Taft seconded the motion, and it was **approved** unanimously. The meeting was adjourned at 11:55 A.M.

Attachment A

Illinois Endangered Species Protection Board staff report
for the 159th Meeting, August 16, 2013
Submitted by Anne Mankowski, Director

The Board currently only has one staff, its Director; all activities were conducted by the ESPB Director unless otherwise noted. Ms. Mankowski has not been able to complete all required work in the course of a 37.5-hour work week. Since the last staff report, Ms Mankowski has worked the following overtime hours toward ESPB and IDNR duties: May: claimed = 25.0, donated = 6.5; June: claimed = 38.0, donated = 25.0; July: claimed = 38.0, donated = 2.0.

1. Illinois List of Endangered and Threatened Species Review and Revision ending in 2014
The Board continues work on the next five-review of the List; the process usually takes about two years. The Board is required by law to base its listing decisions on scientific evidence. Ms. Mankowski spent a great deal of time compiling species information, with some assistance from the IDNR Natural Heritage Database staff. She also spent a great deal of time communicating with the EPSB technical expert consultants for species status and distribution information/evidence and review of ESPB staff listing status recommendations in preparation for the Board's consideration. She responded to multiple inquiries from individuals asking for information about the List review and revision and how to make recommendations to the Board for changes to the List.

2. ESPB-led project to contract surveys to update endangered and threatened animal occurrence records that are greater than 10 years old – and to engage programmatic and systematic EO survey updates
Ms. Mankowski continues working on the subject project and is attempting to gain IDNR ORC and OREP partnership commitment for a programmatic rather than a stand-alone, ad hoc project approach. This work is needed to support and improve all regulatory and protection applications by both the ESPB and IDNR and will provide a more up to date and higher quality product for fee-based program services associated with IDNR consultation and the Natural Heritage Database.

As discussed previously, historic record plant element occurrence (EO) updates had been addressed a few years ago in a separate effort and the Board initially was focusing on addressing animal EOR updates. The proposed new approach will first address the historic animal EOs and then include both animals and plants.

3. ESPB Member appointments
Ms. Mankowski drafted and sent letters of recommendation to the Governor's Office for appointments of Mr. Robinett and Ms. Riddell. She also requested letters of support for the recommendations from IDNR Director Marc Miller and included those in the package that went to the Governor's Office. Mr. Robinett was appointed in June 2013. The Board has not received notice regarding its recommendation for Ms. Riddell's appointment. Ms. Mankowski performed duties necessary to on-board Mr. Robinett shortly following his appointment and met with him to conduct new member orientation.

5. ESPB Website
Ms. Mankowski spent time working with IDNR web support staff on updates to the ESPB website. The ESPB website serves as the web portal for ESPB and IDNR administered endangered and threatened species program information.

6. ESPB Budget
Ms. Mankowski continues working with IDNR on multiple budget assignments related to the FY2014 and FY2015 budgets. Ms. Mankowski will provide Board members with additional update information at the meeting.

7. ESPB Research/Strategic Projects Program
There was no ESPB research project administration during the last quarter.

8. Meetings, Presentations, and Publications
- Ms. Mankowski participates in IDNR ORC twice-monthly administrative meetings, when possible.
- Ms. Mankowski participated in the 66th Natural Areas Evaluation Committee (NAEC) meeting held at IDNR headquarters May 21, 2013 and a meeting on June 25th, 2013 with IDNR Natural Areas and Database

program staff to discuss INAI Category II (specific suitable habitat for Illinois endangered and threatened species) criteria. The ESPB is a voting member of the NAEC.

- Ms. Mankowski participated in the May 22, 2013 meeting of the Illinois Wildlife Action Team held at IDNR Headquarters in Springfield, Illinois. The Board is a voting member of the team.

9. Coordination with IDNR and INPC:

Ms. Mankowski coordinated with the Endangered Species Program ORC, Division of Wildlife ORC, Impact Assessment Section OREP, Office of Land Management, Office of Law Enforcement, Office of Legal Counsel, Office of Strategic Services, Media Relations, and Illinois Nature Preserves Commission, on multiple matters listed below, by topic:

<u>E&T vouchering and translocation</u>

- No follow-up to report about vouchering and translocation issues discussed at the ESPB 157th meeting, held February 8, 2013.

<u>E&T incidental take authorization</u>

- At the request of IDNR Legal Counsel provided ESPB information and review of ORC information about IDNR E&T incidental take authorization presented to IDNR executive staff and IDNR regulatory committee.
- Provided review, comments, and questions to IDNR on 4 draft ITAs: Enbridge Pipeline, in Livingston, Woodford, Tazewell, Fulton, Mason, Schuyler, Brown, Adams Counties involving Illinois Chorus Frog (*Pseudacris illinoensis*), Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), and Black Rail (*Laterallus jamaicensis*); Remason WindFarm in Mason County, involving Illinois Chorus Frog (*Pseudacris illinoensis*); Orth Road Bridge in Boone County, involving Spike Mussel (*Elliptio dilatata*); and, County Hwy 16 Bridge in Grundy County, involving Slippershell Mussel (*Alasimodonta viridis*).

<u>E&T translocation</u>

- Began working with INPC and IDNR ORC staff on development of a joint animal translocation policy. The Board should expect a joint policy to be consistent with the Board's current E&T animal translocation policy and a draft joint policy will need to be approved by all three agencies before becoming official.
- Provided review and comment to INPC for proposed translocation of Northern Riffleshell (*Epioblasma rangiana*) and Clubshell (*Pleurobema clava*) mussels into a Land and Water Reserve.

<u>E&T recovery planning and implementation</u>

- Provided advice to IDNR ORC regarding the ORC recovery planning process for developing, reviewing, and approving endangered and threatened species recovery plans relative to ORC's development of a draft Illinois Alligator Snapping Turtle (*Macrochelys temminckii*) recovery plan.
- Reviewed and provided comment to IDNR ORC on a draft Recovery Outline for Smooth Softshell (*Apalone mutica*).
- Worked with Bob Edgin of the INPC on developing draft recovery outlines with status review triggers for *Carex alata* (Winged Sedge), *Penstemon tubaeflorus* (Tube Beard Tongue), *Polygonum arifolium* (Halberd-leaved Tearthumb), *Stryax americana* (Storax), *Heteranthera reniformis* (Mud Plantain), *Iresine rhizomatosa* (Bloodleaf), *Clematis viorna* (Leatherflower), *Hypericum adpressum* (Shore St. John's Wort), and *Silene regia* (Royal Catchfly). The draft outlines are being routed at IDNR ORC and INPC for review and then will be presented to the Board for consideration of approval.

<u>ESPB/IDNR review and approval coordination</u>

- Ms. Mankowski continues working with IDNR ORC in establishing agreements for coordination of reviews and approvals of E&T recovery planning, E&T animal translocation proposals, E&T possession permits, and E&T ITA between the two agencies.

<u>E&T monitoring/surveillance and reporting</u>

- Continued working on developing a programmatic approach to updating E&T element occurrence surveys and IDNR Natural Heritage (Biotics 4) Database records. Ms. Mankowski is attempting to gain partnership commitment from IDNR ORC and OREP.
- Continued working on draft revised endangered and threatened species element occurrence reporting forms for use by the IDNR Natural Heritage (Biotics 4) Database. The revisions address some information gaps and terminology discrepancies and are intended to improve the robustness of data reported to the Database. Ms. Mankowski will work with Database staff to finalize the forms, which will replace those currently available via the Board's website.
- Assisted INPC staff with identification of *Orobanche ludoviciana* (Broomrape, IL T).

- Conducted surveys and submitted surveillance reports for *Berberis canadensis* (Allegheny Barberry) and *Melanthium virginicum* (Bunchflower).

Other

- Provided advice and explanation to IDNR Wildlife Resources staff about the IDNR E&T consultation and incidental take authorization processes.
- Provided advice and explanation to INPC staff and the owner of an Illinois Nature Preserve about the ESPB's Illinois E&T List review process and schedule and the ways in which any individual may address the Board with recommendations about the listing status of a species.
- Met with IDNR ORC Watershed Management Section staff to discuss the upcoming revision of the Illinois Wildlife Action Plan and the IDNR IWAP website.
- Handled over 100 phone and email requests for ESPB and E&T information from the public and other state and federal agencies including referring those related to IDNR E&T consultation, incidental take, data, and permit programs, etc.

10. Coordination with other Agencies

- Provided advice and explanation to staff of the Lake County Forest Preserve District about the ESPB's Illinois E&T List review process and schedule and the ways in which any individual may address the Board with recommendations about the listing status of a species.
- Ms. Mankowski met with staff of the USFWS to discuss the ESPB's Illinois E&T List review process and schedule and data maintained by the IDNR Illinois Natural Heritage Database.
- Ms. Mankowski met with staff of the Shedd Aquarium to discuss the partnership project for updating endangered and threatened species occurrence information and advancing research towards recovery planning.
- Ms. Mankowski responded to a complaint from a member of the public about alleged impacts to a federally listed species, habitat, and IDNR/INPC owned/managed properties. She advised the USFWS, IDNR, and INPC about the complaint and referred it to the IDNR and INPC for further investigation.
- Ms. Mankowski responded to an inquiry from staff at the Morton Arboretum about legal protections afforded listed plant species. She referred the inquiry to the IDNR.
- Ms. Mankowski is serving on the 2013 Awards Committee of the Natural Areas Association. She served as the Chair of the committee in 2011.

11. Field Work

- Conducted survey for *Berberis canadensis* (Allegheny Barberry) in Tazewell County and for *Melanthium virginicum* (Bunchflower) in Morgan and Sangamon Counties.
- Conducted a USGS Breeding Bird Survey route in central Illinois.

12. Other General Administration and Clerical Work

- Prepared and routed Board member and staff travel vouchers and timesheets.
- Conducted updates to ESPB budget tracking on ORC sharepoint.
- Regularly distributed information to Board members via email and hardcopy mailings.
- Worked on equipment scoping and purchase request administration for purchasing new ESPB meeting recording equipment.
- All aspects of preparation for the August 16, 2013, 159th ESPB meeting.

Illinois Department of Natural Resources report to the Illinois Endangered Species Protection Board at the 159th meeting, August 16, 2013

Personnel
Jenny Skufca was offered, and accepted, the position of Endangered Species Project Manager with the Natural Heritage Division effective September 1. Jenny has been with DNR and the Nature Preserves Commission for 16 years, most recently as the natural area Defense Coordinator for NPC in the Springfield office.

Dean Corgiat resigned from Natural Heritage August 1 to take a position in the Division of Wildlife Resources. Dean was a heritage biologist in west central Illinois for 17 years. He managed and restored endangered species sites on DNR land and was instrumental in gating two caves, Burton Cave in Adams County and Twin Culvert Cave in Pike County that are used by the Federally endangered Indiana bat and gray bat. Dean authored a 108 page DNR technical report documenting mussel survey results on segments of the Illinois and Mississippi rivers from 1997-2007. His work contributed significantly to the mussel information in the Natural Heritage database.

Natural Heritage Resident Interns
IDNR completed interviews for Natural Heritage Resident Intern positions August 1. We are currently making job offers to 7 applicants with start dates in September.

The Residency program provides 12-month, full-time employment with benefits under the mentoring of Natural Heritage or Nature Preserves Commission staff in field or central office locations. Candidates must be graduate students currently enrolled in a full-time graduate program in plant biology, forestry, zoology or related biological science field and have the approval of their academic advisor.

The locations for the 7 positions are Cook County, McDonough County and Jasper County to work with Nature Preserves Commission field staff; McHenry County, Peoria County and Ford County to work with Natural Heritage biologists, and Sangamon County to work with DNRs Endangered Species program and Database program. Bob Szafoni is DNRs Natural Heritage Resident coordinator.

Incidental Take Authorization
As of August 1, 2013 there are two active ITAs:
Pike County Wind Power Project - One wind turbine in Pittsfield [Indiana bat, Gray bat]
LaFox Road Repair in Kane County [Blanding's turtle]

A Final ITA was signed by Enbridge Pipeline on July 29, 2013. DNR received a mitigation check from Enbridge in the amount of $152,880 on August 6, 2013.

Three additional Final ITAs were approved and signed by the ORC Office Director and the applicant in August and are now legally binding documents. Mitigation checks in the amount of $154,000 for the Green River Wind ITA and $212 for a Grundy County ITA are due to DNR by December 31. Another applicant, for a Boone Co. ITA, pre-paid a mitigation amount of $212. All ITA mitigation checks are deposited into the Wildlife Preservation Fund with use of the money restricted to projects benefiting the species impacted.

Endangered Species Possession Permits
For the second quarter of 2013 (April - June), 30 E&T permits were issued by the Endangered Species Program. An additional 3 applications are being processed. A summary of permits issued for the period January – June, 2013 is available.

Natural Heritage Database

In July, Natural Heritage database staff mapped and/or did data entry of 210 E&T occurrences, both new and updates and received 425 records of E&T species. They did quality control of 58 E and T records.

Wildlife Preservation Fund
The WPF has generated about $138,000 so far this year. DNR approved use of the fund to support 7 large and 16 small grants. Projects funded include Plants of Concern, a survey of historical element occurrence records for plants in DNR Region 5, support of recovery efforts for prairie chicken and barn owl, additional study of white nose syndrome in bats and Earth Day in the Parks.

Species Report
In June, 2013, Illinois was selected for $29,449 in Federal Grant Funds under the White-Nose Syndrome (WNS) Grants to States program for FY13. Illinois' WNS Projects include: Acoustic Monitoring & Demographic Effects of WNS. The objectives of these projects are to: Effectively survey and monitor Illinois summer bat populations, pre- and post-WNS, using a combination of acoustic monitoring and web-based citizen science reporting methods; and to: Continue multi-year study of effects of WNS on survival, reproduction and demographics at a western Illinois *M. lucifugus* maternal colony site. In addition, Federal/USFWS Travel Assistance for Joseph Kath to attend the 2013 WNS Workshop in Boise, Idaho; September 3-6, 2013 was provided.

Illinois has been allocated: $70,434 in USFWS Traditional Section 6 funds (Endangered Species) for FY13. The following three projects were selected for FY13 Traditional Section 6 grants: 1) 2013-2014 evaluation of the endangered Illinois cave amphipod *Gammarus acherondytes.* During the last evaluation in 2010, the Illinois cave amphipod (known only from 9 caves in a small area of southwestern Illinois), was found to have been extirpated in the census transect in Fogelpole Cave and had all but disappeared from Wednesday Cave. The largest population in Reverse Stream Cave was flooded and underwater during the entire project, also a dire situation. Goals are to re-establish contact with private owners (property ownerships in flux due to foreclosures) for USFWS networking and evaluate the populations per non-lethal census protocol; 2) Survey for Additional Populations of Hine's Emerald Dragonfly (*Somatochlora hineana*) in Illinois. The location of additional populations of this species and preservation of the unique Illinois genetic haplotypes is primary to the conservation and recovery of this species. Our genetic studies including the work of Dr. Rick Purdue and Dr. Meredith Mahoney (1996-2013) indicate there are 6 haplotypes in northeastern Illinois, 4 of which are unique to Illinois. Based on remote sensing techniques described in the 2007 Vogt and Cashatt report (Survey Site Identification for Hine's Emerald Dragonfly (*Somatochlora hineana*) in Illinois), 40 sites were listed to be surveyed for potential habitat, of which a total of 18 sites were surveyed in 2010 – 2012. Resources permitting, the remainder of the sites should be surveyed as well as a number of the sites surveyed in 2010-2012 should be revisited; 3) Evaluating hibernating physiology of endangered Indiana bats, a cavernicolous species affected by White-nose Syndrome **-** Changes in hibernating patterns appear to play an important role in the epidemiology of White-nose Syndrome (WNS), which is a viable extinction threat to Indiana bats (*Myotis sodalis*). Unfortunately, very little is known about the hibernating physiology of Indiana bats, even though this knowledge may be vital in understanding the effects of WNS on this species. Researchers propose to use programmable, temperature-sensitive radiotransmitters to sample the body temperature of hibernating Indiana bats over the course of an entire winter in a southern Illinois mine.

White Nose Syndrome (WNS) Update – Press Release on July 29, 2013: A low level of the fungus that causes white-nose syndrome in bats has been detected in two north Arkansas caves. The fungus was discovered in a cave at Devil's Den State Park in Washington County and a private cave located in southern Baxter County. No bat deaths due to white-nose syndrome are known to have occurred in Arkansas. The fungus was found in swab samples taken from hibernating bats in February 2012 and January 2013. Tests detected DNA that indicates the fungus (*Geomyces destructans*) that causes white-nose syndrome, which is deadly for bats, particularly in the northeastern U.S. and Canada. The testing was part of a national study funded by NSF and led by researchers at University of California Santa Cruz and Northern Arizona University to track the spread of the disease.

2013 Clubshell/Northern Riffleshell reintroduction effort in the Vermilion River watershed: Background - the Former Hegeler Zinc Facility (the Site) in Hegeler, Illinois, operated from 1906 to 1954. This ~100-acre facility produced zinc slab and rolled zinc products, as well as sulfuric acid, resulting in slag waste. The large amounts of slag containing unburned residues and metals were stored in piles onsite. Based on the work of the United States Environmental Protection Agency (USEPA), the site was listed on the National Priorities List, or Superfund, in 2005. In response, IDNR and IEPA with legal representation by IAGO prepared an NRDA bankruptcy claim based on injuries to groundwater, surface water (including an Unnamed Tributary and Grape Creek), aquatic resources, and terrestrial resources (including grassland habitat). The US Fish & Wildlife Service published the Augmentation and Reintroduction Plan for the Clubshell and Northern Riffleshell in Illinois. The plan discussed the recovery actions to be implemented for these two listed mussel species. The Vermilion River watershed (of the Wabash River) has been selected to relocate northern riffleshell and clubshell mussels from the Allegheny River system in Pennsylvania, which is threatened by a construction project. Two

past translocation efforts have taken place, in 2010 and 2012 with a total of approximately 1,200 northern riffleshells and 200 clubshells relocated to the Vermilion River system. These individuals were translocated to the Salt Fork Vermilion River and Middle Fork Vermilion River, both of which have multiple areas in conservation ownership and support diverse and highly-valued mussel assemblages and populations of the known fish hosts. Monitoring data for the 2010 and 2012 efforts indicate positive survivability. Therefore, successful conservation efforts can be continued by reintroducing more northern riffleshell and clubshell mussels into other tributaries of the Vermilion River system. The main objective is to: translocate, augment, and monitor northern riffleshells and clubshells from the Allegheny River system in Pennsylvania to the Vermilion River basin (Wabash River drainage) in Illinois. Researchers will: Travel to Pennsylvania to collect northern riffleshell and clubshell mussels (approximately 2,000 total); Hold and transport mussels according to permit conditions. Quarantine the mussels under prescribed method; Tag the mussels with individual numbered tags and/or Passive Integrated Transponder (PIT) tags. Transport mussels to the relocation sites for release into the wild after the quarantine period; Conduct monitoring operations of relocated and stocked mussel survival for the next 10+ years. Monitoring includes e-DNA, PIT tag searches, and mussel surveys. Data will be analyzed after every monitoring event, and yearly reports and presentations will be given. This information will help direct future efforts by determining success of the translocation and local needs for long term sustainability of the northern riffleshell and clubshell populations.

In early June, 2013 DHB Roger Jansen checked the tube beardtongue (*Penstemon tubaeflorus)* EO in Cumberland and Shelby Counties on the Illinois Department of Transportation right of way. No *Penstemon tubaeflorus* or any other species of Penstemon were observed. Nothing blooming on IDOT right of way although *P. digitalis* was blooming prolifically on the overpass to the south and other places. He observed *P. tubaeflorus* blooming recently at Prairie Ridge State Natural Area and NAP Bob Edgin said it was blooming in Fayette County as well. Overall, the IDOT right of way appears to have been sprayed with a broadleaf herbicide (few if any broad leaves and ample grass namely fescue) and autumn olive was forestry mowed with machines and is now resprouting. This site needs checked in subsequent years to verify NO Penstemon of any species is blooming before we remove from EO database. Joe Kath is planning to work with IDNR's Office of Realty and Environmental Planning as well as IDOT to determine exactly what occurred and if any mitigation will be required from IDOT.

Summer 2013 Franklin's Ground Squirrel Information – Sangamon and Macoupin County trapping (along the Sangamon Valley Trail): Information from this year's trapping results are showing that some juveniles and adults travel at least 10.3 km (or 6.5 miles in a straight-line distance) to go from sites trapped last year to sites being surveyed/trapped this year. Through PIT-tagging researchers can examine individual growth, movement patterns, and survival through recapture. This is exciting and encouraging data. Researches have also discovered that in order to move from one site to another, some juveniles are crossing 6 or more county roads that cut across the Sangamon Valley Trail, including the busy State Route IL104.

IDNR Osprey Recovery Effort Update: Five birds from Langley AFB arrived at the Illinois Raptor Center on Wednesday, July 10. All birds were banded, processed, and fed. All birds in good health – all activities well documented. Birds were then transported to Anderson Lake (Fulton County). All birds placed in "Huntmaster" hacking tower. On the morning of Thursday, July 11 crew arrived at Anderson Lake at 8:00am. All birds in hack tower appeared to be in good health and were immediately fed 2 trays of fresh fish. Birds were left alone for 30 minutes and crew returned to hack site. All food was gone and all birds active. Two more trays of fish were then provided and all fish consumed within 2 hours. UIS grad. students now remain at Anderson Lake and will follow the Osprey Protocol developed by Pat McDonald – birds are to be fed twice daily – at 7am and 4pm – and will be monitored in between to document behavior.

The door to the hacking tower was opened on July 29. Between August 1 and August 12, all five birds successfully fledged. Signals on two of the birds were lost on August 1 when these birds foraged over Anderson Lake and then flew west/northwest of Anderson Lake and more than likely continued along the Illinois River Valley corridor. These birds were later found and had been predated upon, likely by great-horned owls. On August 12, the door to the hack box was closed and supplemental food is currently being provided on top of the unit once a day. A group of 2-3 UIS graduate students are currently radio-tracking the remaining three birds in and around Anderson Lake. All birds appear healthy and have been observed making multiple foraging attempts. Two of the three birds occasionally return to temporarily perch near the hack box and then spend a majority of their time on the north end of Anderson Lake and over the forested hills/ravines west of the lake. The remaining bird is clearly on the move as transmitter signals occasionally disappear and then reappear days later – signals emanate from along the Illinois River, south/southwest of Anderson Lake. These birds will continue to be tracked as best as possible. The coordination team is investigating the possibility of using at least one GPS transmitter in subsequent years. This recovery effort is a collaboration between IDNR's Division of Wildlife Resources and Division of Natural Heritage. The number and caliber of outside partners who are assisting in this effort is certainly commendable.

Attachment C

Illinois Nature Preserves Commission

memorandum

To: Endangered Species Protection Board Members

From: August 16, 2013

Subject: Illinois Nature Preserves Commission report for the Endangered Species Protection Board (ESPB)

No Illinois Nature Preserves Commission (INPC) meeting has been held since the last ESPB meeting. Below are some significant examples of activities that have been occurring.

I. INPC Operations:

A. Partnered with Division of Natural Heritage in recruiting and selecting Natural Heritage Resident Interns. This is a program where graduate students in natural resource programs serve under the mentorship of IDNR or INPC field staff member as a full-time state employee to gain experience and learn about the conservation of natural areas, endangered species and other rare resources. INPC is in the process of officially offering three students positions. If all of the approvals are given, residents will be located with INPC staff in Cook, Jasper and McDonough Counties.

B. The administrative rule establishing fees for the use of the Natural Heritage Database went through their first public comment period with the Joint Committee on Administrative Rules. Two comments were received from the non-profit electrical transmission industry. IDNR and INPC are preparing responses. Expected to go for a second comment period this fall.

C. Jenny Skufca, current Natural Areas Defense Specialist, has accepted a transfer to the Division of Natural Heritage as the Endangered Species Project Manager. INPC will be quickly moving to fill this staffing void.

II. Defense Program:

The Illinois Nature Preserves Commission (INPC) has successfully petitioned the Illinois Environmental Protection Agency and the Illinois Pollution Control Board for Class III Groundwater protection for three more nature preserves. Groundwater protection for Searls Park Prairie Nature Preserve in Winnebago County, Sand Ridge Nature Preserve in Cook County, and Yonder Prairie Nature Preserve in McHenry County brings the INPC to **twenty-five nature preserves designated as within Class III Groundwater Areas**. By example, the level of protection afforded Yonder Prairie Nature Preserve is evidenced by the fact that the actual Nature Preserve is 103.9 acres, and the delineated and now regulated groundwater contribution area includes 1,261 acres primarily to the north and east of the site. A Class III designation greatly enhances the defense toolbox for an Illinois nature preserve.

III. Stewardship program:

A. Equipment and commodities have once again been ordered to help supply volunteer stewardship groups. Annually INPC partners with The Nature Conservancy (TNC) to acquire tools that can be used by Volunteer Stewardship Network (VSN) groups that conduct management throughout the state on natural areas. The VSN is a joint program of TNC and INPC.

B. Animal Translocation Policy: At the 214th INPC Meeting in May, 2013, Commissioners directed staff to draft a joint animal translocation policy that would allow for staff level review/approval of requests to translocate animals into INPC sites. A core group, which included Jim Herkert, ORC office director, and Anne Mankowski, ESPB manager, was convened to draft the framework of a policy. The current consensus amongst the INPC, ESPB and IDNR staff is to use the biological features of the ESPB's Animal Translocation Policy. Participants continue to refine the details focusing on work flow processes, balancing approvals and reviewers appropriate for specific situations. The goal is to expand the work group to include IDNR legal staff and other ORC divisions so the policy will be finalized by the January 2014 INPC meeting.

IV. INPC Outreach:

A. **Fifty Sites for Fifty Years:** INPC celebrated its 50th Anniversary by having a special promotion on its Facebook page featuring 50 nature preserves with photos and information over a 50 work day period. The INPC's fans increased from around 700 to over 2300 with the promotion.

B. **50th Anniversary Reception in Southern Illinois:** A reception is planned for September 9, 2013 at the Creekside Grill, Stone Creek Golf Course in Makanda, Illinois. We will be introducing a new slideshow developed by retired Outdoor Illinois Editor, Kathy Andrews and having John Schwegman and Judy Falkner Dempsey giving brief presentations.

C. **40th Natural Areas Conference:** The Natural Areas Association (NAA) and Chicago Wilderness are holding the conference in Chicago. It is a celebration of NAA, and numerous anniversaries including the NAA's 35th year, INPC's 50th year and Cook County's 100th year. The conference will be held at the Chicago Holiday Inn Mart Plaza in Chicago October 1-4. Plenary speakers include Fran Harty, Randy Heidorn, Brian Anderson, Peter Crane, Frank Lowenstein and Robert Pirani. It will also include a symposium on the update of the Illinois Natural Areas Inventory

Attachment D

Re: Item 159-10: the 2014 Illinois List Review: A Review of the Process, Outstanding Species Issues, and Board Preliminary Approvals to Date

Illinois Endangered Species Protection Board

Required 5-year review and revision of the Illinois List of Endangered and Threatened Species, ending in 2014

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD
One Natural Resources Way, Springfield, Illinois 62702 - 1271, (217) 785-8687; FAX (217) 785-2438

ESPB 2014 Illinois List review and revision

E&T Part 2 of plant list review

ESPB 159th meeting 08/16/13
Midewin National Tallgrass Prairie
Wilmington, IL

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ESPB 2014 Illinois List review and revision

- Illinois Endangered Species Protection Act – 1972

- First Illinois List of Endangered and Threatened Species – 1981

- There have 6 revisions of the Illinois List (1984, 1989, 1994, 1999, 2004, 2009), the 2014 revision is the 7th

- 132 technical experts have assisted the ESPB with revisions to date – 2014 revision will bring that total to 146

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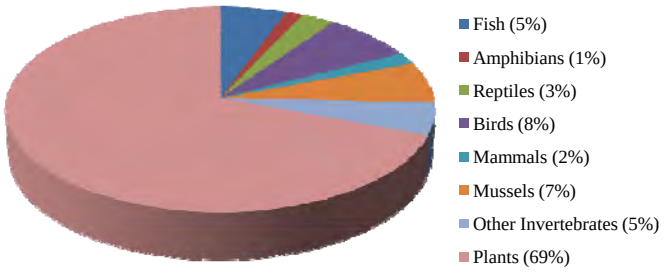
ESPB 2014 Illinois List review and revision

The ESPB has listed a total 644 species since the first Illinois List.



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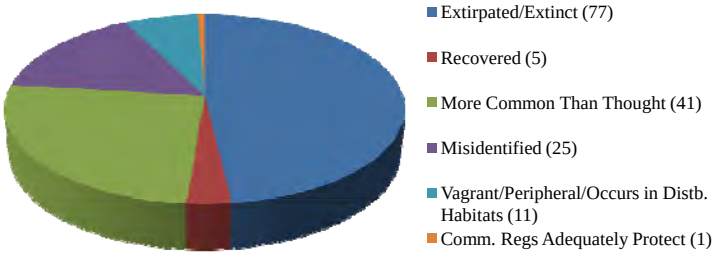
ESPB 2014 Illinois List review and revision

The ESPB has delisted a total of 160 species since the first revision of the Illinois List.



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ESPB 2014 Illinois List review and revision

The current (2011) Illinois List includes 484 species.

	Endangered	Threatened	Totals
Fish	19	12	31
Amphibians	3	6	9
Reptiles	10	8	18
Birds	25	5	30
Mammals	5	4	9
Invertebrates	43	12	55
Total Animals	**105**	**47**	**152**
Plants	251	81	332
TOTALS	**356**	**128**	**484**

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The ESPA (520 ILCS 10/2) definitions “endangered” and “threatened” species:

“Endangered Species" means any species of plant or animal classified as endangered under the Federal Endangered Species Act of 1973, P.L. 93-205, and amendments thereto, plus such other species which the Board may list as 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 Species" means any species of plant or animal classified as threatened under the Federal Endangered Species Act of 1973, P.L. 93-205, and amendments thereto, plus such other species which the Board may list as likely to become endangered in the wild in Illinois within the foreseeable future.

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The ESPA (520 ILCS 10/7) also stipulates :

The Board may list, as endangered or threatened, species of animals or plants which have reproduced in or otherwise significantly used, as in migration or overwintering, the area which is now the State of Illinois, if there is scientific evidence that the species qualify as endangered or threatened as these terms are defined in this Act.

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ESPB 2014 Illinois List review and revision

ESPB criteria for listing species as endangered or threatened on the Illinois List

- Species included in the Federal list of Endangered or Threatened species.
- Species proposed for Federal Endangered or Threatened status, which occur in Illinois.
- Species which formerly were widespread in Illinois, but have been nearly extirpated from the State due to habitat destruction, collecting, or other pressures resulting from the development of Illinois.
- Species which exhibit very restricted geographic ranges of which Illinois is a part.
- Species which exhibit restricted habitats or low populations in Illinois.
- Species which are significant disjuncts in Illinois, i.e., the Illinois population is far removed from the rest of the species' range.

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ESPB 2014 Illinois List review and revision

ESPB criteria for delisting species from the Illinois List

- A peripheral species that presently occurs only in disturbed/non-native habitats in Illinois.
- A species now considered to be only a vagrant breeding species in Illinois.
- All native populations are now considered to be extirpated in Illinois.
- Illinois records for this species are now believed to be based on mis-identified specimens.
- Now known to be more common in Illinois than previously thought.
- Commercial fishing regulations determined by the Illinois Department of Natural Resources provide adequate protection for this species in Illinois.
- The species is now considered extinct.
- A species now considered to be recovered from endangerment or the threat of endangerment in Illinois.

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ESPB 2014 Illinois List review and revision

The Illinois List review and revision process:
(in compliance with the ESPA (520 ILCS 10/1) and the Illinois Administrative Procedures Act (5 ILCS 100/1))

1. The Board and its staff review and evaluate available data collected since the original and current List were generated. The Board is required to base listing decision on scientific evidence. When conducting the 5-year review and revision, the Board consults with its technical expert consultants (ESPB TECs).
2. Board staff compile and present recommendations for changes to the List (additions, deletions, or change in status from one category to another) at one or more Board meetings and the Board preliminarily approves a list of proposed changes.
3. The Board holds a public hearing for comments on the proposed changes to the List. The hearing record remains open for two weeks.
4. After considering public comments received, the Board makes final approval of changes at a subsequent meeting and submits the List to the IDNR.

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ESPB 2014 Illinois List review and revision

The Illinois List review and revision process, continued:
(in compliance with the ESPA (520 ILCS 10/1) and the Illinois Administrative Procedures Act (5 ILCS 100/1))

5. IDNR conducts an internal review of the List and submits Administrative Rule changes to the Secretary of State for publication in the Illinois Register and review by the Joint Committee on Administrative Rules (JCAR). This first notice for Administrative Rule changes to the List published in the Illinois Register includes a 45-day comment period.
6. If substantive comments are received during the 45-day comment period, the IDNR, with assistance from the Board, provides a response to comments to the JCAR.
7. JCAR approves the List at a regularly scheduled meeting of its committee.
8. Upon approval by JCAR, the IDNR submits the final Administrative Rule changes to the List to the Secretary of State for publication in the Illinois Register and the List becomes official.

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ESPB 2014 Illinois List review and revision

Reminder of the ways any party may address the Board about changes to the Illinois List or to participate in the List review process outside of the Board approved ESPB TEC process and in accordance with the respective laws and regulations :

- Request to address the Board as an agenda item at any Board meeting open to the public. The request and all supporting documentation needs to be received by Board staff at least 30 days prior to the meeting. Board staff advise the Board's Chair of the request, and when the Chair approves an agenda for the meeting, Board staff will follow-up with the requester to let them know whether or not the requested item has been added to the agenda. If the requested item has not been added for the next meeting, the requester will be provided an explanation of why and direction for resubmitting their request for a subsequent meeting and for alternate means of addressing the Board. The Board may engage in discussion and may take action on presentations made as agenda items during the meeting.

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ESPB 2014 Illinois List review and revision

Reminder of the ways any party may address the Board about changes to the Illinois List or to participate in the List review process outside of the Board approved ESPB TEC process and in accordance with the respective laws and regulations, continued:

- Address the Board as a public comment at any Board meeting open to the public. Anyone can address the Board during the 3-minute public comment period offered at every meeting open to the public. No advance notice of intent is necessary. The Board accepts comments, but does not engage in discussion and will not take action on comments during the public comment period. The Board may elect to further address the comment at a later time.
- Address the Board during the public hearing period held prior to the Board finalizing changes to the List. The public hearing period is held after the Board confirms preliminary approval and before it confirms final approval for any changes to the List. The public hearing period spans two weeks and consists of a physical meeting at the beginning of the period made open to the public and then a subsequent comment period to accept written comments. The Board accepts comments, but does not engage in discussion and will not take action on comments during the public hearing period. Following the public hearing period, the Board reviews comments received and explains its final decisions in a subsequent Board meeting open to the public.

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ESPB 2014 Illinois List review and revision

What are we considering in our review:

- The IDNR Natural Heritage (Biotics 4) Database is used as a primary source of information. In this review, we are using mostly "last observed" data that only illustrates the most recent observation of each element occurrence for a species.
- Information reviewed for each species includes range in Illinois (present and historic), abundance in Illinois (total numbers, if known), number of known populations or locations where it occurs, number of these locations which are known to be protected from disturbance, the types of threats the species faces, and how fragile or sensitive the species is (species biology/ecology).
- For currently listed species, we aren't starting from scratch, but are reviewing whether there has been a change in status and distribution that warrants a change in listing status.

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ESPB 2014 Illinois List review and revision

Our process to date and planned:

January 2012

ESPB staff made request to IDNR ORC to submit to the Database any outstanding Element Occurrence (EO) status and distribution information and to submit to ESPB staff recommendations supported by evidence for status changes for currently listed species and for addition of new species.

ESPB staff made request to over 50 research and resource management institutions to submit to the Database any EO status and distribution information.

February/March 2012

The Board and staff vetted 42 ESPB TECs to advise the Board in the List review and ESPB staff made request to the ESPB TECs to submit to the Database any EO status and distribution information and to submit to ESPB staff recommendations supported by evidence for status changes for currently listed species and addition of new species.

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ESPB 2014 Illinois List review and revision

Our process to date and planned, continued:

April 2012

ESPB staff began reviewing by taxonomic group, currently listed species against Database information, ESPB TEC and IDNR recommendations and evidence, and preparing 1st cut lists of recommended changes to the list of endangered and threatened species.

May 16, 2012 Board meeting

The Board reviewed the bird list and made preliminary approval of proposed changes.

August 10, 2012 Board meeting

The Board reviewed the mammal list and made preliminary approval of proposed changes.

November 9, 2012 Board meeting

The Board reviewed the amphibian and reptile lists.

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ESPB 2014 Illinois List review and revision

Our process to date and planned, continued:

February 8, 2013 Board meeting

The Board reviewed the fish and mussel lists.

May 17, 2013 Board meeting

The Board reviewed other invertebrates and Part 1 of the plant lists.

August 16, 2013 Board meeting

Planned – Part 2 of the plant list review.

November 15, 2013 Board meeting

Planned – Part 3 of the plant list review.

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ESPB 2014 Illinois List review and revision

Our process to date and planned, continued:

February 2014, Board meeting

Planned - The Board will review outstanding taxonomic group list issues and confirm preliminary approval of proposed changes to the IL List of E&T Species (List).

March/April 2014

Planned - the Board holds a public hearing for proposed changes to the List.

April 2014

Planned – the Board and staff review and consider comments and evidence received during the two-week public hearing record period.

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ESPB 2014 Illinois List review and revision

Our process to date and planned, continued:

Beginning with the May 2014, Board meeting

Planned – at a Board meeting open to the public, the Board reviews its determinations regarding public hearing evidence and either makes final approval to proposed List changes or revises proposed changes and schedules another public hearing for the new changes.

– if another public hearing is held, the Board repeats the cycle for considering evidence and reviewing determinations until it approves as final its proposed changes to the List.

– once proposed changes to the List have been approved as final by the Board, staff will work with IDNR to propose amendments to respective Administrative Rules. The Ad Rule amendment process may take 6-9 months.

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ESPB 2014 Illinois List review and revision

Outstanding List review items that will be revisited before the Board confirms preliminary approval of respective proposed changes, to date:

Birds:

Peregrine falcon – proposed for delisting - review 2011, 2012, and (if available) 2013 data.

Chuck-will's-widow – proposed for addition as T- confirm EOs are in the Database.

Mammals:

Woodrat – no Board action, IDNR recommends E to T – data from reports was not in/confirmed by Database; proposal for status change needs to be submitted to ESPB.

Golden Mouse – no Board action, IDNR recommends delisting - data from reports was not in/confirmed by Database; proposal for status change needs to be submitted to ESPB.

Rice Rat – no Board action, IDNR recommends delisting with data available by 2014 - data from reports was not in/confirmed by Database; proposal for status change needs to be submitted to ESPB.

Eastern Small-footed Bat – proposed for addition as T – ~~contract another year of surveys~~; confirm EOs are in the Database.

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ESPB 2014 Illinois List review and revision

Outstanding List review items that will be revisited before the Board confirms preliminary approval of respective proposed changes, to date, continued:

Invertebrates other than mussels:

Onyx rocksnail (Leptoxis praerosa) – proposed for addition as E - confirm EOs are in the Database.

Plants:

Berberis canadensis (Allegheny Barberry) – proposed for delisting – pending confirmation that EO survey reports are in the Database.

Eupatorium hyssopifolium (Hyssop-leaved Thoroughwort) – initially recommended for delisting then changed to no change in status – pending confirmation that EO survey reports are in the Database.

Euphorbia spathulata (Spurge) – initially recommended for delisting then changed to no change in status – pending confirmation that EO survey reports are in the Database.

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD

One Natural Resources Way, Springfield, Illinois 62702 - 1271, (217) 785-8687; FAX (217) 785-2438

ESPB 2014 Illinois List review and revision

- Now we'll look at one currently listed species account as review of the information that has been considered.
- Then review currently listed species proposed for status change and any questions about those not proposed for status change.
- Then review species proposed for addition.

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD
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ESPB 2014 Illinois List review and revision

Reminders:

- Because of the Board's designated process for selecting and utilizing expert consultants and requirements of the Open Meetings Act, any "meeting" of such experts needs to be conducted in a meeting open to the public.
- The current meeting satisfies that requirement, but please note that this is a business meeting of the Board that is open to the public and not a "public hearing".
- Only those individuals identified as presenters on the agenda will be recognized to participate in discussion. In the interest of time and to facilitate development of meeting minutes and the administrative record for the List review process, please keep discussion brief and focused.
- If members of the audience wish to address the Board on this agenda item, they may do so during the public comment period at the end of the meeting, by requesting to present their own agenda item at a subsequent Board meeting, or during the required public hearing that is part of the List review process and will be held at a time after the Board has confirmed preliminary approval for any changes to the List (currently anticipated for early 2014).

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD
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ESPB 2014 Illinois List review and revision

So, before we move along…..

Any questions?

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD
One Natural Resources Way, Springfield, Illinois 62702 - 1271, (217) 785-8687; FAX (217) 785-2438

Attachment E

Re: Agenda Items 159-11: Copy of the 2014 Illinois List Review: Staff recommendation for changes to Part 1 of the list of Illinois endangered and threatened plants

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD

One Natural Resources Way, Springfield, Illinois 62702 - 1271, (217) 785-8687; FAX (217) 785-2438

Illinois Endangered Species Protection Board (ESPB) required 5-year review of the Illinois List of Endangered and Threatened Species (Illinois List) ending in 2014:

ESPB staff Part 2, 1st cut FINAL recommendations for Plants

Prepared by Anne Mankowski

08/02/2013

1st cut draft dated 07/15/2013, updated as 1st cut final 08/02/2013

This is the 1st cut final recommendations that will be presented to the Board at the 08/16/2013 meeting.

Contents:

(This is a compilation of otherwise stand-alone documents; I didn't spend a lot of time crafting, so it isn't pretty)

1. List of any pre-1st cut draft recommendations and evidence from ESPB TECs and IDNR for species listing status change or additions to the Illinois List and Mankowski response/notes (page 2).

   List of post-1st cut draft recommendations and evidence from ESPB TECs and IDNR for species listing status change or additions to the Illinois List and Mankowski response/notes (page 6).

2. ESPB staff list of recommended changes from endangered to threatened, threatened to endangered, remove from endangered, remove from threatened, add as endangered, add as threatened, and species for which no change is recommended (from partial list review) (page 21).

3. Table 1. Currently listed species – last observed, total occurrences, total seen since Jan 2002, # of protected occurrences, # of counties w/ occurrences, # of topographic quads w/ occurrences (page 23).

4. Table 2. Currently listed species -element occurrences and counties with occurrences for respective 5-year intervals ending in 2011 (page 32).

5. Currently listed species individual reviews (begins page 41 – each review includes:
   a. Date of listing, reason for listing;
   b. ESPB status and distribution publication species acct;
   c. species data from Tables 1 and 2;
   d. 1982-2011 5-year element occurrence trend graph;
   e. ESPB status review triggers (if any) and listing status change recommendation (if any); and
   f. NatureServe conservation status, lower 48 (for some spp).

6. Recommendations for species to be added as endangered or threatened (if any) (page 152).

1A. List of any recommendations and evidence received from ESPB TECs and IDNR by 06/28/2013 deadline for species listing status change or additions to the Illinois List and Mankowski response/notes.

1A(1). ESPB TEC Susanne Masi sent email on 05/29/2013 with a nomination to add Juglans cinera (Butternut) as endangered.

Anne,
Attached please find my completed form for recommendation of Juglans cinerea L. to the list of Illinois Endangered and Threatened Species and related attachments.

Please let me know if more information is needed.

Thank you!
Susanne Masi

Ms. Mankowski replied to Ms. Masi's email on 06/10/2013 with the following comments and recommendation.

Susanne:
Thank you for the nomination and supporting materials.

As I am doing for all TEC recommendations received, I will incorporate your recommendation and copy of the nomination form, as well as my response, into the Part 2 Plant list draft staff recommendations document that is planned to go out to TECs and Board members July 15. Because you submitted the nomination well in advance of the June 28 deadline, I wanted to provide you my response in advance of the July 15 distribution, in case you want to correct me if I misinterpreted something or missed something altogether or if you want to make any changes to your nomination package. If you want to revise your submittal prior to the June 28 deadline, I will review it and reconsider my recommendation – inclusion in the Part 2 Plant list draft staff recommendations document will be as described above regardless of my recommendation. Or you can leave it as is and see what if any comments and evidence are submitted by TECs or Board members during their review.

ESPB Staff Response:
Having reviewed what you put together and attached, I will not be recommending listing Juglans cinera as endangered because I believe the information that you have submitted does not provide sufficient evidence regarding the statewide status and distribution of the species including population numbers, occurrence, or changes.

Historic status and distribution
- No data/evidence (such as listings of records from museum or collections, etc.) has been provided to document the historic statewide status and distribution for use in comparing information about the current status and distribution. For ease of reference as one type of example, I have attached a pdf copy of the distribution map for Juglans cinera from Mohlenbrock and Ladd (1978), which shows a statewide county-level distribution.

Current/Recent status and distribution
- While the Ostrey and Woeste (2004) publication states that according to USDA USFS inventory data, there was a reduction of 87% in the number of trees during the 1998-2002 data collection interval, the publication does not include the actual USDA USFS data nor does it explain whether it reflects an actual statewide inventory or an inventory of only USFS lands in the state.

- The Plants of Concern information that you provided describes reduction in health, survivorship, and recruitment for several populations, but addresses only a four-county area of the state.

Thanks again and let me know if you have any questions.

Neither supplemental information nor a revised nomination form for adding Juglans cinera as an endangered species was received by the deadline of 06/28/2013. **Ms. Mankowski advised Ms. Masi in several additional emails including email response of 07/15/2013** that Ms. Masi could revise her original nomination with supplemental information that Ms. Masi indicated she had secured and submit it back to Ms. Mankowski by the 07/29/13 deadline for ESPB TEC comments on the Plants, Part 1, 1st Cut, ESPB staff recommendation document. Ms. Mankowski indicated that if she received the revised nomination she would reconsider her recommendation and the revised nomination and additional information would then be included in the Plant List, Part 2, FINAL recommendations document that is scheduled for distribution to ESPB TECs and Board members on August 2, 2013. If the nomination was not revised, current staff recommendation will be maintained.

1A(2). ESPB TEC Susanne Masi nomination to add Andromeda glaucophylla (Bog Rosemary) as endangered.

1A(2)(a). Ms. Mankowski received on 06/25/2013 a voicemail from Ken Klick, Lake County Forest Preserve District, indicating that he was working with Susanne Masi and John Taft to nominate a species and asking about submitting a nomination for adding a species to the IL List of Endangered and Threatened Species.

Ms. Mankowski returned Mr. Klick's phone call and followed-up with the following email that was copied to ESPB TECs Susanne Masi and John Taft **on 06/26/2013** to clarify the TEC process and schedule.

Hi, Ken:

Good talking to you – we value input from experts such as yourself and I look forward to your species nomination information being included in our IL List review process. As we discussed, here is follow-up email to our phone conversation with some review of what we discussed about the List review process.

In this 5-year review of the IL List, to assist the Board in its decision making, the Board has engaged a number of individual ESPB Technical Expert Consultants (ESPB TECs) to provide advice/recommendations supported by evidence. If those ESPB TECs felt it necessary that input and evidence from colleagues should be included, they were supposed to incorporate that input and evidence into their submittals that are due to me by COB June 28, 2013 – so, in this case, please circle back with Susanne or John for them to include your nomination and supporting evidence with their submittals.

If you and the ESPB TECs with whom you are working are unable to do that and you wish to address the Board with your recommendation, you may do so in any of the following ways made available to any party wishing to participate in this List review process outside of the Board approved ESPB TEC process and in accordance with the respective laws and regulations:

1) You can request to address the Board as an agenda item at any Board meeting – if you wish to do so, I need to receive your request and all supporting documentation at least 30 days prior to the meeting. If this is your intention, please reply to me with request to address the Board, a title of your proposed agenda item, and a copy of your presentation and supporting materials by July 16 for possible inclusion on the agenda for the Board's August 16, 2013 meeting. If you submit such request, I will advise the Board's Chair of your request, and when he makes approval of an agenda for the meeting, I will follow-up with you to let you know whether your requested item has been added to the agenda.

2) You can address the Board as a public comment at any meeting; you may do so simply by attending a meeting and addressing the Board during the 3-minute public comment period offered at each meeting, but please note that the Board accepts comment, but does not engage in discussion during the public comment period.
3) You may address the Board during the public hearing period for this IL List 5-year review and revision that will be held after the Board confirms all preliminary listing decisions and before the Board finalizes it's listing decisions – based on our current schedule, the public hearing period is expected for sometime at the beginning of 2014 and notice of it will be posted to the Board's website.

Thanks again and I hope this helps clarify.

1A(2)(b). Susanne Masi sent on 06/28/2013 the following email forwarding Ken Klick's nomination.

Hello Anne,
Ken Klick spoke to you, so you are aware that this recommendation was coming. When Ken only very recently discovered the existence of Andromeda glaucophylla at Fourth Lake Fen in Lake County, I consulted with John Taft and we were all able to ascertain how extremely rare this species is in Illinois, with only one known extant population.

I offered to submit the recommendation to you, and the Board, for the current listing process, in my role as one of the plant technical expert consultants. I wanted to get this information to you as soon as possible (today's the deadline), but let me know if you wish me to complete the recommendation form in my own name and I will try to do so as soon as possible. All the information available that I would use is included in this attachment.

Thank you!
Susanne

Ms. Mankowski replied on 07/01/2013 to Ms. Masi with the following email:

Hi, Susanne:
I received two emails from you about this on Friday - I was not working Friday, so was not able to respond to you then.

If I understand your question correctly, yes – any nominations coming in through the TEC process should be submitted under the name of a TEC, so it should be submitted under your name. TECs were supposed to act as the liaison to whatever colleagues they wanted to engage and were supposed to ensure that any recommendations/nominations were complete, etc. In this List review process, the Board did not make accommodation to allow others to participate in the TEC process, so it would not be fair for the Board to allow special access to only select individuals. I spoke to Ken and sent email follow-up (copying you and John) on 06/26/13 explaining this and the ways in which any interested party can otherwise participate in the List review process. I apologize if my 06/26/13 email was not clear. If you, as a Board member rather than a TEC, wish to submit the nomination to the Board in some other manner, it would probably be best for you to consult with ESPB Chair Dan Gooch about doing so.

Please let me know if I haven't explained things clearly here or if you need any additional information. Thanks.

1A(2)(c). Susanne Masi sent on 07/01/2013 the following email regarding the nomination.

Anne,
Yes, I do understand the process. I only received the information on 6/28 and was not able to complete the form myself that day. I wanted to get something to you by the deadline. I would like to complete the form in my own name today and just submit Ken's writeup as an attachment. If it is too late to do this because of the deadline, I guess the alternative would be for Ken to request to be on the next agenda and submit his document directly to you for inclusion in the board packet?

Regarding my other submission on Juglans cinerea, I have been in correspondence with the USFS and am trying to track down data. Since my submission was on time, is clarifying data still able to be submitted to supplement what was already submitted?

Thanks!
Susanne

Ms. Mankowski replied on 07/01/2013 to Ms. Masi with the following email:

Susanne:
Since you indicate the information in Ken's nomination will not change, then I will begin working with that as I prepare my Part 2 Plant List 1st Cut Draft recommendations document. Please let me know when I can expect a re-written form from you.

With regard to the Juglans cinera nomination – I will work with what I received by the deadline as I prepare my Part 2 Plant List 1st Cut Draft recommendations document. I will consider any other information/evidence when I work on the Final Draft of the document. Thanks.

Ms. Masi replied on 07/01/2013 with the following email:

Thanks Anne, I hope to complete the form today and will send it to you by the end of the day. Will send you Juglans info as soon as possible, but still waiting for data.

1A(2)(d). Susanne Masi sent on 07/01/2013 the following email with a revised nomination form.

Hi Anne,
Attached is my TEC recommendation form for this species, and the Ken Klick attachment (which you of course already have). I have added a couple of things based on my own research: Citations and an outline of US range andlisting status in other states. Otherwise the information is what Klick submitted.
Thanks – let me know if you have questions.

Ms. Mankowski replied in email dated 07/15/2013 that she would not recommend the species for listing at this time for the following reasons:

ESPB staff does not recommend listing Andromeda glaucophylla as endangered because of the following reasons:

It is staff opinion that the information submitted is incomplete and/or does not provide sufficient evidence regarding the following items:

- The nomination form does not include citations within text to support statements, but rather includes only statements (specifically in Sections E, F, and H).

- Appendix 1 apparently lists historic herbarium record information, but the information needs better explanation – is this the entirety of data for each occurrence (specifically, is there better location information) and herbarium abbreviations need definition.
- The nomination is incomplete in that it lists as an attachment "Plants of Concern 2013 report to be submitted" and no report was submitted.
- The nomination does not explain if any other habitat has been searched for the species; what is the evidence to support the statement that the species is found nowhere else in Illinois?

Staff questions what protection would be afforded the species by listing?

- The nomination states that the species is found nowhere else in Illinois. The single occurrence is in an IL Nature Preserve. While the species may qualify under listing criteria, listing it would not functionally protect it beyond the current protections it receives as a plant (listed or non-listed) occurring in an IL Nature Preserve.

Mankowski recommendation:
Staff recommends that the submitter consider revising/updating the nomination relative to items noted above and re-submitting it. If the nomination is revised to include necessary information by the 07/29/2013 deadline for comments/information/evidence on the Plants, Part 2, 1st cut draft document, staff will reconsider the nomination and recommendation. If the nomination is not revised, staff recommendation here will be maintained.

1B. List of any comments and evidence received from ESPB TECs by 07/29/2013 deadline for review of Part 2, Plant List 1st Cut draft proposed listing changes to Threatened and Endangered Plant Species (presented as received) and Mankowski response/notes.

Note - Compiled ESPB TEC comments and ESPB staff responses for Masi Juglans cinera lisitng nomination precede the nomination form at the end of this document.

1B (1) ESPB staff responses to ESPB TEC Susanne Masi comments on Part 2, Plant List 1st cut staff draft recommendations

1B (1)(a) Masi email of 07/18/13
Anne,
Thanks for separating this out.

On July 11, I sent you supplementary material for this (Juglans cinera) recommendation. You indicated that you would not be able to include it in your first cut, since it did not meet the deadline. My question now is whether I need to submit a revised recommendation on the TEC form, with all the same attachments, or whether the supplementary information I sent will be included in your second cut? Your email of July 11 seemed to suggest that it would be included in the second cut, but I want to make sure I do this correctly so am double checking.

Mankowski 07/22/13 response:
Susanne:
I apologize for any confusion.

According to the Board-approved process, Board members who elected to serve as TECs were not supposed to have any special access, voice, or other accommodation in this process. You have copied Chair Gooch here and so I am providing my direction to you as a TEC and if Chair Gooch elects to assign to

me a different course to accommodate you as a Board member I ask that he reply to both of us with that direction.

The nomination form was supposed to be able to serve as a stand-alone document with full explanations and inclusion of necessary information and population status and distribution citations for the Board's review and then if the Board elected to approve a nomination, for use by the Board to defend the listing decision during the rest of the List revision process. Inclusion of the supplementary information (copies of data, publications, citations, etc) was so that the Board has those resources for respective files, has copies of them if called upon to produce them, and for Board staff to do any fact-checking or quality assurance/quality control prior to developing the staff recommendation for a nomination. It was not intended that the form would include only brief statements and then have many multi-page documents as attachments and it was not intended that Board staff would be responsible for tiling together the multiple individual items nor redrafting the nomination to meet Board needs.

My recommendation to you was and is to revise your TEC nomination form appropriately and submit what you consider to be a complete and fully explained nomination form along with the supplemental documents.

While not a privilege that we have afforded any other TEC in this process, if you elect to not revise your TEC nomination form, then if time allows I will tile together all of the individual items that you have sent as supplemental documentation and append them to your nomination form. In that case I will not plan to consider a change in my recommendation, but since the Board will be provided all of your information, they will be able to evaluate it themselves and decide whether it needs revision and if so, how that revision will take place.

Thanks.

1B (1)(b) Masi email of 07/22/13

Anne,
Attached is the Plants of Concern report on Andromeda glaucophylla recently submitted by Ken Klick following his discovery of this species at Fourth Lake Fen in Lake County, IL.

Ken is following up with the Board directly with additional information and discussion to support the recommendation to add this extremely rare species in Illinois to the list of Endangered Species.

Mankowski 07/22/13 response:

Susanne:
The nomination form was supposed to be able to serve as a stand-alone document with full explanations and inclusion of necessary information and population status and distribution citations for the Board's review and then if the Board elected to approve a nomination, for use by the Board to defend the listing decision during the rest of the List revision process. Inclusion of the supplementary information (copies of data, publications, citations, etc) was so that the Board has those resources for respective files, has copies of them if called upon to produce them, and for Board staff to do any fact-checking or quality assurance/quality control prior to developing the staff recommendation for a nomination. It was not intended that the form would include only brief statements and then have many multi-page documents as attachments and it was not intended that Board staff would be responsible for tiling together the multiple individual items nor redrafting the nomination to meet Board needs.

You indicate that Ken Klick will follow up with the Board directly with additional information and discussion to support the nomination. The process for someone other than a TEC to address the Board

has been provided to everyone on this email string, so I will take that to mean that Ken will request an agenda item at the November meeting according to direction previously provided him and I will remove this species from current consideration. Ken can use his revised nomination form to present to the Board when he does.

The direction provided here is consistent with the Board-approved process and addresses you as a TEC. As part of that process, Board members who elected to serve as TECs were not supposed to have any special access, voice, or other accommodation in this process. If you wish to have some other accommodation as a Board member, then I ask that you please make your request directly to ESPB Chair Gooch who can decide whether to allow some alternate arrangement or assign to me a different course to accommodate your request. I have copied Chair Gooch here for his reference and for him to reply to you and I as appropriate. In order to eliminate a conflict with the Open Meetings Act, if any Board member included in this string wishes to engage in further email discussion on this string, please do not include all three members at the same time.

Thanks.

Mankowski 08/02/13 response to Masi 07/23/13 comments introductory note: Thank you for the time you put into reviewing the document and preparing comments. Staff responses to comments are prepared and presented in the format of a regulatory comments/response to comments framework. In some cases the same response or portions of it have been repeated for more than one comment, as appropriate. The Board appreciates and considers expert comments and information as a level of evidence, but please note that mention of a document, reference, or species occurrence may not constitute evidence necessary for Board action, since Board listing decisions are required to be based on scientific evidence. All ESPB TEC comments that are germane to the current document and staff responses will be presented together in the front section of the Part 2, Plant List 1st Cut final document; and, germane ESPB TEC comments and staff responses will also be added to respective species reviews when ESPB TEC comments and recommendations were contrary to staff recommendations. For some species, ESPB TEC comments caused staff to be less convinced of staff recommendations, but they were maintained so that staff can gain feedback from the Board for use when reviewing the remaining species. While ESPB TEC comments may not have persuaded staff to change the staff recommendation for a species, Board members will have access to all germane ESPB TEC comments, staff responses, and species reviews when they review the information and discuss and vote on listing decisions during the August 16, 2013 Board meeting.

1B (1)(c) Masi email of 07/23/13

I recommend that *Isoetes butleri* be maintained as Endangered for the following reasons.

Plants of Concern has monitored this species at 4 of the 7 historically reported sites in Will and DuPage Counties:

Midewin National Tallgrass Prairie (Will)
Dellwood Park/Lockport Prairie East (Will)
Waterfall Glen (Dupage – also called New Avenue site
Blodgett Road Dolomite Prairie (Will)

A 5th site from the Natural Heritage Database, Durkee Road, is now extirpated. Eric Ulaszek, Horticulturist at Midewin National Tallgrass Prairie, reports that the Durkee Road population "has been gradually destroyed over the years. The last time we saw an Isoetes out there was in 2011, one plant ….Now all the Isoetes habitat is destroyed by the concrete facility" (Email correspondence, July 18, 2013 and attached photo– the remaining *Isoetes* habitat was in the black graded area in the photo.)

A 6th site, Mobile Oil Property, last reported in 1997, is believed to be now destroyed, in part by installation of a new pipeline (2010-2011). (Email correspondence from Eric Ulaszek, July 18, 2013).

A 7th site, Des Plaines Dolomite Prairie population, not reported on since 2007 when it was observed, but not censused, is "evidently still present," according to Ulaszek. (Email correspondence, July 18, 2013).

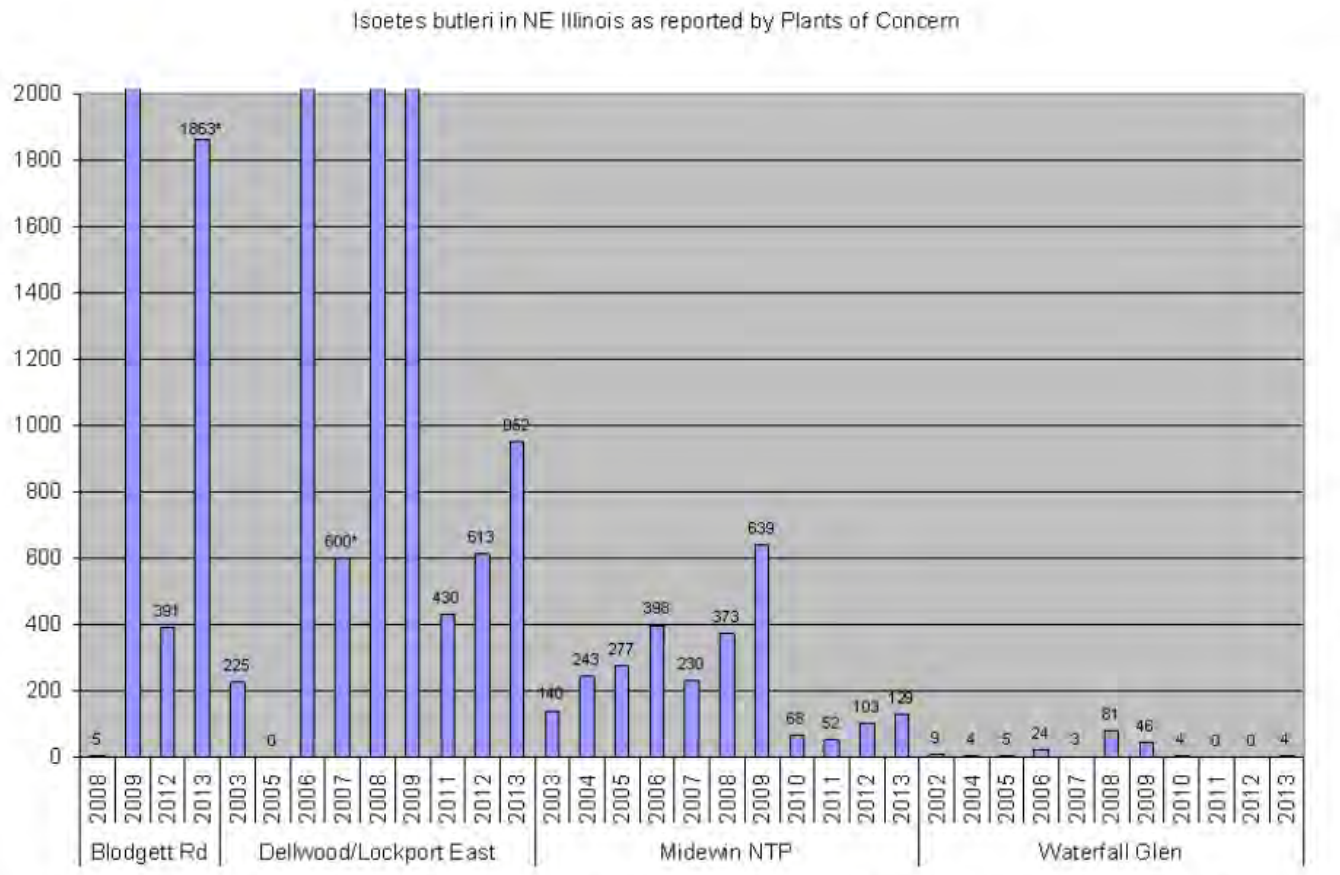
Although the number of sites has increased from one in 1994 to 5 (remaining) in 2013, this is an extremely rare plant in Illinois and at the northern edge of its range in NE IL. The Waterfall Glen population has declined from a peak of 81 plants in 2008 to 4 in 2013, and is at high risk. The Midewin population has declined from a peak of 639 plants in 2009 to 129 in 2013. The Dellwood Park/Lockport East populations and the Blodgett Road Dolomite Prairie populations are robust. With only 2-3 sustainable populations (the Des Plaines population size has not been reported since before 2002) - far fewer than EOR numbers for some other Illinois Endangered species - this species merits being maintained as Endangered.

See spreadsheet and chart below for details of the Plants of Concern reports for 2012 and 2013, from the Plants of Concern database. Information from this database is shared each year with the Illinois Natural Heritage Database.

Isoetes butleri in NE Illinois as reported by Plants of Concern: 2012-2013

			2012 Monitoring		2013 Monitoring	
Site (County)	EOR	# of Subpops *	Total #	Threats	Total #	Threats
Blodgett Road Dolomite Prairie (Will)	36*2	4	392	Invasive Woody Brush Encroachment (1-25%)	1863	Invasive Woody Brush Encroachment (1-25%)
Midewin NTP (Will)	742*3	5	103	Invasive Woody Brush Encroachment (1-25%), heavy duff buildup	129	Invasive Woody Brush Encroachment (1-25%), Duff
Dellwood Park West NP/Lockport Prairie East (Will)	148*0	1	753	Invasive Woody Brush Encroachment (1-25%)	952	Invasive Woody Brush Encroachment (1-25%)
Waterfall Glen (DuPage)	4878*6	1	0	Invasive Woody Brush Encroachment (1-25%), Poa compressa (81-100%)	4	Invasive Woody Brush Encroachment (1-25%), Poa compressa (81-100%)

*Subpopulation is a separate grouping of plants within a larger population area.



- * = Estimated Population Count. Estimates for Blodgett Road for 2009: 6264; for Dellwood 2006: 11,521; 2008: 8568; 2009: 4454. All other numbers represent actual counts.

Mankowski response: In approving the process and schedule for this current List review, the Board agreed that data from the Database would be its primary data source and any other data needs to be submitted to and entered into the Database in order for the Board to consider it. The Board agreed that Database data into the 2012 season would be considered. The schedule for ESPB staff coordination with the Database called for a ESPB staff to get a Database update in February 2013 to use in developing the majority of, if not all, plant species reviews. According to the Database, the Plants of Concern (POC) program submitted its 2012 data to the Database in March 2013, so it was not included in Part 1 or Part 2 of the Plant list 1st cut reviews. The Database is understaffed and often operates with a backlog of data to be entered. The POC 2012 data had still not been entered into the Database when ESPB staff received in July 2013 another update from the Database that will be used to complete the Plant list review. So, the POC 2012 data is not reflected in the Database information included in the ESPB staff species reviews or recommendations – this was the same case for INHS/IDNR 2012 fish data. While the Board has agreed to consider 2013 survey data that has been submitted for a few species that were recommended for delisting, the subject species is not recommended for delisting. ESPB staff recommends that the 2013 data should not be considered in the current review since this is the same standard applied to all other plant species reviewed, with the exception of a few that were proposed for delisting.

The commenter uses some different names for EOs so it is unclear how the site data correlate to EOs. While it is appreciated that the commenter provides anecdotal information that two EOs (?) may now be extirpated, that determination needs to be made/confirmed by the Database. The commenter's 2012 data may indicate a reduction in the number of individuals at four locations as compared to the Database numbers cited in the ESPB staff species review notes and recommendation. However, the commenter's 2013 data also indicates a significant increase from 2012 in the number of individual in each of the same

locations. Upon review of the commenter's data ESPB staff is not persuaded to change the ESPB staff notes and recommendation and maintains the recommendation for changing the status from endangered to threatened.

1B (1)(d) Masi email of 07/23/13

In deliberating the recommendation to upgrade *Polygonatum pubescens* to Threatened status, please consider the following information provided by the Plants of Concern program for the 2012 and 2013 data season and by the Chicago Botanic Garden surveys of 1999. The data is included in the spreadsheet below, based on records in the Plants of Concern database. These records are reported each year to the Illinois Natural Heritage Database.

Plants of Concern monitors 8 EORs of *Polygonatum pubescens* and has informal 2013 reports on 2 additional, new populations. A 1999-2000 survey by the Chicago Botanic Garden monitored an additional three populations. Of these **combined** populations:

2 populations were searched and not found, and are considered extirpated.
4 populations had fewer than 20 plants.
6 populations had fewer than 60 plants.
Most populations had low reproductive rates.
4 populations were impacted by moderate to severe erosion.

Polygonatum pubescens in NE Illinois as reported by Plants of Concern: 2012-2013

5 of 10 populations < 60 plants; 3 populations < 20 plants; 1 population extirpated; low reproductive rates; 4 populations threatened by erosion/severe erosion

Site (County)	EOR	Nature Preserve?	Subpop #	2012 Monitoring			2013 Monitoring		
				Total #	% Reproductive	Biggest Threat to Subpop	Total #	% Reproductive	Biggest Threat to Subpop
Edgebrook Woods (Cook)	487*5	No	1	N/A	N/A	N/A	Present		16 plants reported in 2010; Severe Erosion
Fort Sheridan Forest Preserve (Lake)	3381*1	No	1	1515	14%	Erosion (26-50%)	N/A		
			2	4	50%	Erosion (26-50%)	N/A		
			8	8	25%	Erosion (26-50%)	N/A		
			9	7	0%	Erosion (26-50%)	N/A		
Harms Woods (Cook)	3809*6	No	1	N/A	N/A	N/A	present		
			2	85	27%	Authorized Trail Impact (76-100%)	N/A		
			3	69	17%	Authorized Trail Impact (26-50%)	N/A		
Lake Ave. Woods East (Cook)	850*8	No	1	212	4%	Invasive Woody Brush Encroachment < 1m tall (76-100%)	298	3%	Invasive Woody Brush Enroachment < 1m tall (76-100%)
MacArthur Woods (Lake)	POC-POPU4*21 3	Yes	1	7	0%	None	Present		

			2	16	0%	None	Present		
			3	33	0%	None	Present		
Openlands Lakeshore Preserve (Lake)	POC-POPU4*383	Yes	1	10	0%	Invasive Woody Brush Encroachment > 1m tall (26-50%)	11	18%	Invasive Woody Brush Encroachment > 1m tall (1-25%), Deer Browse (1-25%), Erosion (1-25%)
Queen Anne Cemetery (McHenry)	POC-POPU4*436	No	1	N/A	N/A	N/A	0	0%	Historic EOR; searched not refound
St. Paul Woods	3041*3	No	1	N/A	N/A	N/A	~ 10		14 reported in 2010; Severe Erosion
New 2013; reports pending									
Ryerson Conservation Area							100		email correspondence K. Klick
Wright Woods							50		email correspondence K. Klick
1999 searches by Chicago Botanic Garden Project									
(last time reported to NH Database)									
1 population 30 plants; 1 population < 15 plants; 1 population extirpated									
Busse Woods (Cook)			30			1999			
Carle Woods (Kloempken; Cook)			0			1999			
Clayton Smith Woods (Cook)			14			1999			

At this point I am not making a specific recommendation to maintain *Polygonatum pubescens* as Endangered, but suggest that Board and TEC members to consider these factors in their decision/response.

Mankowski response: In approving the process and schedule for this current List review, the Board agreed that data from the Database would be its primary data source and any other data needs to be submitted to and entered into the Database in order for the Board to consider it. The Board agreed that Database data into the 2012 season would be considered. The schedule for ESPB staff coordination with the Database called for a ESPB staff to get a Database update in February 2013 to use in developing the

majority of, if not all, plant species reviews. According to the Database, the Plants of Concern (POC) program submitted its 2012 data to the Database in March 2013, so it was not included in Part 1 or Part 2 of the Plant list 1st cut reviews. The Database is understaffed and often operates with a backlog of data to be entered. The POC 2012 data had still not been entered into the Database when ESPB staff received in July 2013 another update from the Database that will be used to complete the Plant list review. So, the POC 2012 data is not reflected in the Database information included in the ESPB staff species reviews or recommendations – this was the same case for INHS/IDNR 2012 fish data. While the Board has agreed to consider 2013 survey data that has been submitted for a few species that were recommended for delisting, the subject species is not recommended for delisting. ESPB staff recommends that the 2013 data should not be considered in the current review since this is the same standard applied to all other plant species reviewed, with the exception of a few that were proposed for delisting.

The commenter does not explain how the data presented relates to EOs in the Database. There are 9 EOs in the Database, but the commenter's data mentions monitoring 8 EOs, finding 2 new EOs, and then monitoring 3 additional locations – so it is unclear if/how these correlate to EOs. Further, while it is appreciated that the commenter states that two EOs (?) are now considered extirpated, that determination needs to be made/confirmed by the Database. Board staff elected to not dedicate very much time to trying to cross-reference data between the commenter's submittal and the Database, but upon review of the commenter's data ESPB staff is not persuaded to change the ESPB staff notes and recommendation and maintains the recommendation for changing the status from endangered to threatened.

1B (2) ESPB staff 08/02/13 responses to ESPB TEC Beth Shimp 07/24/13 and 07/26/13 comments on Part 2, Plant List 1st cut staff draft recommendations

Mankowski introductory note: Thank you for the time you put into reviewing the document and preparing comments. Staff responses to comments are prepared and presented in the format of a regulatory comments/response to comments framework. In some cases the same response or portions of it have been repeated for more than one comment, as appropriate. The Board appreciates and considers expert comments and information as a level of evidence, but please note that mention of a document, reference, or species occurrence may not constitute evidence necessary for Board action, since Board listing decisions are required to be based on scientific evidence. All ESPB TEC comments that are germane to the current document and staff responses will be presented together in the front section of the Part 2, Plant List 1st Cut final document; and, germane ESPB TEC comments and staff responses will also be added to respective species reviews when ESPB TEC comments and recommendations were contrary to staff recommendations. For some species, ESPB TEC comments caused staff to be less convinced of staff recommendations, but they were maintained so that staff can gain feedback from the Board for use when reviewing the remaining species. While ESPB TEC comments may not have persuaded staff to change the staff recommendation for a species, Board members will have access to all germane ESPB TEC comments, staff responses, and species reviews when they review the information and discuss and vote on listing decisions during the August 16, 2013 Board meeting.

1B (2)(a) Shimp email of 07/24/13

Hi Anne,
You have put together an incredible amount of information for us and it's greatly appreciated. My reality check is that I allow EOs to slip documentation in the Bio Cons Database. I will work harder at getting forms submitted. I need to slow down and make the office time more productive.

I reviewed all of the comments/data presented for those species in southern Illinois that I am familiar with. I believe that you are right on with your determinations/proposals. I have nothing to add but I have one question;

who do I contact for the E&T Species of Illinois? Is it still John Ebinger or Jim Herkert? We need to straighten out the dot map and information for Asclepias meadii since native populations only are extant in Saline County. The Henry and DuPage County records are experimental restoration plantings and the Ford County population is extirpated. Maybe we can use a different symbol like an "X" for experimental plantings.

Anyway, thank you for the opportunity to review the lists and proposals. Take care and keep up the great work.

> Mankowski response: Comments noted. No data or documentation further informing staff recommendation was provided.
> With regard to your question about the ESPB Status and Distribution publications, while Jim Herkert and John Ebinger were editors of the respective publication that includes this species' account, the documents are ESPB productions, so inquiries about updating information in the documents should be directed to Board staff (me). The Board traditionally produced an updated Status and Distribution publication following each 5-year review, but has not had the capacity to continuing doing so for many years. Moving forward, the Board has not identified the continued production of these publications as a priority anytime in the foreseeable future. At a time when the Board does decide to produce updates to these documents, or some similar product, all information in them will be updated. With regard to your comments about native populations versus plantings/experimental populations, please note that while the Federal Endangered Species Act has provisions for experimental populations, the Illinois Endangered Species Protection Act does not and any occurrence of a state-listed species, naturally occurring nor not, receives the same protections under the Illinois law.

1B (2)(b) Shimp email of 07/26/13

Anne,
I failed to mention that I whole-heartedly agree with the proposal submitted to list Juglans cinerea. I rarely encounter it on the Forest, rarely. In going to a site years ago where a tree persisted in Burke Branch RNA, I found that it was gone… likely fallen into the creek and decayed away as it was leaning into the creek when discovered by Eric Ulaszek and Dan Spivey over 15 years ago. Ice storms and blowdowns definitely contributed to the demise of several tree species in this area of south Pope County.

I had J. cinerea listed as Regional Forester's Sensitive several years ago for the Shawnee National Forest. I know that several other Forests in Region 9 also have it listed and protected.

> Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. As explained in the Part 2, Plant list 1st cut draft document, staff recommendation for not adding the species to the List is because the nomination form did not provide adequate justification through evidence and explanation. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

1B (3) ESPB staff 08/02/13 responses to ESPB TEC Chris Benda 07/29/13 comments on Part 2, Plant List 1st cut staff draft recommendations

> Mankowski introductory note: Thank you for the time you put into reviewing the document and preparing comments. Staff responses to comments are prepared and presented in the format of a regulatory comments/response to comments framework. In some cases the same response or portions of it have been repeated for more than one comment, as appropriate. The Board appreciates and considers

expert comments and information as a level of evidence, but please note that mention of a document, reference, or species occurrence may not constitute evidence necessary for Board action, since Board listing decisions are required to be based on scientific evidence. All ESPB TEC comments that are germane to the current document and staff responses will be presented together in the front section of the Part 2, Plant List 1st Cut final document; and, germane ESPB TEC comments and staff responses will also be added to respective species reviews when ESPB TEC comments and recommendations were contrary to staff recommendations. For some species, ESPB TEC comments caused staff to be less convinced of staff recommendations, but they were maintained so that staff can gain feedback from the Board for use when reviewing the remaining species. While ESPB TEC comments may not have persuaded staff to change the staff recommendation for a species, Board members will have access to all germane ESPB TEC comments, staff responses, and species reviews when they review the information and discuss and vote on listing decisions during the August 16, 2013 Board meeting.

Hi Anne,

Here are my copy-ready comments regarding the ESPB staff listing status recommendations for Part 2, 1st cut Plant list review. Please use whatever you find relavant. Thank you for the opportunity to comment.

Matelea obliqua – I have updated this species at several locations in southern Illinois and am also aware of a large population I have not observed at Whoopie Cat Glade in Hardin County. I support the status change.

Mankowski response: Comments noted. No data or documentation further informing staff recommendation was provided. Comments will not be added to species review.

Oenothera perennis – I have observed this species at one site this year but have not submitted an EO for it yet. This location was an update and not a new record but there were dozens of individuals through the prairie. I have heard of many successful forays for this species this year where many individuals and populations have been documented. I hope that information is making it into the database and I support the status change.

Mankowski response: Comments noted. No data or documentation further informing staff recommendation was provided. Comments will not be added to species review.

Notes on other species on the list:

Larix laricina – It is not clear to me why this species is on the list. It is not truly rare, but rather a project of geographical boundaries. Additionally, are the extant populations really at risk or are they protected in dedicated nature preserves? Also, Mohlenbrock (2002) lists this species as *Larix decidua* and has *Larix laricina* as European Larch, although I haven't since any other authors reflect this change, perhaps it is an error?

Mankowski response: With regard to nomenclature, according to NatureServe Larix laricina (Tamarack) is the native species and Larix decidua (European Larch) is the non-native species. It appears the Mohlenbrock designation may be an error. With regard to the Board's decision to initially list the species, as an edge of range species with limited distribution in Illinois and that occurs in specialized habitats, the species met criteria sufficient for the Board to list it. In addition to other factors, the Board takes into consideration the number of protected occurrences when making listing decisions. While ESPB staff has under other species' recommendation provided comment for Board consideration that questions the functional protection afforded a species proposed for initial listing if all occurrences are in protected in Nature Preserves, the Board makes the listing decisions. When not all occurrences are protected for a currently listed species, the Board may consider that there is still need for formal habitat protection of some or all of the unprotected occurrences before upgrading the listing status. At the time of initial listing for Larix laricina, there was known occurrence information sufficient to establish two EOs and since then

three additional EOs have been added for the species. Currently, four of the five EOs occur on protected habitats.

Cimicifuga rubifolia – This one was covered in the part 1 review I believe but I recently obtained a copy of a report on this species from 1999 and it has some interesting information. It lists 26 populations in 7 counties and says that "most sites were relatively stable." It goes on to state that "Illinois has been found to have the second largest number of populations for all states of occurrence." The author goes on to state that the species should remain threatened "for maintaining genetic diversity." While this species is clonal and so genetic diversity may be low at any given location, it does not appear to be in eminent danger of extinction and should remain as threatened. I do not support the status change.
Citation: Miller, Terry R. 1999. Status of Cimicifuga rubifolia Kearney, Black Cohosh or Appalachian Bugbane, in Illinois. Prepared for Illinois Department of Natural Resources, Wildlife Preservation Fund, June 1999-June 2000.

Mankowski response: TEC comments should be limited to the species included in the document currently under review. ESPB TECs have already had opportunity to comment on this species review and the Board has already discussed and voted on a preliminary listing status decision. ESPB staff provides some additional response here and the commenter is referred back to the species review and ESPB staff "notes and recommendations" from the Part 1, Plant list 1st cut final recommendations document. The cited publication generated data that should have been entered into the Database and should have been considered in previous List reviews. The data from that publication is dated to no later than 1999 and despite the considerable spike in observations reported then, the number of observations during the last two 5-year intervals represents a significant and sustained reduction – only 5 total EOs observed, versus 12 known occurrences at the time of initial listing as threatened in 1994.
If the commenter wishes to address the Board regarding a species' listing status outside of the Board approved ESPB TEC process and in accordance with the respective laws and regulations, that can be done in any of the ways that ESPB staff has explained to TECs during this List review process and that are provided again below.

Request to address the Board as an agenda item at any Board meeting open to the public. The request and all supporting documentation needs to be received by Board staff at least 30 days prior to the meeting. Board staff advise the Board's Chair of the request, and when the Chair approves an agenda for the meeting, Board staff will follow-up with the requester to let them know whether or not the requested item has been added to the agenda. If the requested item has not been added for the next meeting, the requester will be provided an explanation of why and direction for resubmitting their request for a subsequent meeting and for alternate means of addressing the Board. The Board may engage in discussion and may take action on presentations made as agenda items during the meeting.

Address the Board as a public comment at any Board meeting open to the public. Anyone can address the Board during the 3-minute public comment period offered at every meeting open to the public. No advance notice of intent is necessary. The Board accepts comments, but does not engage in discussion and will not take action on comments during the public comment period. The Board may elect to further address the comment at a later time.

Address the Board during the public hearing period held prior to the Board finalizing changes to the List. The public hearing period is held after the Board confirms preliminary approval and before it confirms final approval for any changes to the List. The public hearing period spans two weeks and consists of a physical meeting at the beginning of the period made open to the public and then a subsequent comment period to accept written comments. The Board accepts comments, but does not engage in discussion and will not take action on comments during the public hearing period. Following the public hearing period, the Board reviews comments received and explains its final decisions in a subsequent Board meeting open to the public.

1B (4) ESPB staff 08/02/13 responses to ESPB TEC Randy Nyboer 07/29/13 comments on Part 2, Plant List 1st cut staff draft recommendations

Mankowski introductory note: Thank you for the time you put into reviewing the document and preparing comments. Staff responses to comments are prepared and presented in the format of a regulatory comments/response to comments framework. In some cases the same response or portions of it have been repeated for more than one comment, as appropriate. The Board appreciates and considers expert comments and information as a level of evidence, but please note that mention of a document, reference, or species occurrence may not constitute evidence necessary for Board action, since Board listing decisions are required to be based on scientific evidence. All ESPB TEC comments that are germane to the current document and staff responses will be presented together in the front section of the Part 2, Plant List 1st Cut final document; and, germane ESPB TEC comments and staff responses will also be added to respective species reviews when ESPB TEC comments and recommendations were contrary to staff recommendations. For some species, ESPB TEC comments caused staff to be less convinced of staff recommendations, but they were maintained so that staff can gain feedback from the Board for use when reviewing the remaining species. While ESPB TEC comments may not have persuaded staff to change the staff recommendation for a species, Board members will have access to all germane ESPB TEC comments, staff responses, and species reviews when they review the information and discuss and vote on listing decisions during the August 16, 2013 Board meeting.

Recommendation for listing *Juglans cinerea* L. as IL-E. I do not think this species should be considered for listing to the Illinois List. While I agree with Ms. Masi's concern over the decline of this species in Illinois due largely to the Butternut Canker, this tree is still too common to be considered for listing. This spring alone it occurred in the sampling data as mature trees with seedlings and saplings in two INAI quality mesic forests and one mesic woodland in JoDaviess County. This species has a statewide distribution and during the INAI Update, a number of non-infected occurrences were observed. This species is also considered as a renewable, harvestable forest resource by the Division of Forestry. The American Chestnut (*Castanea dentata*) was once listed by the Board because of the Chestnut Blight, but also because the American Chestnut had only a few naturally occurring locations in the state. I really don't see how listing *Juglans cinerea* will ever improve the condition of this tree.

Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

At some point, the Board/Plant TECs need to come to an agreement on population sizes of EOs that would be considered as "conservation safe" for species. There is a number of EOs with such small population sizes, they should hardly be considered as EOs.

Mankowski response: Comments noted. The data maintained by the Database is used by multiple parties and for multiple reasons. An element occurrence (EO) for an endangered or threatened species = the occurrence of the species (one or more individuals) and under the IL Endangered Species Protection Act every individual of a listed species receives the same protections, so every EO is equally relevant relative to the provisions of the Act that address protection and enforcement.

With regard to the Board using the EO data, the ESPB identifies the data in the Database as its primary data source in conducting the List review for several reasons including: to meet its evidentiary burden under the ESPA; to utilize the standardization and quality assurance/quality control of the data

performed by the Database; and, to promote and support consistency across interagency programs since the Database data is also supposed to be used by the IDNR to inform E&T consultation, E&T incidental take authorizations, E&T possession permit issuance, E&T law enforcement, and E&T recovery planning and habitat protection. In this way, the Board is using and contributing to the same information when making listing decisions and developing recovery planning documents as is used by the IDNR in administering other provisions of the ESPA.

The ESPB List review documents acknowledge that EOs represent one or more local individuals and that EO surveillance and reporting is generally not standardized nor consistent enough to answer many questions including those about population sizes and viability. The Board has discussed over many years the need for more robust data, more detailed population information, and approved status review triggers or recovery goals identified for every listed species. Unfortunately the Board does not have the resources to address these needs. Be assured, the Board will continue to discuss and try to address improvements of the EO data and the List review process.

1B (5) ESPB staff 08/02/13 responses to ESPB TEC John Taft 07/29/13 comments on Part 2, Plant List 1st cut staff draft recommendations

Mankowski introductory note: Thank you for the time you put into reviewing the document and preparing comments. Staff responses to comments are prepared and presented in the format of a regulatory comments/response to comments framework. In some cases the same response or portions of it have been repeated for more than one comment, as appropriate. The Board appreciates and considers expert comments and information as a level of evidence, but please note that mention of a document, reference, or species occurrence may not constitute evidence necessary for Board action, since Board listing decisions are required to be based on scientific evidence. All ESPB TEC comments that are germane to the current document and staff responses will be presented together in the front section of the Part 2, Plant List 1st Cut final document; and, germane ESPB TEC comments and staff responses will also be added to respective species reviews when ESPB TEC comments and recommendations were contrary to staff recommendations. For some species, ESPB TEC comments caused staff to be less convinced of staff recommendations, but they were maintained so that staff can gain feedback from the Board for use when reviewing the remaining species. While ESPB TEC comments may not have persuaded staff to change the staff recommendation for a species, Board members will have access to all germane ESPB TEC comments, staff responses, and species reviews when they review the information and discuss and vote on listing decisions during the August 16, 2013 Board meeting.

Comments regarding preliminary approval

While most of the account for preliminary approval meets my recollection, there are a few exceptions. Please confirm from the public record the following:

Asclepias stenophylla (reported preliminary approval - E to T). My recollection of the discussion at the May meeting was that the recent hill prairie survey work and limited number of populations and counties of occurrence, combined with the ongoing severe threat of woody encroachment in hill prairie habitat, suggested E was the most suitable status for this milkweed.

Elymus trachycaulus (reported preliminary approval - T to E). The discussion contributed by Susanne and me on this proposed change suggested this grass was locally common in Lake County. It is increasing at the North Chicago Wetland Mitigation Site (data not yet available) and the EOR is on record in the Heritage Database, though not updated each year. Sometimes species have been moved from E to T prematurely; I want to be sure this is justified.

Platanthera flava var. *flava* (reported preliminary approval - delist). It would be more accurate to say this taxon, as with *P. flava* var. *herbiola*, will be treated with a nomenclatural change to *Platanthera flava*, rather to indicate the decision was to delist the much rarer taxon.

> Mankowski response – After the 07/15/13 distribution to ESPB TECs of the list of Board preliminary approvals from the May 17, 2013 ESPB meeting, staff found three errors in the list when reviewing the meeting recording to prepare draft minutes. Those errors are corrected in the revised list of Board preliminary approvals from the May 17, 2013 ESPB meeting that will be included in the email distribution of ESPB staff Part 2, Plant list 1st cut staff final recommendations that should be sent 08/02/13. The corrections address Asclepias stenophylla, but not the others that you mention: P. flava var. flava was delisted and P. flava var. herbiola underwent nomenclature change to P. flava, your proposal would actually leave two taxa on the List with the same nomenclature; and, E. trachycaulus was changed from threatened to endangered. Commenter will need to refer to the final minutes from the meeting to see any discussion that was included relative to those listing decisions.

Comments regarding Part 2 of 1st cut for Plants

SPECIES PROPOSED FOR LISTING

Andromeda glaucohylla – Bog rosemary, a distinctive and easily recognized small shrub, is known from a single extant population in Illinois, discovered by Ken Klick during 2013. Any time a species occurs as a single population, whether in a protected area or not, it is at risk due to the potential for stochastic events. This is particularly true for species at the southern edge of their midwestern geographic ranges due to climate change and true also for peatland specialists due to the sensitivity of the habitat. The herbarium records reported in the proposal for listing are the total sum of known observations of this species from Illinois and indicate this species has not been seen in the state for over 100 years. The herbaria acronyms are: ILL = University of Illinois, ISM = Illinois State Museum). Its peatland habitats (bog, floating mat) are well known and fairly extensively surveyed and this species has not been observed (e.g., Sheviak and Haney 1973; Taft and Solecki 1990). This important discovery merits our attention and listing as an endangered species.

> Mankowski response – ESPB staff engaged in a good deal of email correspondence regarding this nomination, many of which the commenter was copied on. ESPB staff sent email to Ms. Masi on 07/22/13 advising that the nomination for this species will be removed from current consideration and that Mr. Klick could address the Board with his recommendation in any of the ways for any individual to address the Board, which were explained in previous ESPB staff email correspondence. The commenter is advised to work directly with Mr. Klick to contribute to the development of a nomination.

Juglans cinerea – Butternut or white walnut, prone to the butternut canker and in decline throughout its range, is an excellent example of the need for a selective Watch List for tracking population trends for species at risk of rapid decline. We formerly saw this tree a scattered localities in Jo Daviess County but have not been back to confirm status. However, because it was on an informal Watch List that existed at the time, we reported the occurrences to the IDOT and IDNR in the course of our observations. With no informal Watch List, such observations have gone unreported to the Heritage Database. Since the Jo Daviess County observations in the early 1990s, in the past 20 years I have seen 1 and 2 naturally occurring trees only, in Kendal and Lake counties, respectively.

> Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. As explained in the Part 2, Plant list 1st cut draft document, staff recommendation for not adding the species to the List is because the nomination form did not provide adequate justification through evidence and explanation. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

SPECIES WITH STATUS CHANGE RECOMMENDATIONS

Species recommended for a change in status from T to E (*Lechea intermedia*) and species recommended for change in status from E to T (*Isoetes butleri*, *Oxalis illinoensis*, *Polygonatum pubescens*) are not obviously different based on variables in the Heritage Database (Table 1). For example, *Lechea intermedia* has 5 protected populations while the other have up to 1; Oxalis has not been seen since 2003 (*Lechea* not since 2005); *Lechea* is known from a greater or equal number of EORs (N = 9) and a greater number of quad sheets compared to the others. Survey effort likely is unknown but observations of known populations tend to be underreported in the database. Perhaps no change is warranted for all these taxa (there is little evidence of recovery for the E to T recommendations while at the same time, little convincing evidence for a decline in the T to E).

Literature Cited

Sheviak, C. and A. Haney. 1973. Ecological interpretations of the vegetation patterns of Volo Bog. Lake County, Illinois. Trans. Illinois State Acad. Sci. 66: 99-112.

Taft, J. B., and M. K. Solecki. 1990. Vascular flora of the wetland and prairie communities at Gavin Bog and Prairie Nature Preserve, Lake County, Illinois. Rhodora 92: 142-165.

Mankowski response: Comments noted. No data or documentation supporting contrary recommendation was provided, rather the commenter restated information that ESPB staff provided in Table 1 of the Part 2, Plant list 1st cut draft document. Comments will not be added to species reviews. It appears the commenter did not review the individual species review or the respective "notes and recommendations" prepared by ESPB staff, since no reference is made to those accounts. It is recommended that the commenter review the individual species reviews and respective ESPB staff "notes and recommendations" for explanation of staff listing recommendations for the subject species. Staff maintains draft document recommendations for all four species.

2. ESPB staff listing status recommendations for Part 2, 1st cut Plant list review

Endangered to threatened:	Isoetes butleri	Butler's Quillwort
	Oxalis illinoensis	Illinois Wood Sorrel
	Polygonatum pubescens	Downy Solomon's Seal
Threatened to endangered:	Lechea intermedia	Pinweed
Remove from endangered:	Paspalum dissectum	Bead Grass
Remove from threatened:	Liatris scariosa var. nieuwlandii	Blazing Star
	Matelea obliqua	Climbing Milkweed
	Oenothera perennis	Small Sundrops
Add as endangered:	None (TEC recommendation to list Juglans cinera, Butternut – see attached, beginning page 152)	
Add as threatened:	None	

No listing status change recommended: (data do not warrant change)

Hymenopappus scabiosaeus	Old Plainsman
Hypericum adpressum	Shore St. John's Wort
Iresine rhizomatosa	Bloodleaf
Juncus alpinus	Richardson's Rush
Juniperus communis	Ground Juniper
Larix laricina	Tamarack
Lathyrus ochroleucus	Pale vetchling
Lespedeza leptostachya	Prairie Bush Clover
Lonicera flava	Yellow Honeysuckle
Luzula acuminata	Hairy Woodrush
Lycopodium clavatum	Running Pine
Lycopodium dendroideum	Ground Pine
Matelea decipiens	Climbing Milkweed
Melanthium virginicum	Bunchflower
Melothria pendula	Squirting Cucumber
Menyanthes trifoliata	Buckbean
Mimulus glabratus	Yellow Monkey Flower
Minuartia patula	Slender Sandwort
Nothocalais cuspidata	Prairie Dandelion
Orobanche ludoviciana	Broomrape
Penstemon grandiflorus	Large Flowered Beard Tongue
Penstemon tubaeflorus	Tube Beard Tongue
Phaeophyscia leana	Lea's Bog Lichen
Planera aquatica	Water Elm
Plantago cordata	Heart-leaved Plantain
Platanthera clavellata	Wood Orchid
Platanthera flava++	Tubercled Orchid++
Platanthera leucophaea	Eastern Prairie Fringed Orchid
Platanthera psycodes	Purple Fringed Orchid
Poa alsodes	Grove Bluegrass
Poa wolfii	Wolf's Bluegrass
Pogonia ophioglossoides	Snake-mouth
Polygala incarnata	Pink Milkwort

Polygonum careyi	Carey's Smartweed
Populus balsamifera	Balsam Poplar
Potamogeton gramineus	Grass-leaved Pondweed
Potamogeton praelongus	White-stemmed Pondweed
Potamogeton robbinsii	Fern Pondweed
Quercus montana	Rock Chestnut Oak
Quercus phellos	Willow Oak

++ = The ESPB voted at the 05/17/2013 meeting to combine varieties flava and herbiola and the species Platanthera flava will be listed as threatened. The proposed change is not official at this time; it would become official if it is continued through the entire statutorily required List revision process. For the purposes of this species review, the species P. flava is generally reviewed using combined data for the two varieties.

Table1. Currently listed species – last observed, total occurrences, total seen since Jan 2002, # of protected occurrences, # of topographic quads with occurrences (Illinois Natural Heritage Biotics 4 Database, February 2013).

Any species in light blue type was reviewed in the Plant List, Part 1 review that was discussed at the ESPB 158 mtg, held May 17, 2013

Yellow Cells

Species with 4 or fewer EOs and with observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. Staff recommendation is for no listing status change based on the low number of EOs, observation within the last 20 years, and habitat for species with no protected EOs has not been destroyed. No individual review produced.

Red Cells

Species with 4 or fewer EOs and with no observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. For species listed as threatened, species were reviewed for possible T to E recommendation. Also, surv w/ no obs reports were reviewed to confirm they were insufficient to recommended delisting as extirpated. Staff recommendation is for no listing status change based on the low number of EOs, habitat for species with no protected EOs has not been reported as destroyed, combined ecology/distribution/EO data information was not supportive of T to E recommendation, and surv w/ no obs reports are insufficient to recommend delisting as extirpated. No individual review produced.

Blue Cells

Per the Illinois Endangered Species Protection Act (520 ILCS 10/7), the Illinois List automatically adopts species and subspecies designated as endangered or threatened by the USFWS and the Board has the authority to list species that qualify as endangered or threatened as those terms are defined in the ESPA. The Board has in some cases listed subspecies or varieties of a species if those subspecies or varieties are the only representative of the species in Illinois. These subspecies and varieties have been listed as Illinois endangered or threatened, but are not the only representative of the species in Illinois. Staff recommendation is to remove these subspecies and varieties from the IL List. No individual review produced (see Table 5 for more information).

Gray Cells

Species not considered in this Part 2, 1st cut Plant list review (for Augist, 2013), but will be considered in the Part 3, 1st cut Plant list review (for August, 2013) or a subsequent iteration, if staff is not able to complete all plant reviews in two volumes.

SCIENTIFIC_NAME	S_PRIMARY_COMMON_NAME	Current Status	Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
Adoxa moschatellina	Moschatel	E	5/23/1986	1	0	0	1	1	0
Agalinus skinneriana	Pale False Foxglove	T	08/14/2010	21	16	12	21	14	12
Alnus incana subsp. rugosa	Speckled Alder	E	10/01/2011	5	4	2	5	4	3
Amelanchier interior	Shadbush	T	2010	14	10	5	13	6	4
Amelanchier sanguinea	Shadbush	E	06/26/2009	8	3	2	7	5	2
Ammophila breviligulata	Marram Grass	E	11/23/2009	9	9	2	6	2	2
Amorpha nitens	Smooth False Indigo	E	8/1/2007	2	1	0	2	1	1
Arctopstaphylos uva-ursi	Bearberry	E	11/28/2011	3	1	4	2	3	1
Artemisia dracunculus	Dragon Wormwood	E	8/19/2004	2	1	0	2	1	1
Asclepias lanuginosa	Wooly Milkweed	E	2009	15	5	7	15	8	4
Asclepias meadii	Mead's Milkweed	IL E; Fed E	06/21/2012	9	8	5	8	7	5
Asclepias ovalifolia	Oval Milkweed	E	6/7/2011	1	1	1	1	1	1
Asclepias stenophylla	Narrow-leaved Green Milkweed	E	7/27/2011	7	7	1	7	2	2
Asplenium bradleyi	Bradley's Spleenwort	E	10/17/2011	6	3	1	5	6	4
Asplenium resiliens	Black Spleenwort	E	6/18/2005	2	2	0	1	1	1
Aster furcatus	Forked Aster	T	08/30/2012	30	12	12	26	15	7
Astragalus crassicarpus var. trichocalyx	Large Ground Plum	E	8/14/2008	4	3	1	4	2	1

Astragalus distortus	Bent Milk Vetch	E	04/10/2012	7	6	2	7	5	4
Astragalus tennesseensis	Tennessee Milk Vetch	E	5/10/2002	2	1	1	2	2	1
Baptisia tinctoria	Yellow Wild Indigo	E	8/27/2012	1	1	1	1	2	2
Bartonia paniculata	Screwstem	E	10/4/2006	2	2	1	2	1	1
Beckmannia syzigachne	American Slough Grass	E	07/31/2009	6	4	0	5	3	2
Berberis canadensis	Allegheny Barberry	E	1987	2	0	0	3	2	0
Berchemia scandens	Supple-Jack	T	11/13/1992	1	0	0	1	1	0
Bessya bullii	Kitten Tails	T	09/23/2011	29	19	9	22	11	11
Betula allehaniensis	Yellow Birch	E	5/15/2009	4	3	3	2	3	2
Boltonia decurrens	Decurrent False Aster	IL T; Fed T	10/10/2012	31	22	2	30	20	17
Botrychium biternatum	Southern Grape Fern	T	6/26/1997	7	0	0	7	3	0
Botrychium campestre	Prairie Moonwort	E	6/1/2009	2	2	0	1	1	1
Botrychium matricariifolium	Daisyleaf Grape Fern	E	5/31/2000	3	0	1	3	2	0
Botrychium multifidum	Northern Grape Fern	E	4/29/1998	4	0	2	5	3	0
Botrychium simplex	Dwarf Grape Fern	E	6/12/1993	4	0	2	4	3	0
Bouteloua gracilis	Blue Grama	E	9/30/2011	1	1	0	1	1	1
Buchnera americana	Bluehearts	T	7/26/2011	7	4	2	7	7	4
Bumelia lanuginosa	Wooly Buckthorn	E	6/6/2012	3	3	2	2	1	1
Cakile edentula	Sea Rocket	T	08/18/2009	14	13	2	6	2	2
Calamogrostis insperata	Bluejoint Grass	E	6/30/2008	3	2	0	3	1	1
Calla palustris	Water Arum	E	6/23/2009	1	1	1	1	1	1
Calopogon oklahomensis	Oklahoma Grass Pink Orchid	E	2010	2	2	2	2	1	1
Calopogon tuberosus	Grass Pink Orchid	E	07/03/2011	19	9	17	17	9	5
Camassia angusta	Wild Hyacinth	E	6/8/2011	1	1	0	1	1	1
Cardamine pratensis var. palustris	Cuckoo Flower	E	8/30/2002	3	1	2	3	2	2
Carex alata	Winged Sedge	E	6/13/2001	1	0	0	2	1	0
Carex arkansana	Arkansas Sedge	E	9/25/2012	5	4	0	7	3	3
Carex atlantica	Sedge	T	8/3/2009	2	2	1	2	1	1
Carex aurea	Golden Sedge	T	07/01/2011	16	13	4	12	4	3
Carex bromoides	Sedge	T	05/21/2012	16	12	7	16	9	6
Carex brunnescens	Brownish Sedge	E	6/6/2009	2	2	2	2	1	1
Carex canescens var. disjuncta	Silvery Sedge	E	7/16/2007	1	1	2	1	2	2
Carex chordorrhiza	Cordroot Sedge	E	5/24/2004	2	1	1	2	1	1
Carex communis	Fibrous-rooted Sedge	T	05/31/2012	18	8	6	15	11	5
Carex crawfordii	Crawford's Sedge	E	7/17/1994	2	0	1	2	1	0
Carex crytolepis	Yellow Sedge	E	07/01/2011	8	6	0	9	5	4
Carex cumulata	Sedge	E	2012	3	3	2	2	2	2
Carex decomposita	Cypress-knee Sedge	E	10/15/2008	5	3	1	5	4	3
Carex diandra	Sedge	E	6/13/1978	2	0	1	2	1	0
Carex disperma	Shortleaf Sedge	E	6/17/2008	4	3	4	4	2	2
Carex echinata	Sedge	E	06/17/2002	5	1	1	5	4	3
Carex formosa	Sedge	E	07/03/2009	5	3	0	4	2	1
Carex garberi	Elk Sedge	E	7/20/2011	3	2	1	3	2	1

Carex gigantea	Large Sedge	E	9/28/2010	4	3	0	4	4	3
Carex inops subsp. heliophila	Plains Sedge	E	5/26/1985	4	0	1	5	2	0
Carex intumescens	Swollen Sedge	T	09/26/2011	13	5	3	12	7	3
Carex nigromarginata	Black-edged Sedge	E	6/28/2011	3	3	0	3	3	3
Carex oligosperma	Few-seeded Sedge	T	6/23/2009	4	1	2	3	3	1
Carex oxylepis	Sharp-scaled Sedge	T	6/24/2010	16	5	1	13	7	4
Carex physorhyncha	Bellow's Beak Sedge	E	6/17/1998	3	0	1	3	3	0
Carex plantaginea	Plaintain-leaved Sedge	E	5/25/2006	2	1	1	2	2	1
Carex prasina	Drooping Sedge	T	05/22/2012	9	4	2	9	9	4
Carex reniformis	Reniform Sedge	E	6/4/2004	2	1	0	2	1	1
Carex trisperma	Three-seeded Sedge	E	6/7/2009	2	2	3	2	2	2
Carex tuckermanii	Tuckerman's Sedge	E	2010	6	2	3	6	3	1
Carex viridula	Little Green Sedge	T	07/07/2011	21	11	5	17	6	4
Carex willdenowii	Willdenow's Sedge	T	5/20/2011	14	6	0	10	7	4
Carex woodii	Pretty Sedge	T	2010	22	17	10	15	8	7
Carya aquatica	Water Hickory	T	6/2/2009	5	3	1	6	5	3
Carya pallida	Pale Hickory	E	1987-02	2	0	1	3	2	0
Castilleja sessiliflora	Downy Yellow Painted Cup	E	2009	7	6	7	8	7	6
Ceanothus herbaceus	Redroot	E	09/28/2009	6	4	2	6	5	3
Chamaedaphne calyculata	Leatherleaf	T	06/23/2009	7	3	5	7	4	2
Chamaelirium luteum	Fairy Wand	E	8/3/2009	7	3	1	8	3	3
Chamaesyce polygonifolia	Seaside Spurge	E	07/20/2010	6	6	2	6	2	2
Chimaphila maculata	Spotted Wintergreen	E	7/28/1997	4	0	1	3	3	0
Chimaphila umbellata	Pipsissewa	E	6/12/1993	3	0	1	2	1	0
Cimicifuga americana	American Bugbane	E	10/9/2008	1	1	1	1	1	1
Cimicifuga racemosa	False Bugbane	E	06/20/2007	4	1	1	4	4	1
Cimicifuga rubifolia	Black Cohosh	T	9/17/2010	18	5	1	14	7	3
Circaea alpina	Small Enchanter's Nightshade	E	1987	2	0	0	2	1	0
Cirsium pitcheri	Pitcher's (Dune) Thistle	IL T; Fed T	2011	2	2	1	2	2	2
Cladrastis lutea	Yellowwood	E	11/10/2007	1	1	0	1	1	1
Clematis crispa	Blue Jasmine	E	5/21/2009	5	2	0	5	4	2
Clematis occidentalis	Mountain Clematis	E	8/20/2003	1	1	0	1	1	1
Clematis viorna	Leatherflower	E	5/25/2011	2	1	1	2	3	1
Collinsia violacea	Violet Collinsia	E	5/21/2012	1	1	0	1	1	1
Comptonia peregrina	Sweetfern	E	2012	2	2	2	2	3	2
Conioselinum chinense	Hemlock Parsley	E	9/19/1996	1	0	1	1	1	0
Corallorhiza maculata	Spotted Coral-root Orchid	T	05/15/2009	13	2	5	12	9	2
Cornus canadensis	Bunchberry	E	6/14/2001	5	0	3	5	3	0
Corydalis aurea	Golden Corydalis	E	5/3/1998	1	0	0	1	1	0
Corydalis halei	Hale's Corydalis	E	4/26/2003	1	1	0	1	1	1
Corydalis sempervirens	Pink Corydalis	E	5/3/1998	2	0	0	2	2	0
Corylus cornuta	Beaked Hazelnut	E	7/16/1992	1	0	0	1	1	0
Cynosciadium digitatum	Cynosciadium	E	8/18/1993	3	0	0	1	1	0

Cyperus grayioides	Umbrella Sedge	T	08/2007	12	7	5	13	6	4
Cyperus lancastriensis	Galingale	T	10/4/2005	3	2	1	3	3	2
Cypripedium acaula	Moccasin Flower	E	5/19/1999	2	0	1	2	2	0
Cypripedium candidum	White Lady's Slipper	T	04/19/2012	49	37	30	36	9	8
Cypripedium parviflorum var. makasin	Small Yellow Lady's Slipper	E	05/13/2009	10	7	7	7	3	3
Cypripedium reginae	Showy Lady's Slipper	E	9/15/2009	5	2	5	4	4	2
Cystopteris laurentiana	Laurentian Fragile Fern	E	1989-PRE	1	0	1	1	1	0
Dalea foliosa	Leafy Prairie Clover	IL E; Fed E	10/07/2010	9	8	3	6	3	3
Delphinium carolinianum	Wild Blue Larkspur	T	2010	10	8	1	11	4	3
Dennstaedtia punctilobula	Hay-scented Fern	E	6/22/2011	8	7	1	5	2	2
Deschampsia flexuosa	Hairgraass	E	2003	1	1	0	1	1	1
Dichanthelium boreale	Northern Panic Grass	E	6/14/2008	3	1	2	2	2	1
Dichanthelium joori	Panic Grass	E	2008	3	1	1	3	2	1
Dichanthelium portoricense	Hemlock Panic Grass	E	8/20/1998	1	0	0	1	1	0
Dichanthelium ravenelii	Ravenel's Panic Grass	E	6/24/2008	3	2	0	3	1	1
Dichanthelium yadkinense	Panic Grass	E	8/3/2009	8	7	0	7	2	2
Dodecatheon frenchii	French's Shootingstar	T	06/22/2011	20	12	0	14	6	5
Draba cuneifolia	Whitlow Grass	E	7/23/2008	5	5	4	5	3	3
Drosera intermedia	Narrow-leaved Sundew	T	07/13/2012	13	5	7	8	7	3
Drosera rotundifolia	Round-leaved Sundew	E	08/11/2009	7	3	6	6	3	2
Dryopteris celsa	Log Fern	E	5/8/2005	1	1	1	1	1	1
Echinodorus tenellus	Small Burhead	E	8/25/2010	3	1	1	3	2	1
Eleocharis olivacea	Capitate Spikerush	E	9/9/2002	3	1	1	3	2	1
Eleocharis pauciflora	Few-flowered Spikerush	E	10/26/2004	4	2	2	3	3	2
Eleocharis rostellata	Beaked Spike Rush	T	10/7/2009	13	5	12	8	5	3
Elymus trachycaulus	Bearded Wheat Grass	T	08/12/2009	11	3	6	9	6	2
Epilobium strictum	Downy Willow Herb	T	09/15/2009	10	4	9	5	2	2
Equisetum pratense	Meadow Horsetail	T	6/28/2011	10	6	2	8	3	3
Equisetum scirpoides	Dwarf Scouring Rush	E	1978	1	0	0	1	1	0
Equisetum sylvaticum	Woodland Horsetail	E	6/29/2010	3	2	1	3	2	1
Eriophorum virginicum	Rusty Cotton Grass	E	10/20/2009	4	2	4	3	2	1
Eryngium prostratum	Eryngo	E	8/8/2002	6	1	0	7	5	1
Euonymus americanus	American Strawberry Bush	E	6/16/2011	5	4	2	7	4	3
Eupatorium hyssopifolium	Hyssop-leaved Thoroughwort	E	none	0	0	0	0	0	0
Euphorbia spathulata	Spurge	E	5/12/1987	1	0	1	1	1	0
Filipendula rubra	Queen-of-the-Prairie	E	07/20/2012	23	15	11	22	13	13
Fimbristylis vahlii	Vahl's Fimbristylis	E	8/23/2006	3	1	0	3	1	1
Galactia mohlenbrockii	Boykin's Dioclea	E	8/7/1996	2	0	2	2	1	0
Galium lanceolatum	Wild Licorice	E	none	0	0	0	0	0	0
Galium virgatum	Dwarf Bedstraw	E	5/12/2012	3	2	1	2	1	1
Geranium bicknellii	Northern Cranesbill	E	07/31/2011	8	6	3	5	3	3
Glyceria arkansana	Arkansas Mannagrass	E	5/24/2007	5	2	0	5	3	2
Gratiola quartermaniae	Hedge Hyssop	E	6/9/2009	1	1	0	1	1	1

Gymnocarpium dryopteris	Oak Fern	E	6/29/2010	2	1	1	2	2	1
Gymnocarpium robertianum	Scented Oak Fern	E	1986	1	0	0	1	1	0
Hackelia deflexa var. americana	Stickseed	E	6/27/1995	4	0	2	5	2	0
Halesia carolina	Silverbell Tree	E	6/28/2010	3	2	2	3	2	2
Helianthus angustifolius	Narrow-leaved Sunflower	T	2011	4	4	2	4	2	2
Helianthus giganteus	Tall Sunflower	E	10/5/2010	10	4	4	9	6	4
Heliotropium tenellum	Slender Heliotrope	E	5/13/2011	3	2	2	4	1	1
Heteranthera reniformis	Mud Plantian	E	10/29/2004	4	1	0	4	3	1
Hexalectris spicata	Crested Coralroot Orchid	E	07/10/2012	7	5	2	7	4	3
Hudsonia tomentosa	False Heather	E	9/30/2011	4	3	1	6	4	3
Huperzia porophila	Cliff Clubmoss	T	6/22/2011	5	1	1	3	2	1
Hydrolea uniflora	One-flowered Hydrolea	E	8/19/2010	4	1	0	4	3	1
Species following this break (and that are not in light blue text) and preceding the next break are those reviewed in this current Plant List, Part 2 review.									
Hymenopappus scabiosaeus	Old Plainsman	T	05/21/2012	5	3	2	6	3	3
Hypericum adpressum	Shore St. John's Wort	E	07/13/2012	5	4	5	4	4	3
Hypericum kalmianum	Kalm's St. John's Wort	E	07/20/2012	4	4	6	4	2	2
Iliamna remota	Kankakee Mallow	E	7/16/2009	2	1	2	2	2	1
Iresine rhizomatosa	Bloodleaf	E	9/22/2010	6	2	2	6	4	2
Isoetes butleri	Butler's Quillwort	E	2010	7	6	1	5	2	2
Isotria verticillata	Whorled Pogonia	E	8/3/2009	1	1	0	1	1	1
Juncus alpinus	Richardson's Rush	T	07/01/2011	11	8	2	9	4	3
Juncus vaseyi	Vasey's Rush	E	1994	1	0	1	1	1	0
Juniperus communis	Ground Juniper	T	10/21/2009	8	3	1	7	4	2
Juniperus horizontalis	Trailing Juniper	E	10/11/2011	2	2	1	2	2	2
Justica ovata	Water Willow	E	8/20/1991	1	0	0	1	2	1
Larix laricina	Tamarack	T	06/23/2009	5	4	4	4	2	2
Lathyrus ochroleucus	Pale Vetchling	T	2010	25	13	9	20	6	4
Lechea intermedia	Pinweed	T	09/18/2005	9	2	5	8	6	2
Lespdeza leptochachya	Prairie Bush Clover	IL E; Fed E	07/26/2010	11	7	5	11	6	4
Lesquerella ludoviciana	Silvery Bladderpod	E	3/29/2012	1	1	1	1	1	1
Liatris scariosa var. nieuwlandii	Blazing Star	T	08/22/2012	45	33	6	44	21	17
Lonicera dioica var. glaucescens	Red Honeysuckle	E	6/16/2011	3	2	0	3	2	1
Lonicera flava	Yellow Honeysuckle	E	5/18/2006	5	2	1	4	3	2
Luzula acuminata	Hairy Woodrush	E	6/24/2010	6	3	1	4	3	3
Lycopodiella inundata	Bog Clubmoss	E	7/6/2001	2	0	0	1	1	0
Lycopodium clavatum	Running Pine	E	10/5/2006	5	1	2	5	5	1
Lycopodium dendroideum	Ground Pine	E	02/23/2012	5	1	1	5	5	1
Lysimachia radicans	Creeping Loosestrife	E	9/26/2011	4	4	1	2	2	2
Malus angustifolia	Narrow-leaved Crabapple	E	7/2/2008	2	1	1	2	1	1
Malvastrum hispidum	False Mallow	E	08/26/2009	4	2	1	3	2	1
Matelea decipiens	Climbing Milkweed	E	06/02/2012	5	3	2	5	4	2

Matelea obliqua	Climbing Milkweed	T	05/30/2012	20	15	1	10	4	4
Medeola virginiana	Indian Cucumber Root	E	5/31/2009	1	1	1	1	1	1
Megalodonta beckii	Water Marigold	E	10/15/2003	2	2	1	1	1	1
Melanthera nivea	White Melanthera	E	10/3/2005	2	2	1	2	2	2
Melanthium virginicum	Bunchflower	T	05/24/2012	21	9	3	20	12	5
Melica mutica	Two-Flowered Melic Grass	E	5/10/2010	3	2	1	2	1	1
Melothria pendula	Squirting Cucumber	T	7/1/2007	13	2	0	13	6	2
Menyanthes trifoliata	Buckbean	T	09/29/2009	9	6	8	7	2	3
Mimulus glabratus	Yellow Monkey Flower	E	03/2012	5	3	3	5	5	3
Minuartia patula	Slender Sandwort	T	2010	8	6	4	7	5	4
Mirabilis hirsuta	Hairy Umbrella-wort	E	2003-08	2	1	1	3	1	1
Nemophila triloba	Baby Blue-eyes	E	1998-04	1	0	0	1	1	0
Nothocalais cuspidata	Prairie Dandelion	E	04/27/2012	9	3	5	8	5	3
Oenothera perennis	Small Sundrops	T	2010	20	17	9	16	5	4
Opuntia fragilis	Fragile Prickly Pear	E	9/23/2011	1	1	0	1	1	1
Orobanche fasciculata	Clustered Broomrape	E	6/20/2003	4	1	2	2	2	1
Orobanche ludoviciana	Broomrape	T	11/28/2012	17	7	4	14	9	6
Oxalis illinoensis	Illinois Wood Sorrel	E	5/16/2003	6	6	0	7	3	3
Paspalum dissectum	Bead Grass	E	09/11/1987	1	0	0	1	1	0
Penstemon brevisepalus	Short-sepaled Beard Tongue	E	5/7/1981	1	0	0	1	1	0
Penstemon grandiflorus	Large-flowered Beard Tongue	E	6/4/2009	5	4	2	5	4	3
Penstemon tubaeflorus	Tube Beard Tongue	E	05/21/2012	10	6	3	10	7	4
Phacelia gilioides	Ozark Phacelia	T	1997	1	0	0	1	1	0
Phaeophyscia leana	Lea's Bog Lichen	T	2/24/2002	23	14	0	13	5	3
Phegopteris connectilis	Long Beech Fern	E	12/11/1998	2	0	1	3	2	0
Phlox pilosa subsp. sangamonensis	Sangamon Phlox	E	07/05/2012	7	5	0	4	2	2
Pinus banksiana	Jack Pine	E	2008	4	4	3	5	5	5
Pinus echinata	Shortleaf Pine	E	2012	4	4	1	4	4	4
Pinus resinosa	Red Pine	E	2001-10	1	0	0	1	1	0
Planera aquatica	Water Elm	T	9/30/2010	6	3	3	6	5	3
Plantago cordata	Heart-leaved Plantain	E	06/09/2011	15	13	2	11	11	9
Platanthera ciliaris	Orange Fringed Orchid	E	7/6/2012	2	2	3	2	2	2
Platanthera clavellata	Wood Orchid	E	8/11/2009	8	3	4	7	5	2
Platanthera flava++	Tubercled Orchid++	T	07/01/2011	23	11	13	15	10	5
Platanthera leucophaea	Eastern Prairie Fringed Orchid	IL E; Fed T	2012	43	34	23	25	11	10
Platanthera psycodes	Purple Fringed Orchid	E	08/08/2009	5	4	5	3	2	2
Poa alsodes	Grove Bluegrass	E	6/4/2008	6	2	2	6	4	2
Poa languida	Weak Bluegrass	E	5/14/2012	4	2	1	4	4	2
Poa wolfii	Wolf's Bluegrass	E	05/14/2012	10	5	1	10	5	5
Pogonia ophioglossoides	Snake-mouth	E	06/23/2009	7	2	6	7	3	2
Polanisia jamesii	James' Clammyweed	E	8/31/2012	2	2	0	5	3	3
Polygala incarnata	Pink Milkwort	E	6/30/2006	8	1	2	8	7	1
Polygonatum pubescens	Downy Solomon's Seal	E	06/06/2009	9	6	1	5	2	2

Polygonum arifolium	Halberd-leaved Tearthumb	E	6/26/2007	3	2	0	3	2	1
Polygonum careyi	Carey's Heartsease	E	2010	6	5	2	4	3	2
Populus balsamifera	Balsam Poplar	E	6/29/2011	5	4	3	4	3	3
Potamogeton gramineus	Grass-leaved Pondweed	T	05/05/2012	15	5	3	7	3	2
Potamogeton praelongus	White-stemmed Pondweed	E	9/25/2003	7	3	2	3	1	1
Potamogeton pulcher	Spotted Pondweed	E	1992	1	0	0	2	1	0
Potamogeton robbinsii	Fern Pondweed	E	09/25/2003	6	3	1	4	3	1
Potamogeton strictifolius	Stiff Pondweed	E	7/31/1991	1	0	1	1	1	0
Primula mistassinica	Bird's-eye Primrose	E	10/21/2004	1	1	0	1	1	1
Ptilimnium nuttallii	Mock's Bishop Weed	E	8/25/2000	2	0	0	3	2	0
Quercus montana	Rock Chestnut Oak	T	10/21/2008	8	4	0	8	6	4
Quercus phellos	Willow Oak	T	9/28/2010	10	7	3	9	5	4
Species following this break (and that are not in light blue text) are anticipated for review in the Plant List , Part 3 review – expected for discussion at the ESPB 160 meeting 11/15/20013									
Quercus texana	Nuttall's Oak	E	7/1/2006	4	3	3	3	2	2
Ranunculus rhomboideus	Prairie Buttercup								
Rhamnus alnifolia	Alder Buckthorn	E	7/20/1999	2	0	2	2	2	0
Rhexia mariana	Dull Meadow Beauty								
Rhynchospora alba	Beaked Rush								
Rhynchospora glomerata	Clustered Beak Rush	E	6/30/2008	3	1	0	2	2	1
Ribes hirtellum	Northern Gooseberry								
Rosa acicularis	Bristly Rose	E	8/20/2003	2	1	0	2	1	1
Rubus odoratus	Purple-flowering Raspberry								
Rubus pubescens	Dwarf Raspberry								
Rubus schneideri	Bristly Blackberry								
Rudbeckia missouriensis	Missouri Orange Coneflower								
Sabatia campestris	Prairie Rose Gentian								
Sagittaria australis	Arrowhead	E	8/3/2009	1	1	1	1	1	1
Salix serissima	Autumn Willow	E	9/3/2009	4	1	4	3	2	1
Salix syrticola	Dune Willow	E	9/17/2001	1	0	2	1	1	0
Salvia asurea subsp. pitcheri	Blue Sage	T	6/10/2011	8	3	1	7	6	3
Sambucus racemosa subsp. pubens	Red-berried Elder								
Sanguisorba canadensis	American Burnet	E	9/1/2011	3	1	0	2	2	1
Sanicula smallii	Southern Sanicula	E	7/13/2002	1	1	0	1	1	1
Sarracenia purpurea	Pitcher Plant								
Saxifraga virginiensis	Early Saxifrage	E	10/17/2008	4	2	0	2	1	1
Schizachne purpurascens	False Melic Grass	E	5/6/2009	1	1	0	1	1	1
Schoenoplectus hallii	Hall's Bulrush								
Schoenoplectus purshianus	Weak Bulrush	E	2002	3	0	0	3	3	0
Schoenoplectus smithii	Smith's Bulrush	E	8/28/2003	1	1	1	1	1	1
Scirpus hattorianus	Bulrush								

Scirpus microcarpus	Bulrush	E	7/6/2009	2	2	1	1	1	1
Scirpus polyphyllus	Bulrush								
Scleria muhlenbergii	Muhlenberg's Nut Rush	E	8/9/2002	2	1	0	2	2	1
Scleria pauciflora	Carolina Whipgrass								
Sedum telephioides	American Orpine								
Sheperdia canadensis	Buffaloberry	E	6/14/2011	3	1	0	2	1	1
Silene ovata	Ovate Catchfly	E	10/17/2008	4	4	0	4	1	1
Silene regia	Royal Catchfly								
Sisyrinchium atlanticum	Eastern Blue-eyed Grass								
Sisyrinchium montanum	Mountain Blue-eyed Grass								
Solidago sciaphila	Cliff Goldenrod								
Sorbus americana	American Mountain Ash	E	6/14/2001	1	0	0	1	1	0
Sparganium americanum	American Burreed	E	10/5/2004	3	1	1	4	4	1
Sparganium emersum	Green-fruited Burreed								
Spiranthes lucida	Yellow-lipped Ladies' Tresses	E	9/10/2011	5	5	2	12	9	8
Spiranthes vernalis	Spring Ladies' Tresses								
Stellaria pubera	Great Chickweed	E	05/29/2009	4	1	1	4	3	1
Stenanthium gramineum	Grass-leaved Lily								
Stylisma pickeringii	Patterson's Bindweed	E	6/4/2009	4	2	0	3	3	2
Styrax americana	Storax								
Styrax grandifolius	Bigleaf Snowbell Bush	E	11/10/2007	1	1	0	1	1	1
Sullivantia sullivantia	Sullivantia								
Symphoricarpos ablus var. albus	Snowberry	E	5/1/2007	3	1	2	3	3	1
Synandra hispidula	Hairy Synandra								
Talinum calycinum	Fameflower	E	7/24/2009	2	2	0	2	2	2
Talinum parviflorum	Small Flower-of-an-hour								
Tetraneuris herbacea	Lakeside Daisy								
Thelypteris noveboracensis	New York Fern	E	5/31/2007	1	1	0	1	1	1
Tilia heterophylla	White Basswood	E	10/2/2005	3	1	2	4	3	1
Tofieldia glutinosa	False Asphodel								
Tomanthera auriculata	Ear-leafed Foxglove								
Torreyochloa pallida	Pole Manna-Grass	E	6/18/2005	2	1	1	2	2	1
Tradescantia bracteata	Prairie Spiderwort								
Trichomanes boschianum	Filmy fern								
Trichophorum cespitosum	Tufted Bulrush	E	1991	3	0	3	3	2	0
Trientalis borealis	Star-flower								
Trifolium reflexum	Buffalo Clover								
Triglochin maritima	Common Bog Arrowgrass								
Triglochin palustris	Slender Bog Arrowgrass								
Trillium cernuum	Nodding Trillium	E	06/12/2009	4	4	2	4	2	2
Trillium erectum	Ill-scented Trillium	E	6/15/2011	4	3	3	4	3	3
Trillium viride	Green Trillium								
Ulmus thomasii	Rock Elm	E	5/3/2011	3	1	0	3	3	1

Urtica chamaedryoides	Nettle								
Utricularia cornuta	Horned Bladderwort	E	9/18/2009	2	1	2	2	2	1
Utricularia intermedia	Flat-leaved Bladderwort								
Utricularia minor	Small Bladderwort								
Vaccinium corymbosum	Highbush Blueberry	E	2012	4	3	3	4	4	3
Vaccinium macrocarpon	Large Cranberry								
Vaccinium oxycoccos	Small Cranberry	E	6/23/2011	4	3	3	5	2	1
Vaccinium stamineum	Deerberry	E	7/10/2002	1	1	0	1	1	0
Valeriana uliginosa	Marsh Valerian	E	6/6/2007	2	2	2	3	1	1
Valerianella chenopodifolia	Corn Salad	E	5/2/1987	1	0	0	1	1	0
Valerianella umbilicata	Corn Salad	E	5/31/2011	3	2	1	3	3	2
Veronica americana	American Brooklime								
Veronica scutellata	Marsh Speedwell								
Viburnum molle	Arrowwood								
Viola blanda	White Hairy Violet								
Viola canadensis	Canada Violet								
Viola conspersa	Dog Violet								
Viola primulifolia	Primrose Violet								
Woodsia ilvensis	Rusty Woodsia	E	6/24/2010	3	1	2	3	2	1
Zigadenus elegans	White Camass	E	6/14/2011	3	1	2	3	2	1

++ = The ESPB voted at the 05/17/2013 meeting to combine varieties flava and herbiola and the species Platanthera flava will be listed as threatened. The proposed change is not official at this time; it would become official if it is continued through the entire statutorily required List revision process. For the purposes of this species review, the species P. flava is generally reviewed using combined data for the two varieties.

Table 2. Currently listed species, observed element occurrences and counties with observed occurrences for respective 5-year intervals ending in 2011 (some species include 2012 data also) (Illinois Natural Heritage Biotics 4 Database).

Any species in light blue type was reviewed in the Plant List, Part 1 review that was discussed at the ESPB 158 mtg, held May 17, 2013

Yellow Cells

Species with 4 or fewer EOs and with observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. Staff recommendation is for no listing status change based on the low number of EOs, observation within the last 20 years, and habitat for species with no protected EOs has not been destroyed. No individual review produced.

Red Cells

Species with 4 or fewer EOs and with no observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. For species listed as threatened, species were reviewed for possible T to E recommendation. Also, surv w/ no obs reports were reviewed to confirm they were insufficient to recommended delisting as extirpated. Staff recommendation is for no listing status change based on the low number of EOs, habitat for species with no protected EOs has not been reported as destroyed, combined ecology/distribution/EO data information was not supportive of T to E recommendation, and surv w/ no obs reports are insufficient to recommend delisting as extirpated. No individual review produced.

Blue Cells

Per the Illinois Endangered Species Protection Act (520 ILCS 10/7), the Illinois List automatically adopts species and subspecies designated as endangered or threatened by the USFWS and the Board has the authority to list species that qualify as endangered or threatened as those terms are defined in the ESPA. The Board has in some cases listed subspecies or varieties of a species if those subspecies or varieties are the only representative of the species in Illinois. These subspecies and varieties have been listed as Illinois endangered or threatened, but are not the only representative of the species in Illinois. Staff recommendation is to remove these subspecies and varieties from the IL List. No individual review produced (see Table 5 for more information).

Gray Cells

Species not considered in this Part 2, 1st cut Plant list review (for Augist, 2013), but will be considered in the Part 3, 1st cut Plant list review (for August, 2013) or a subsequent iteration, if staff is not able to complete all plant reviews in two volumes.

SCIENTIFIC_NAME	S_PRIMARY_COMMON_NAME	EO 1982-1986	EO 1987-1991	EO 1992-1996	EO 1997-2001	EO 2002-2006	EO 2007-2011	EO 2012	# Cos 1982-1986	# Cos 1987-1991	# Cos 1992-1996	# Cos 1997-2001	# Cos 2002-2006	# Cos 2007-2011	# Cos 2012
Adoxa moschatellina	Moschatel														
Agalinus skinneriana	Pale False Foxglove	1	0	11	13	14	5	0	1	0	8	10	10	5	0
Alnus incana subsp. rugosa	Speckled Alder														
Amelanchier interior	Shadbush	2	2	6	4	5	8	0	1	2	4	2	3	3	0
Amelanchier sanguinea	Shadbush	0	1	2	3	2	3	0	0	1	2	3	1	2	0
Ammophila breviligulata	Marram Grass	1	3	3	4	6	6	0	1	3	3	4	6	6	0
Amorpha nitens	Smooth False Indigo														
Arctopstaphylos uva-ursi	Bearberry														
Artemisia dracunculus	Dragon Wormwood														
Asclepias lanuginosa	Wooly Milkweed	5	6	4	1	3	4	0	4	4	4	1	3	4	0
Asclepias meadii	Mead's Milkweed	3	3	9	10	3	5	2	2	2	6	7	2	4	2
Asclepias ovalifolia	Oval Milkweed														
Asclepias stenophylla	Narrow-leaved Green Milkweed	1	4	3	4	7	3	0	1	2	2	2	2	2	0
Asplenium bradleyi	Bradley's Spleenwort	1	1	3	3	1	2	0	1	1	5	3	1	3	0
Asplenium resiliens	Black Spleenwort														
Aster furcatus	Forked Aster	2	6	8	13	10	7	1	2	5	5	7	5	5	1
Astragalus crassicarpus var. trichocalyx	Large Ground Plum														

Astragalus distortus	Bent Milk Vetch	2	1	1	4	4	0	1	2	1	1	2	3	0	1
Astragalus tennesseensis	Tennessee Milk Vetch														
Baptisia tinctoria	Yellow Wild Indigo														
Bartonia paniculata	Screwstem														
Beckmannia syzigachne	American Slough Grass	1	3	2	2	2	3	0	1	1	1	1	2	1	0
Berberis canadensis	Allegheny Barberry	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Berchemia scandens	Supple-Jack														
Bessya bullii	Kitten Tails	13	11	13	7	6	18	0	4	7	6	7	7	10	0
Betula allehaniensis	Yellow Birch														
Boltonia decurrens	Decurrent False Aster	2	17	23	23	16	7	0	3	14	15	18	15	7	0
Botrychium biternatum	Southern Grape Fern	2	1	2	1	0	0	0	2	1	1	1	0	0	0
Botrychium campestre	Prairie Moonwort														
Botrychium matricariifolium	Daisyleaf Grape Fern														
Botrychium multifidum	Northern Grape Fern														
Botrychium simplex	Dwarf Grape Fern														
Bouteloua gracilis	Blue Grama														
Buchnera americana	Bluehearts	0	0	1	0	1	3	0	0	0	1	0	1	2	0
Bumelia lanuginosa	Wooly Buckthorn														
Cakile edentula	Sea Rocket	0	2	6	8	9	10	0	0	2	2	2	2	2	0
Calamogrostis insperata	Bluejoint Grass														
Calla palustris	Water Arum														
Calopogon oklahomensis	Oklahoma Grass Pink Orchid														
Calopogon tuberosus	Grass Pink Orchid	3	7	4	7	7	6	0	3	5	4	6	5	5	0
Camassia angusta	Wild Hyacinth														
Cardamime pratensis var. palustris	Cuckoo Flower														
Carex alata	Winged Sedge														
Carex arkansana	Arkansas Sedge	0	0	1	0	1	1	1	0	0	1	0	1	1	1
Carex atlantica	Sedge														
Carex aurea	Golden Sedge	0	4	3	9	10	11	0	0	4	2	3	4	3	0
Carex bromoides	Sedge	2	4	2	3	7	8	1	2	3	2	3	4	4	1
Carex brunnescens	Brownish Sedge														
Carex canescens var. disjuncta	Silvery Sedge														
Carex chordorrhiza	Cordroot Sedge														
Carex communis	Fibrous-rooted Sedge	1	5	3	9	4	2	3	1	5	2	4	3	2	2
Carex crawfordii	Crawford's Sedge														
Carex crytolepis	Yellow Sedge	0	1	2	2	3	6	0	0	1	2	2	2	4	0
Carex cumulata	Sedge														
Carex decomposita	Cypress-knee Sedge	0	1	2	2	1	2	0	0	1	2	2	1	2	0
Carex diandra	Sedge														
Carex disperma	Shortleaf Sedge														
Carex echinata	Sedge	0	1	2	0	1	0	0	0	1	2	0	1	0	0
Carex formosa	Sedge	0	0	3	1	3	1	0	0	0	2	1	1	1	0
Carex garberi	Elk Sedge														

Carex gigantea	Large Sedge														
Carex inops subsp. heliophila	Plains Sedge														
Carex intumescens	Swollen Sedge	1	2	7	2	2	3	0	1	2	5	2	2	2	0
Carex nigromarginata	Black-edged Sedge														
Carex oligosperma	Few-seeded Sedge														
Carex oxylepis	Sharp-scaled Sedge	0	2	8	4	1	4	0	0	3	4	3	1	4	0
Carex physorhyncha	Bellow's Beak Sedge														
Carex plantaginea	Plaintain-leaved Sedge														
Carex prasina	Drooping Sedge	2	2	4	6	3	0	2	2	2	4	6	3	0	2
Carex reniformis	Reniform Sedge														
Carex trisperma	Three-seeded Sedge														
Carex tuckermanii	Tuckerman's Sedge	3	4	5	4	2	2	0	2	2	3	3	1	1	0
Carex viridula	Little Green Sedge	3	3	11	11	11	6	0	2	1	3	6	4	4	0
Carex willdenowii	Willdenow's Sedge	0	3	6	2	1	6	0	0	3	4	1	1	4	0
Carex woodii	Pretty Sedge	2	3	7	9	12	16	0	1	3	3	4	5	6	0
Carya aquatica	Water Hickory	0	1	2	0	0	3	0	0	2	3	0	0	3	0
Carya pallida	Pale Hickory														
Castilleja sessiliflora	Downy Yellow Painted Cup	1	3	1	3	5	3	0	1	4	1	4	6	3	0
Ceanothus herbaceus	Redroot	1	5	5	2	4	1	0	1	5	4	2	3	1	0
Chamaedaphne calyculata	Leatherleaf	1	6	1	1	3	3	0	1	4	1	1	2	2	0
Chamaelirium luteum	Fairy Wand	1	0	0	0	5	3	0	1	0	0	0	3	3	0
Chamaesyce polygonifolia	Seaside Spurge	0	1	2	3	6	4	0	0	1	1	2	2	2	0
Chimaphila maculata	Spotted Wintergreen														
Chimaphila umbellata	Pipsissewa														
Cimicifuga americana	American Bugbane														
Cimicifuga racemosa	False Bugbane														
Cimicifuga rubifolia	Black Cohosh	1	0	11	17	3	3	0	1	0	4	5	2	2	0
Circaea alpina	Small Enchanter's Nightshade														
Cirsium pitcheri	Pitcher's (Dune) Thistle														
Cladrastis lutea	Yellowwood														
Clematis crispa	Blue Jasmine	0	1	1	2	1	2	1	0	1	1	2	1	2	1
Clematis occidentalis	Mountain Clematis														
Clematis viorna	Leatherflower														
Collinsia violacea	Violet Collinsia														
Comptonia peregrina	Sweetfern														
Conioselinum chinense	Hemlock Parsley														
Corallorhiza maculata	Spotted Coral-root Orchid	3	5	2	4	1	1	0	3	4	2	4	1	1	0
Cornus canadensis	Bunchberry	1	1	1	1	0	0	0	1	1	1	1	0	0	0
Corydalis aurea	Golden Corydalis														
Corydalis halei	Hale's Corydalis														
Corydalis sempervirens	Pink Corydalis														
Corylus cornuta	Beaked Hazelnut														
Cynosciadium digitatum	Cynosciadium														

Cyperus grayioides	Umbrella Sedge	11	3	9	9	6	1	0	5	2	5	5	5	1	0
Cyperus lancastriensis	Galingale														
Cypripedium acaula	Moccasin Flower														
Cypripedium candidum	White Lady's Slipper	6	20	18	20	29	34	1	4	5	8	8	7	8	1
Cypripedium parviflorum var. makasin	Small Yellow Lady's Slipper														
Cypripedium reginae	Showy Lady's Slipper	1	2	4	3	2	1	0	1	2	4	3	2	1	0
Cystopteris laurentiana	Laurentian Fragile Fern														
Dalea foliosa	Leafy Prairie Clover	1	4	5	5	7	7	0	1	2	2	2	3	3	0
Delphinium carolinianum	Wild Blue Larkspur	0	0	0	0	6	7	0	0	0	0	0	2	3	0
Dennstaedtia punctilobula	Hay-scented Fern	0	2	1	0	6	2	0	0	1	1	0	2	1	0
Deschampsia flexuosa	Hairgraass														
Dichanthelium boreale	Northern Panic Grass														
Dichanthelium joori	Panic Grass														
Dichanthelium portoricense	Hemlock Panic Grass														
Dichanthelium ravenelii	Ravenel's Panic Grass														
Dichanthelium yadkinense	Panic Grass	1	1	0	2	2	7	0	1	1	0	1	1	2	0
Dodecatheon frenchii	French's Shootingstar	1	1	1	1	5	9	0	2	1	1	1	5	4	0
Draba cuneifolia	Whitlow Grass	0	0	0	1	0	5	0	0	0	0	1	0	3	0
Drosera intermedia	Narrow-leaved Sundew	1	2	3	4	3	3	1	1	2	3	2	3	2	1
Drosera rotundifolia	Round-leaved Sundew	1	1	2	1	3	1	0	1	1	1	1	2	1	0
Dryopteris celsa	Log Fern														
Echinodorus tenellus	Small Burhead														
Eleocharis olivacea	Capitate Spikerush														
Eleocharis pauciflora	Few-flowered Spikerush														
Eleocharis rostellata	Beaked Spike Rush	0	9	6	6	3	2	0	0	5	4	3	3	2	0
Elymus trachycaulus	Bearded Wheat Grass	2	3	7	3	2	2	0	2	3	4	3	2	2	0
Epilobium strictum	Downy Willow Herb	1	3	2	2	3	1	0	1	2	2	2	2	1	0
Equisetum pratense	Meadow Horsetail	2	1	7	3	3	4	0	1	1	3	2	2	3	0
Equisetum scirpoides	Dwarf Scouring Rush														
Equisetum sylvaticum	Woodland Horsetail														
Eriophorum virginicum	Rusty Cotton Grass														
Eryngium prostratum	Eryngo	0	2	3	2	1	0	0	0	2	3	2	1	0	0
Euonymus americanus	American Strawberry Bush	1	0	2	1	3	3	0	2	0	3	1	3	3	0
Eupatorium hyssopifolium	Hyssop-leaved Thoroughwort	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Euphorbia spathulata	Spurge	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Filipendula rubra	Queen-of-the-Prairie	1	6	7	10	11	9	1	1	5	7	11	9	10	1
Fimbristylis vahlii	Vahl's Fimbristylis														
Galactia mohlenbrockii	Boykin's Dioclea														
Galium lanceolatum	Wild Licorice	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Galium virgatum	Dwarf Bedstraw														
Geranium bicknellii	Northern Cranesbill	0	1	2	1	3	4	0	0	1	2	1	2	3	0
Glyceria arkansana	Arkansas Mannagrass	1	1	1	1	0	2	0	1	1	1	1	0	2	0

Gratiola quartermaniae	Hedge Hyssop														
Gymnocarpium dryopteris	Oak Fern														
Gymnocarpium robertianum	Scented Oak Fern														
Hackelia deflexa var. americana	Stickseed														
Halesia carolina	Silverbell Tree														
Helianthus angustifolius	Narrow-leaved Sunflower														
Helianthus giganteus	Tall Sunflower	0	3	2	2	2	2	0	0	2	1	2	2	2	0
Heliotropium tenellum	Slender Heliotrope														
Heteranthera reniformis	Mud Plantian														
Hexalectris spicata	Crested Coralroot Orchid	0	0	1	2	3	5	2	0	0	1	2	2	3	2
Hudsonia tomentosa	False Heather														
Huperzia porophila	Cliff Clubmoss	0	0	2	1	0	0	0	0	0	1	1	0	0	0
Hydrolea uniflora	One-flowered Hydrolea														
Species following this break (and that are not in light blue text) and preceding the next break are those reviewed in this current Plant List, Part 2 review.															
Hymenopappus scabiosaeus	Old Plainsman	1	0	1	4	1	3	0	2	0	1	3	1	3	0
Hypericum adpressum	Shore St. John's Wort	2	0	2	2	4	3	2	3	0	2	2	3	3	2
Hypericum kalmianum	Kalm's St. John's Wort														
Iliamna remota	Kankakee Mallow														
Iresine rhizomatosa	Bloodleaf	0	1	2	5	2	1	0	0	1	1	4	2	1	0
Isoetes butleri	Butler's Quillwort	0	1	2	5	5	5	0	0	1	1	2	2	2	0
Isotria verticillata	Whorled Pogonia														
Juncus alpinus	Richardson's Rush	3	0	2	4	7	5	0	4	0	2	3	3	3	0
Juncus vaseyi	Vasey's Rush														
Juniperus communis	Ground Juniper	0	6	5	3	2	2	0	0	3	4	3	1	2	0
Juniperus horizontalis	Trailing Juniper														
Justica ovata	Water Willow														
Larix laricina	Tamarack	0	4	3	1	3	2	0	0	2	2	1	2	2	0
Lathyrus ochroleucus	Pale Vetchling	6	7	7	6	10	11	0	2	4	3	3	4	3	6
Lechea intermedia	Pinweed	4	2	1	2	2	0	0	1	2	1	2	2	0	4
Lespdeza leptochachya	Prairie Bush Clover	5	9	11	5	9	6	0	6	7	6	4	4	4	5
Lesquerella ludoviciana	Silvery Bladderpod														
Liatris scariosa var. nieuwlandii	Blazing Star	0	13	20	30	20	20	1	0	10	15	17	12	12	1
Lonicera dioica var. glaucescens	Red Honeysuckle														
Lonicera flava	Yellow Honeysuckle	0	2	1	0	2	0	0	0	1	1	0	2	0	0
Luzula acuminata	Hairy Woodrush	1	2	1	2	1	2	0	1	1	1	1	1	2	0
Lycopodiella inundata	Bog Clubmoss														
Lycopodium clavatum	Running Pine	1	3	3	1	1	0	0	1	3	3	1	1	0	0
Lycopodium dendroideum	Ground Pine	0	3	2	1	1	0	1	0	3	2	1	1	0	1
Lysimachia radicans	Creeping Loosestrife														
Malus angustifolia	Narrow-leaved Crabapple														

Malvastrum hispidum	False Mallow														
Matelea decipiens	Climbing Milkweed	1	1	1	0	2	2	1	1	1	1	0	2	2	1
Matelea obliqua	Climbing Milkweed	2	6	6	2	12	8	1	1	3	4	2	4	2	1
Medeola virginiana	Indian Cucumber Root														
Megalodonta beckii	Water Marigold														
Melanthera nivea	White Melanthera														
Melanthium virginicum	Bunchflower	3	1	5	8	8	6	1	2	1	3	3	4	4	1
Melica mutica	Two-Flowered Melic Grass														
Melothria pendula	Squirting Cucumber	3	2	2	7	1	1	0	3	2	2	5	1	1	0
Menyanthes trifoliata	Buckbean	1	0	0	0	3	5	0	1	0	0	0	2	2	0
Mimulus glabratus	Yellow Monkey Flower	0	3	1	3	3	1	1	0	3	1	3	3	1	1
Minuartia patula	Slender Sandwort	1	3	2	5	5	5	0	1	3	3	4	3	4	0
Mirabilis hirsuta	Hairy Umbrella-wort														
Nemophila triloba	Baby Blue-eyes														
Nothocalais cuspidata	Prairie Dandelion	6	2	4	2	1	3	2	3	2	4	2	1	3	2
Oenothera perennis	Small Sundrops	2	4	9	11	11	16	0	2	3	2	2	4	4	0
Opuntia fragilis	Fragile Prickly Pear														
Orobanche fasciculata	Clustered Broomrape														
Orobanche ludoviciana	Broomrape	0	7	7	6	2	4	3	0	4	7	4	2	3	3
Oxalis illinoensis	Illinois Wood Sorrel	0	1	1	1	6	0	0	0	1	1	1	3	0	0
Paspalum dissectum	Bead Grass	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Penstemon brevisepalus	Short-sepaled Beard Tongue														
Penstemon grandiflorus	Large-flowered Beard Tongue	0	3	3	2	3	4	0	0	4	4	3	3	3	0
Penstemon tubaeflorus	Tube Beard Tongue	0	0	2	2	5	5	1	0	0	2	2	3	3	1
Phacelia gilioides	Ozark Phacelia														
Phaeophyscia leana	Lea's Bog Lichen	0	4	6	1	13	0	0	0	2	3	1	3	0	0
Phegopteris connectilis	Long Beech Fern														
Phlox pilosa subsp. sangamonensis	Sangamon Phlox														
Pinus banksiana	Jack Pine														
Pinus echinata	Shortleaf Pine														
Pinus resinosa	Red Pine														
Planera aquatica	Water Elm	0	4	2	0	3	2	0	0	5	2	0	3	2	0
Plantago cordata	Heart-leaved Plantain	2	9	6	4	7	8	0	2	7	5	3	5	7	0
Platanthera ciliaris	Orange Fringed Orchid														
Platanthera clavellata	Wood Orchid	0	3	3	5	3	2	0	0	3	3	4	3	2	0
Platanthera flava++	Tubercled Orchid++	1	1	7	14	10	8	0	1	1	5	8	5	5	0
Platanthera leucophaea	Eastern Prairie Fringed Orchid	17	18	25	31	28	31	23	7	8	11	10	11	10	8
Platanthera psycodes	Purple Fringed Orchid	2	0	5	5	3	4	0	1	0	2	2	1	2	0
Poa alsodes	Grove Bluegrass	1	2	0	1	0	2	0	1	2	0	1	0	2	0
Poa languida	Weak Bluegrass														
Poa wolfii	Wolf's Bluegrass	0	4	0	3	2	2	1	0	3	0	3	2	2	1
Pogonia ophioglossoides	Snake-mouth	1	2	2	2	2	2	0	1	2	2	2	2	2	0
Polanisia jamesii	James' Clammyweed														

Polygala incarnata	Pink Milkwort	2	3	4	1	1	0	0	2	3	3	1	1	0	0
Polygonatum pubescens	Downy Solomon's Seal	5	1	1	5	4	5	0	2	1	1	1	2	2	0
Polygonum arifolium	Halberd-leaved Tearthumb														
Polygonum careyi	Carey's Heartsease	1	0	1	4	4	3	0	1	0	1	2	2	1	0
Populus balsamifera	Balsam Poplar	0	2	3	1	3	1	0	0	2	3	1	2	1	0
Potamogeton gramineus	Grass-leaved Pondweed	0	12	0	5	4	0	1	0	2	0	1	2	0	1
Potamogeton praelongus	White-stemmed Pondweed	0	4	0	2	3	0	0	0	1	0	1	1	0	0
Potamogeton pulcher	Spotted Pondweed														
Potamogeton robbinsii	Fern Pondweed	0	5	2	2	3	0	0	0	3	1	1	1	0	0
Potamogeton strictifolius	Stiff Pondweed														
Primula mistassinica	Bird's-eye Primrose														
Ptilimnium nuttallii	Mock's Bishop Weed														
Quercus montana	Rock Chestnut Oak	0	3	5	5	2	3	0	0	3	4	3	2	3	0
Quercus phellos	Willow Oak	3	4	2	1	6	2	0	2	3	2	1	4	2	0
Species following this break (and that are not in light blue text) are anticipated for review in the Plant List , Part 3 review – expected for discussion at the ESPB 160 meeting 11/15/20013															
Quercus texana	Nuttall's Oak														
Ranunculus rhomboideus	Prairie Buttercup														
Rhamnus alnifolia	Alder Buckthorn														
Rhexia mariana	Dull Meadow Beauty														
Rhynchospora alba	Beaked Rush														
Rhynchospora glomerata	Clustered Beak Rush														
Ribes hirtellum	Northern Gooseberry														
Rosa acicularis	Bristly Rose														
Rubus odoratus	Purple-flowering Raspberry														
Rubus pubescens	Dwarf Raspberry														
Rubus schneideri	Bristly Blackberry														
Rudbeckia missouriensis	Missouri Orange Coneflower														
Sabatia campestris	Prairie Rose Gentian														
Sagittaria australis	Arrowhead														
Salix serissima	Autumn Willow														
Salix syrticola	Dune Willow														
Salvia asurea subsp. pitcheri	Blue Sage														
Sambucus racemosa subsp. pubens	Red-berried Elder														
Sanguisorba canadensis	American Burnet														
Sanicula smallii	Southern Sanicula														
Sarracenia purpurea	Pitcher Plant														
Saxifraga virginiensis	Early Saxifrage														
Schizachne purpurascens	False Melic Grass														
Schoenoplectus hallii	Hall's Bulrush														

Schoenoplectus purshianus	Weak Bulrush														
Schoenoplectus smithii	Smith's Bulrush														
Scirpus hattorianus	Bulrush														
Scirpus microcarpus	Bulrush														
Scirpus polyphyllus	Bulrush														
Scleria muhlenbergii	Muhlenberg's Nut Rush														
Scleria pauciflora	Carolina Whipgrass														
Sedum telephioides	American Orpine														
Sheperdia canadensis	Buffaloberry														
Silene ovata	Ovate Catchfly														
Silene regia	Royal Catchfly														
Sisyrinchium atlanticum	Eastern Blue-eyed Grass														
Sisyrinchium montanum	Mountain Blue-eyed Grass														
Solidago sciaphila	Cliff Goldenrod														
Sorbus americana	American Mountain Ash														
Sparganium americanum	American Burreed														
Sparganium emersum	Green-fruited Burreed														
Spiranthes lucida	Yellow-lipped Ladies' Tresses														
Spiranthes vernalis	Spring Ladies' Tresses														
Stellaria pubera	Great Chickweed														
Stenanthium gramineum	Grass-leaved Lily														
Stylisma pickeringii	Patterson's Bindweed														
Styrax americana	Storax														
Styrax grandifolius	Bigleaf Snowbell Bush														
Sullivantia sullivantia	Sullivantia														
Symphoricarpos ablus var. albus	Snowberry														
Synandra hispidula	Hairy Synandra														
Talinum calycinum	Fameflower														
Talinum parviflorum	Small Flower-of-an-hour														
Tetraneuris herbacea	Lakeside Daisy														
Thelypteris noveboracensis	New York Fern														
Tilia heterophylla	White Basswood														
Tofieldia glutinosa	False Asphodel														
Tomanthera auriculata	Ear-leafed Foxglove														
Torreyochloa pallida	Pole Manna-Grass														
Tradescantia bracteata	Prairie Spiderwort														
Trichomanes boschianum	Filmy fern														
Trichophorum cespitosum	Tufted Bulrush														
Trientalis borealis	Star-flower														
Trifolium reflexum	Buffalo Clover														
Triglochin maritima	Common Bog Arrowgrass														
Triglochin palustris	Slender Bog Arrowgrass														
Trillium cernuum	Nodding Trillium														

Trillium erectum	Ill-scented Trillium														
Trillium viride	Green Trillium														
Ulmus thomasii	Rock Elm														
Urtica chamaedryoides	Nettle														
Utricularia cornuta	Horned Bladderwort														
Utricularia intermedia	Flat-leaved Bladderwort														
Utricularia minor	Small Bladderwort														
Vaccinium corymbosum	Highbush Blueberry														
Vaccinium macrocarpon	Large Cranberry														
Vaccinium oxycoccos	Small Cranberry														
Vaccinium stamineum	Deerberry														
Valeriana uliginosa	Marsh Valerian														
Valerianella chenopodifolia	Corn Salad														
Valerianella umbilicata	Corn Salad														
Veronica americana	American Brooklime														
Veronica scutellata	Marsh Speedwell														
Viburnum molle	Arrowwood														
Viola blanda	White Hairy Violet														
Viola canadensis	Canada Violet														
Viola conspersa	Dog Violet														
Viola primulifolia	Primrose Violet														
Woodsia ilvensis	Rusty Woodsia														
Zigadenus elegans	White Camass														

++ = The ESPB voted at the 05/17/2013 meeting to combine varieties flava and herbiola and the species Platanthera flava will be listed as threatened. The proposed change is not official at this time; it would become official if it is continued through the entire statutorily required List revision process. For the purposes of this species review, the species P. flava is generally reviewed using combined data for the two varieties.

Currently listed species individual reviews – for species with reviews, each review includes:
(Note – In the reviews, I provide "notes and recommendations" for those species for which I am recommending listing status change and for those where I felt it necessary to explain my lack of recommendation for a change in listing status. If a species review does not include "notes and recommendations", it means that I am not recommending any change in listing status.)

a. Date of listing, reason for listing;
b. ESPB status and distribution publication species acct;
c. species data from Tables 1 and 2;
d. 1982-2011 5-year element occurrence trend graph;
e. status review triggers (if any) and listing status change recommendation (if any); and
f. NatureServe conservation status, lower 48 (for some spp).

Any species in light blue type was reviewed in the Plant List, Part 1 review that was discussed at the ESPB 158 mtg, held May 17, 2013

Yellow Cells
Species with 4 or fewer EOs and with observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. Staff recommendation is for no listing status change based on the low number of EOs, observation within the last 20 years, and habitat for species with no protected EOs has not been destroyed. No individual review produced.

Red Cells
Species with 4 or fewer EOs and with no observations within the last 20 years (since 1992). For species with no protected EOs, EOs were reviewed to confirm that habitat had not been reported as destroyed at all EOs. For species listed as threatened, species were reviewed for possible T to E recommendation. Also, surv w/ no obs reports were reviewed to confirm they were insufficient to recommended delisting as extirpated. Staff recommendation is for no listing status change based on the low number of EOs, habitat for species with no protected EOs has not been reported as destroyed, combined ecology/distribution/EO data information was not supportive of T to E recommendation, and surv w/ no obs reports are insufficient to recommend delisting as extirpated. No individual review produced.

Blue Cells
Per the Illinois Endangered Species Protection Act (520 ILCS 10/7), the Illinois List automatically adopts species and subspecies designated as endangered or threatened by the USFWS and the Board has the authority to list species that qualify as endangered or threatened as those terms are defined in the ESPA. The Board has in some cases listed subspecies or varieties of a species if those subspecies or varieties are the only representative of the species in Illinois. These subspecies and varieties have been listed as Illinois endangered or threatened, but are not the only representative of the species in Illinois. Staff recommendation is to remove these subspecies and varieties from the IL List. No individual review produced (see Table 5 for more information).

Gray Cells
Species not considered in this Part 2, 1st cut Plant list review (for Augist, 2013), but will be considered in the Part 3, 1st cut Plant list review (for August, 2013) or a subsequent iteration, if staff is not able to complete all plant reviews in two volumes.

		Page or Table
Adoxa moschatellina	Moschatel	
Agalinus skinneriana	Pale False Foxglove	
Alnus incana subsp. rugosa	Speckled Alder	
Amelanchier interior	Shadbush	
Amelanchier sanguinea	Shadbush	
Ammophila breviligulata	Marram Grass	
Amorpha nitens	Smooth False Indigo	
Arctopstaphylos uva-ursi	Bearberry	
Artemisia dracunculus	Dragon Wormwood	
Asclepias lanuginosa	Wooly Milkweed	
Asclepias meadii	Mead's Milkweed	
Asclepias ovalifolia	Oval Milkweed	
Asclepias stenophylla	Narrow-leaved Green Milkweed	
Asplenium bradleyi	Bradley's Spleenwort	
Asplenium resiliens	Black Spleenwort	
Aster furcatus	Forked Aster	
Astragalus crassicarpus var. trichocalyx	Large Ground Plum	
Astragalus distortus	Bent Milk Vetch	
Astragalus tennesseensis	Tennessee Milk Vetch	
Baptisia tinctoria	Yellow Wild Indigo	
Bartonia paniculata	Screwstem	
Beckmannia syzigachne	American Slough Grass	
Berberis canadensis	Allegheny Barberry	

Berchemia scandens	Supple-Jack	
Bessya bullii	Kitten Tails	
Betula allehaniensis	Yellow Birch	
Boltonia decurrens	Decurrent False Aster	
Botrychium biternatum	Southern Grape Fern	
Botrychium campestre	Prairie Moonwort	
Botrychium matricariifolium	Daisyleaf Grape Fern	
Botrychium multifidum	Northern Grape Fern	
Botrychium simplex	Dwarf Grape Fern	
Bouteloua gracilis	Blue Grama	
Buchnera americana	Bluehearts	
Bumelia lanuginosa	Wooly Buckthorn	
Cakile edentula	Sea Rocket	
Calamogrostis insperata	Bluejoint Grass	
Calla palustris	Water Arum	
Calopogon oklahomensis	Oklahoma Grass Pink Orchid	
Calopogon tuberosus	Grass Pink Orchid	
Camassia angusta	Wild Hyacinth	
Cardamime pratensis var. palustris	Cuckoo Flower	
Carex alata	Winged Sedge	
Carex arkansana	Arkansas Sedge	
Carex atlantica	Sedge	
Carex aurea	Golden Sedge	
Carex bromoides	Sedge	
Carex brunnescens	Brownish Sedge	
Carex canescens var. disjuncta	Silvery Sedge	
Carex chordorrhiza	Cordroot Sedge	
Carex communis	Fibrous-rooted Sedge	
Carex crawfordii	Crawford's Sedge	
Carex crytolepis	Yellow Sedge	
Carex cumulata	Sedge	
Carex decomposita	Cypress-knee Sedge	
Carex diandra	Sedge	
Carex disperma	Shortleaf Sedge	
Carex echinata	Sedge	
Carex formosa	Sedge	
Carex garberi	Elk Sedge	
Carex gigantea	Large Sedge	
Carex inops subsp. heliophila	Plains Sedge	
Carex intumescens	Swollen Sedge	
Carex nigromarginata	Black-edged Sedge	
Carex oligosperma	Few-seeded Sedge	
Carex oxylepis	Sharp-scaled Sedge	
Carex physorhyncha	Bellow's Beak Sedge	
Carex plantaginea	Plaintain-leaved Sedge	
Carex prasina	Drooping Sedge	
Carex reniformis	Reniform Sedge	
Carex trisperma	Three-seeded Sedge	
Carex tuckermanii	Tuckerman's Sedge	
Carex viridula	Little Green Sedge	
Carex willdenowii	Willdenow's Sedge	
Carex woodii	Pretty Sedge	
Carya aquatica	Water Hickory	
Carya pallida	Pale Hickory	
Castilleja sessiliflora	Downy Yellow Painted Cup	
Ceanothus herbaceus	Redroot	
Chamaedaphne calyculata	Leatherleaf	
Chamaelirium luteum	Fairy Wand	

Chamaesyce polygonifolia	Seaside Spurge	
Chimaphila maculata	Spotted Wintergreen	
Chimaphila umbellata	Pipsissewa	
Cimicifuga americana	American Bugbane	
Cimicifuga racemosa	False Bugbane	
Cimicifuga rubifolia	Black Cohosh	
Circaea alpina	Small Enchanter's Nightshade	
Cirsium pitcheri	Pitcher's (Dune) Thistle	
Cladrastis lutea	Yellowwood	
Clematis crispa	Blue Jasmine	
Clematis occidentalis	Mountain Clematis	
Clematis viorna	Leatherflower	
Collinsia violacea	Violet Collinsia	
Comptonia peregrina	Sweetfern	
Conioselinum chinense	Hemlock Parsley	
Corallorhiza maculata	Spotted Coral-root Orchid	
Cornus canadensis	Bunchberry	
Corydalis aurea	Golden Corydalis	
Corydalis halei	Hale's Corydalis	
Corydalis sempervirens	Pink Corydalis	
Corylus cornuta	Beaked Hazelnut	
Cynosciadium digitatum	Cynosciadium	
Cyperus grayioides	Umbrella Sedge	
Cyperus lancastriensis	Galingale	
Cypripedium acaula	Moccasin Flower	
Cypripedium candidum	White Lady's Slipper	
Cypripedium parviflorum var. makasin	Small Yellow Lady's Slipper	
Cypripedium reginae	Showy Lady's Slipper	
Cystopteris laurentiana	Laurentian Fragile Fern	
Dalea foliosa	Leafy Prairie Clover	
Delphinium carolinianum	Wild Blue Larkspur	
Dennstaedtia punctilobula	Hay-scented Fern	
Deschampsia flexuosa	Hairgraass	
Dichanthelium boreale	Northern Panic Grass	
Dichanthelium joori	Panic Grass	
Dichanthelium portoricense	Hemlock Panic Grass	
Dichanthelium ravenelii	Ravenel's Panic Grass	
Dichanthelium yadkinense	Panic Grass	
Dodecatheon frenchii	French's Shootingstar	
Draba cuneifolia	Whitlow Grass	
Drosera intermedia	Narrow-leaved Sundew	
Drosera rotundifolia	Round-leaved Sundew	
Dryopteris celsa	Log Fern	
Echinodorus tenellus	Small Burhead	
Eleocharis olivacea	Capitate Spikerush	
Eleocharis pauciflora	Few-flowered Spikerush	
Eleocharis rostellata	Beaked Spike Rush	
Elymus trachycaulus	Bearded Wheat Grass	
Epilobium strictum	Downy Willow Herb	
Equisetum pratense	Meadow Horsetail	
Equisetum scirpoides	Dwarf Scouring Rush	
Equisetum sylvaticum	Woodland Horsetail	
Eriophorum virginicum	Rusty Cotton Grass	
Eryngium prostratum	Eryngo	
Euonymus americanus	American Strawberry Bush	
Eupatorium hyssopifolium	Hyssop-leaved Thoroughwort	
Euphorbia spathulata	Spurge	
Filipendula rubra	Queen-of-the-Prairie	

Fimbristylis vahlii	Vahl's Fimbristylis	
Galactia mohlenbrockii	Boykin's Dioclea	
Galium lanceolatum	Wild Licorice	
Galium virgatum	Dwarf Bedstraw	
Geranium bicknellii	Northern Cranesbill	
Glyceria arkansana	Arkansas Mannagrass	
Gratiola quartermaniae	Hedge Hyssop	
Gymnocarpium dryopteris	Oak Fern	
Gymnocarpium robertianum	Scented Oak Fern	
Hackelia deflexa var. americana	Stickseed	
Halesia carolina	Silverbell Tree	
Helianthus angustifolius	Narrow-leaved Sunflower	
Helianthus giganteus	Tall Sunflower	
Heliotropium tenellum	Slender Heliotrope	
Heteranthera reniformis	Mud Plantian	
Hexalectris spicata	Crested Coralroot Orchid	
Hudsonia tomentosa	False Heather	
Huperzia porophila	Cliff Clubmoss	
Hydrolea uniflora	One-flowered Hydrolea	
Species following this break (and that are not in light blue text) and preceding the next break are those reviewed in this current Plant List, Part 2 review.		
Hymenopappus scabiosaeus	Old Plainsman	48
Hypericum adpressum	Shore St. John's Wort	50
Hypericum kalmianum	Kalm's St. John's Wort	
Iliamna remota	Kankakee Mallow	
Iresine rhizomatosa	Bloodleaf	52
Isoetes butleri	Butler's Quillwort	54
Isotria verticillata	Whorled Pogonia	
Juncus alpinus	Richardson's Rush	59
Juncus vaseyi	Vasey's Rush	
Juniperus communis	Ground Juniper	61
Juniperus horizontalis	Trailing Juniper	
Justica ovata	Water Willow	
Larix laricina	Tamarack	63
Lathyrus ochroleucus	Pale Vetchling	65
Lechea intermedia	Pinweed	67
Lespdeza leptochachya	Prairie Bush Clover	69
Lesquerella ludoviciana	Silvery Bladderpod	
Liatris scariosa var. nieuwlandii	Blazing Star	71
Lonicera dioica var. glaucescens	Red Honeysuckle	
Lonicera flava	Yellow Honeysuckle	73
Luzula acuminata	Hairy Woodrush	75
Lycopodiella inundata	Bog Clubmoss	
Lycopodium clavatum	Running Pine	77
Lycopodium dendroideum	Ground Pine	79
Lysimachia radicans	Creeping Loosestrife	
Malus angustifolia	Narrow-leaved Crabapple	
Malvastrum hispidum	False Mallow	
Matelea decipiens	Climbing Milkweed	81
Matelea obliqua	Climbing Milkweed	83
Medeola virginiana	Indian Cucumber Root	
Megalodonta beckii	Water Marigold	
Melanthera nivea	White Melanthera	
Melanthium virginicum	Bunchflower	85
Melica mutica	Two-Flowered Melic Grass	
Melothria pendula	Squirting Cucumber	87

Menyanthes trifoliata	Buckbean	89
Mimulus glabratus	Yellow Monkey Flower	91
Minuartia patula	Slender Sandwort	93
Mirabilis hirsuta	Hairy Umbrella-wort	
Nemophila triloba	Baby Blue-eyes	
Nothocalais cuspidata	Prairie Dandelion	95
Oenothera perennis	Small Sundrops	97
Opuntia fragilis	Fragile Prickly Pear	
Orobanche fasciculata	Clustered Broomrape	
Orobanche ludoviciana	Broomrape	99
Oxalis illinoensis	Illinois Wood Sorrel	101
Paspalum dissectum	Bead Grass	104
Penstemon brevisepalus	Short-sepaled Beard Tongue	
Penstemon grandiflorus	Large-flowered Beard Tongue	106
Penstemon tubaeflorus	Tube Beard Tongue	109
Phacelia gilioides	Ozark Phacelia	
Phaeophyscia leana	Lea's Bog Lichen	112
Phegopteris connectilis	Long Beech Fern	
Phlox pilosa subsp. sangamonensis	Sangamon Phlox	
Pinus banksiana	Jack Pine	
Pinus echinata	Shortleaf Pine	
Pinus resinosa	Red Pine	
Planera aquatica	Water Elm	114
Plantago cordata	Heart-leaved Plantain	116
Platanthera ciliaris	Orange Fringed Orchid	
Platanthera clavellata	Wood Orchid	118
Platanthera flava++	Tubercled Orchid++	120
Platanthera leucophaea	Eastern Prairie Fringed Orchid	121
Platanthera psycodes	Purple Fringed Orchid	123
Poa alsodes	Grove Bluegrass	125
Poa languida	Weak Bluegrass	
Poa wolfii	Wolf's Bluegrass	127
Pogonia ophioglossoides	Snake-mouth	129
Polanisia jamesii	James' Clammyweed	
Polygala incarnata	Pink Milkwort	131
Polygonatum pubescens	Downy Solomon's Seal	133
Polygonum arifolium	Halberd-leaved Tearthumb	
Polygonum careyi	Carey's Heartsease	138
Populus balsamifera	Balsam Poplar	140
Potamogeton gramineus	Grass-leaved Pondweed	142
Potamogeton praelongus	White-stemmed Pondweed	144
Potamogeton pulcher	Spotted Pondweed	
Potamogeton robbinsii	Fern Pondweed	146
Potamogeton strictifolius	Stiff Pondweed	
Primula mistassinica	Bird's-eye Primrose	
Ptilimnium nuttallii	Mock's Bishop Weed	
Quercus montana	Rock Chestnut Oak	148
Quercus phellos	Willow Oak	150
Species following this break (and that are not in light blue text) are anticipated for review in the Plant List , Part 3 review – expected for discussion at the ESPB 160 meeting 11/15/20013		
Quercus texana	Nuttall's Oak	
Ranunculus rhomboideus	Prairie Buttercup	
Rhamnus alnifolia	Alder Buckthorn	
Rhexia mariana	Dull Meadow Beauty	
Rhynchospora alba	Beaked Rush	
Rhynchospora glomerata	Clustered Beak Rush	

Ribes hirtellum	Northern Gooseberry	
Rosa acicularis	Bristly Rose	
Rubus odoratus	Purple-flowering Raspberry	
Rubus pubescens	Dwarf Raspberry	
Rubus schneideri	Bristly Blackberry	
Rudbeckia missouriensis	Missouri Orange Coneflower	
Sabatia campestris	Prairie Rose Gentian	
Sagittaria australis	Arrowhead	
Salix serissima	Autumn Willow	
Salix syrticola	Dune Willow	
Salvia asurea subsp. pitcheri	Blue Sage	
Sambucus racemosa subsp. pubens	Red-berried Elder	
Sanguisorba canadensis	American Burnet	
Sanicula smallii	Southern Sanicula	
Sarracenia purpurea	Pitcher Plant	
Saxifraga virginiensis	Early Saxifrage	
Schizachne purpurascens	False Melic Grass	
Schoenoplectus hallii	Hall's Bulrush	
Schoenoplectus purshianus	Weak Bulrush	
Schoenoplectus smithii	Smith's Bulrush	
Scirpus hattorianus	Bulrush	
Scirpus microcarpus	Bulrush	
Scirpus polyphyllus	Bulrush	
Scleria muhlenbergii	Muhlenberg's Nut Rush	
Scleria pauciflora	Carolina Whipgrass	
Sedum telephioides	American Orpine	
Sheperdia canadensis	Buffaloberry	
Silene ovata	Ovate Catchfly	
Silene regia	Royal Catchfly	
Sisyrinchium atlanticum	Eastern Blue-eyed Grass	
Sisyrinchium montanum	Mountain Blue-eyed Grass	
Solidago sciaphila	Cliff Goldenrod	
Sorbus americana	American Mountain Ash	
Sparganium americanum	American Burreed	
Sparganium emersum	Green-fruited Burreed	
Spiranthes lucida	Yellow-lipped Ladies' Tresses	
Spiranthes vernalis	Spring Ladies' Tresses	
Stellaria pubera	Great Chickweed	
Stenanthium gramineum	Grass-leaved Lily	
Stylisma pickeringii	Patterson's Bindweed	
Styrax americana	Storax	
Styrax grandifolius	Bigleaf Snowbell Bush	
Sullivantia sullivantia	Sullivantia	
Symphoricarpos ablus var. albus	Snowberry	
Synandra hispidula	Hairy Synandra	
Talinum calycinum	Fameflower	
Talinum parviflorum	Small Flower-of-an-hour	
Tetraneuris herbacea	Lakeside Daisy	
Thelypteris noveboracensis	New York Fern	
Tilia heterophylla	White Basswood	
Tofieldia glutinosa	False Asphodel	
Tomanthera auriculata	Ear-leafed Foxglove	
Torreyochloa pallida	Pole Manna-Grass	
Tradescantia bracteata	Prairie Spiderwort	
Trichomanes boschianum	Filmy fern	
Trichophorum cespitosum	Tufted Bulrush	
Trientalis borealis	Star-flower	
Trifolium reflexum	Buffalo Clover	

Triglochin maritima	Common Bog Arrowgrass	
Triglochin palustris	Slender Bog Arrowgrass	
Trillium cernuum	Nodding Trillium	
Trillium erectum	Ill-scented Trillium	
Trillium viride	Green Trillium	
Ulmus thomasii	Rock Elm	
Urtica chamaedryoides	Nettle	
Utricularia cornuta	Horned Bladderwort	
Utricularia intermedia	Flat-leaved Bladderwort	
Utricularia minor	Small Bladderwort	
Vaccinium corymbosum	Highbush Blueberry	
Vaccinium macrocarpon	Large Cranberry	
Vaccinium oxycoccos	Small Cranberry	
Vaccinium stemineum	Deerberry	
Valeriana uliginosa	Marsh Valerian	
Valerianella chenopodifolia	Corn Salad	
Valerianella umbilicata	Corn Salad	
Veronica americana	American Brooklime	
Veronica scutellata	Marsh Speedwell	
Viburnum molle	Arrowwood	
Viola blanda	White Hairy Violet	
Viola canadensis	Canada Violet	
Viola conspersa	Dog Violet	
Viola primulifolia	Primrose Violet	
Woodsia ilvensis	Rusty Woodsia	
Zigadenus elegans	White Camass	

++ = The ESPB voted at the 05/17/2013 meeting to combine varieties flava and herbiola and the species Platanthera flava will be listed as threatened. The proposed change is not official at this time; it would become official if it is continued through the entire statutorily required List revision process. For the purposes of this species review, the species P. flava is generally reviewed using combined data for the two varieties.

Nominations for species to be added as endangered or threatened:

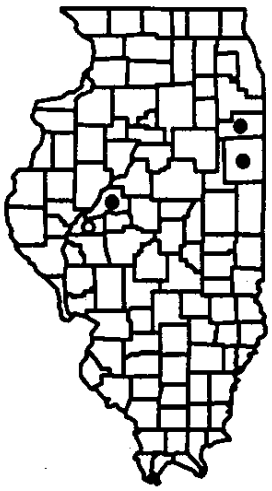
Juglans cinera	Butternut	begins, page 152

Old Plainsman, Hymenopappus scabiosaeus (Illinois threatened)

Listed as IL T 09/01/2004
Reason for listing: restricted habitats or low pops in IL;

Hymenopappus scabiosaeus L'Her.

OLD PLAINSMAN **ASTERACEAE** **Status:** Threatened in Illinois



Habit: Taprooted biennial herb, stems 30-70 cm tall.

Range: South-central and southeastern United States.

Hymenopappus scabiosaeus is a common species of dry prairies and open woods throughout much of its range. In Illinois the old plainsman is historically known from sand prairies and open sand forests in four counties in central Illinois (Cass, Iroquois, Kankakee, and Mason counties). This taxon is presently known from 16 populations in three counties, most in the Kankakee River Sand Area of eastern Illinois. Some populations contain large numbers of individuals, but 13 are located in disturbed, very marginal habitats such as roadsides and abandoned fields. One relatively large population occurs in a state nature preserve in Iroquois County.

References: Gleason and Cronquist (1991), McClain and Ebinger (2002).

MAP

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species is known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle.

Citation: Nÿboer, R. W. and J. E. Ebinger, editors. 2004. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 3: 2004 Changes to the Illinois List of Endangered and Threatened Plant Species. Illinois Endangered Species Protection Board, Springfield, Illinois. 34 pp.

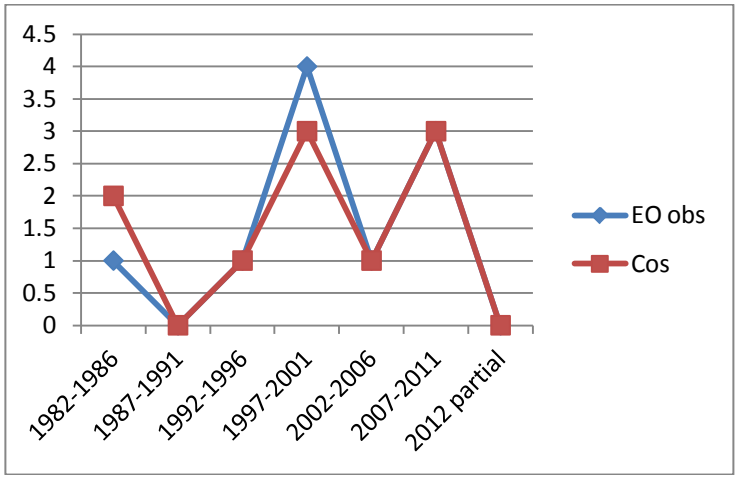
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/21/2012	5	3	2	6	3	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	0	1	4	1	3	0
Cos	2	0	1	3	1	3	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

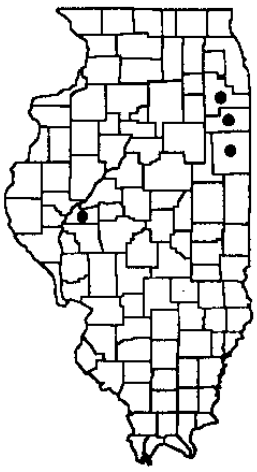
Shore St. John's Wort, Hypericum adpressum (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Hypericum adpressum Bart.

SHORE ST. JOHN'S WORT **CLUSIACEAE**

Status: Endangered in Illinois.
Habit: Perennial stoloniferous herb, stems 30-80 cm tall.
Range: Eastern United States.



A plant of damp, often peaty soil, *Hypericum adpressum* reaches its northwestern range limit in the Kankakee Sand Area Section of Illinois. It is presently known from a state conservation area in Iroquois County, state nature preserves in Cass and Will counties, and on private land in Kankakee County.
References: Mohlenbrock (1978), Schwegman (1991).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

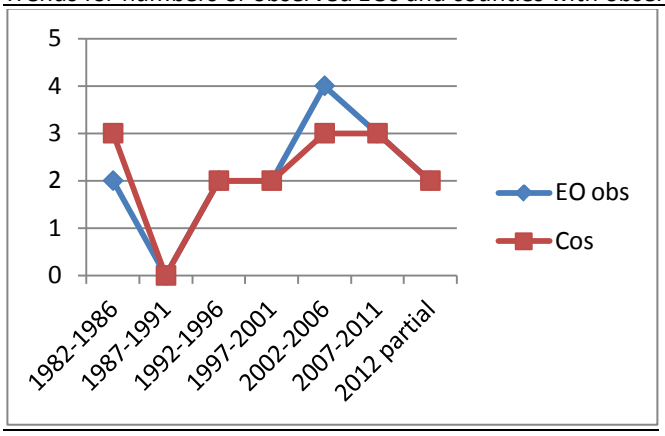
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
07/13/2012	5	4	5	4	4	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

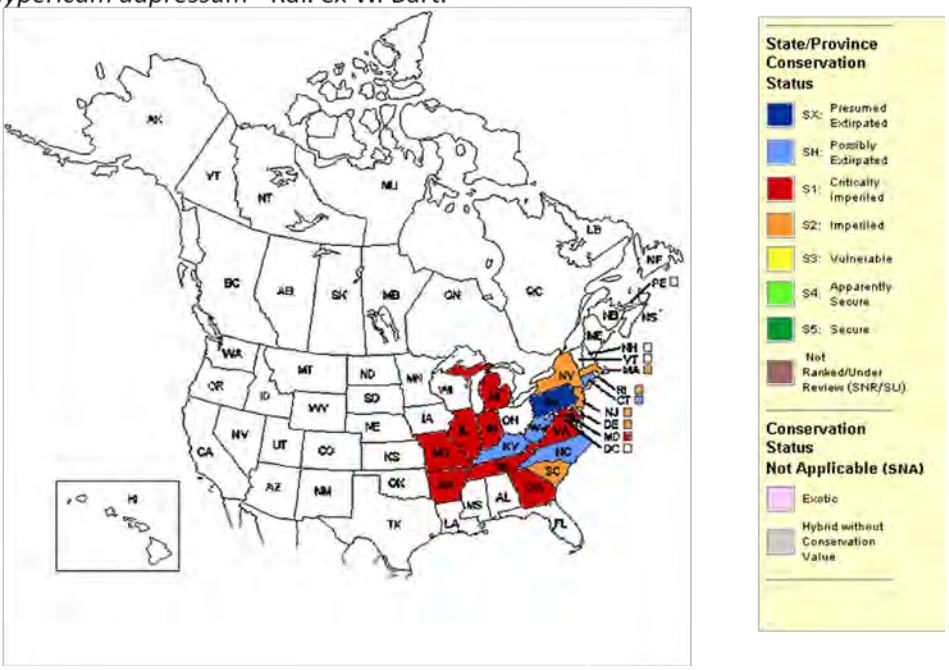
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	0	2	2	4	3	2
Cos	3	0	2	2	3	3	2

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Hypericum adpressum - Raf. ex W. Bart.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Bloodleaf, Iresine rhizomatosa (Illinois endangered)

Listed as IL E, 5/20/1980;
Reason for listing: restricted habitats or low pops in IL;

Iresine rhizomatosa Standl.

BLOODLEAF **AMARANTHACEAE**

Status: Endangered in Illinois.
Habit: Perennial rhizomatous herb, stems 0.3-1.5 m tall.
Range: Southeastern United States.

Iresine rhizomatosa reaches its northern range limit in floodplain forests of the Ohio and Wabash rivers in southeastern Illinois. This species is known from a state nature preserve in Wabash County.
References: Evers (1962), Ashby and Ozment (1967), Evers and Page (1977).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

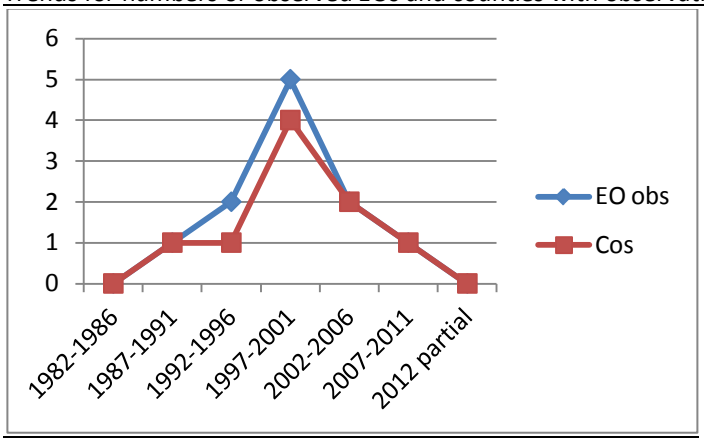
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
9/22/2010	6	2	2	6	4	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

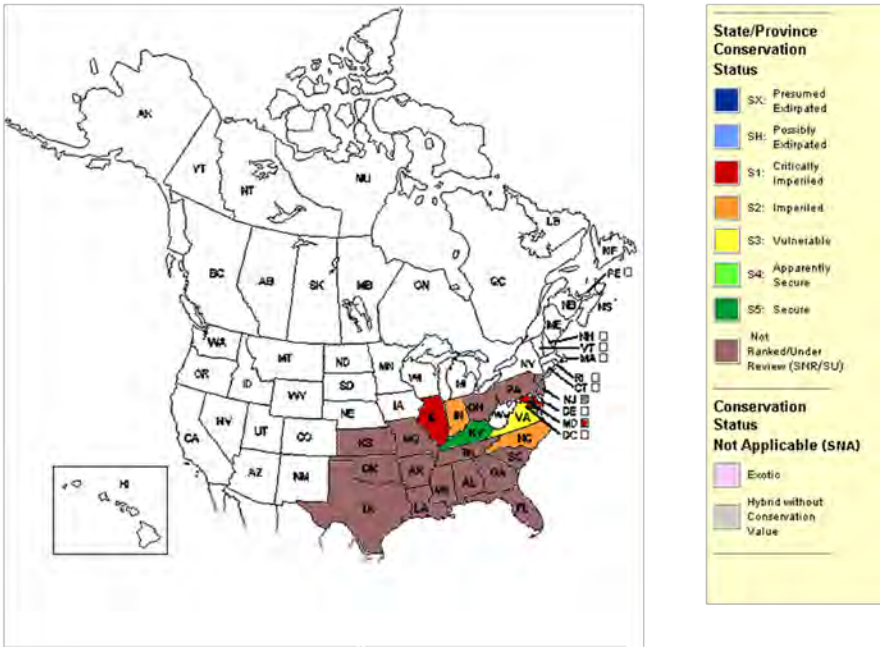
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	1	2	5	2	1	0
Cos	0	1	1	4	2	1	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Iresine rhizomatosa – Standl.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Quillwort, Isoetes butleri (Illinois endangered)

Listed as IL E, 01/18/1994
Reason for listing: restricted habitats or low pops in IL;

Isoetes butleri Engelm.

BUTLER'S QUILLWORT **ISOETACEAE**

Status: Endangered in Illinois.
Habit: Perennial cespitose herb with linear grasslike basal leaves, to 30 cm long.
Range: Central United States.

Isoetes butleri is known from only five populations in Illinois, all in Will County. Two populations are from a state conservation area, another from the Midewin National Tallgrass Prairie. At these sites it grows in seasonably wet areas in thin soil over dolomite bedrock. An earlier report of this species in southern Illinois was based on a misidentified specimen.
References: Mohlenbrock (1967b), Taylor *et al.* (1975, 1993), Taylor and Schwegman (1992).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

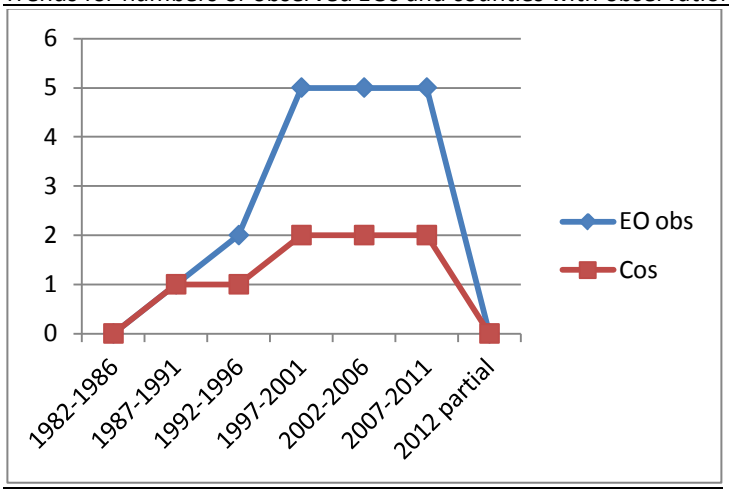
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2010	7	6	1	5	2	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	1	2	5	5	5	0
Cos	0	1	1	2	2	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski 07/15/13 notes and recommendation:
When the species was originally listed as endangered in 1994, there was only one known occurrence in one county that was established as an EO. Since then, six EOs and one county have been added ; five EOs and one county added in the 1990s and one EO added in the 2000s. There have been no "surveyed w/ no observation" reports at any EO for which there were not subsequent observations. Fully 86% of EOs have had observations in the last ten years. Four EOs (57% of total) have had repeated observations in each of the two most recent 5-year intervals. Most recent reported population numbers are: observed; 6,215-6,415 rosettes in 3 locations; 533 plants across 6 nested sites; 100+ plants; observed; 4 plants; and, 4,454 rosettes. The Database summary reports that only one EO is protected in a Nature Preserve. It appears the species' status is now more secure than when it was listed.

Mankowski 07/15/13 recommendation – change from endangered to threatened.

ESPB TEC Susanne Masi email of 07/23/13
I recommend that *Isoetes butleri* be maintained as Endangered for the following reasons.

Plants of Concern has monitored this species at 4 of the 7 historically reported sites in Will and DuPage Counties:

Midewin National Tallgrass Prairie (Will)
Dellwood Park/Lockport Prairie East (Will)
Waterfall Glen (Dupage – also called New Avenue site
Blodgett Road Dolomite Prairie (Will)

A 5th site from the Natural Heritage Database, Durkee Road, is now extirpated. Eric Ulaszek, Horticulturist at Midewin National Tallgrass Prairie, reports that the Durkee Road population "has been gradually destroyed over the years. The last time we saw an Isoetes out there was in 2011, one plant ….Now all the Isoetes habitat is destroyed by the concrete facility" (Email correspondence, July 18, 2013 and attached photo– the remaining *Isoetes* habitat was in the black graded area in the photo.)

A 6th site, Mobile Oil Property, last reported in 1997, is believed to be now destroyed, in part by installation of a new pipeline (2010-2011). (Email correspondence from Eric Ulaszek, July 18, 2013).

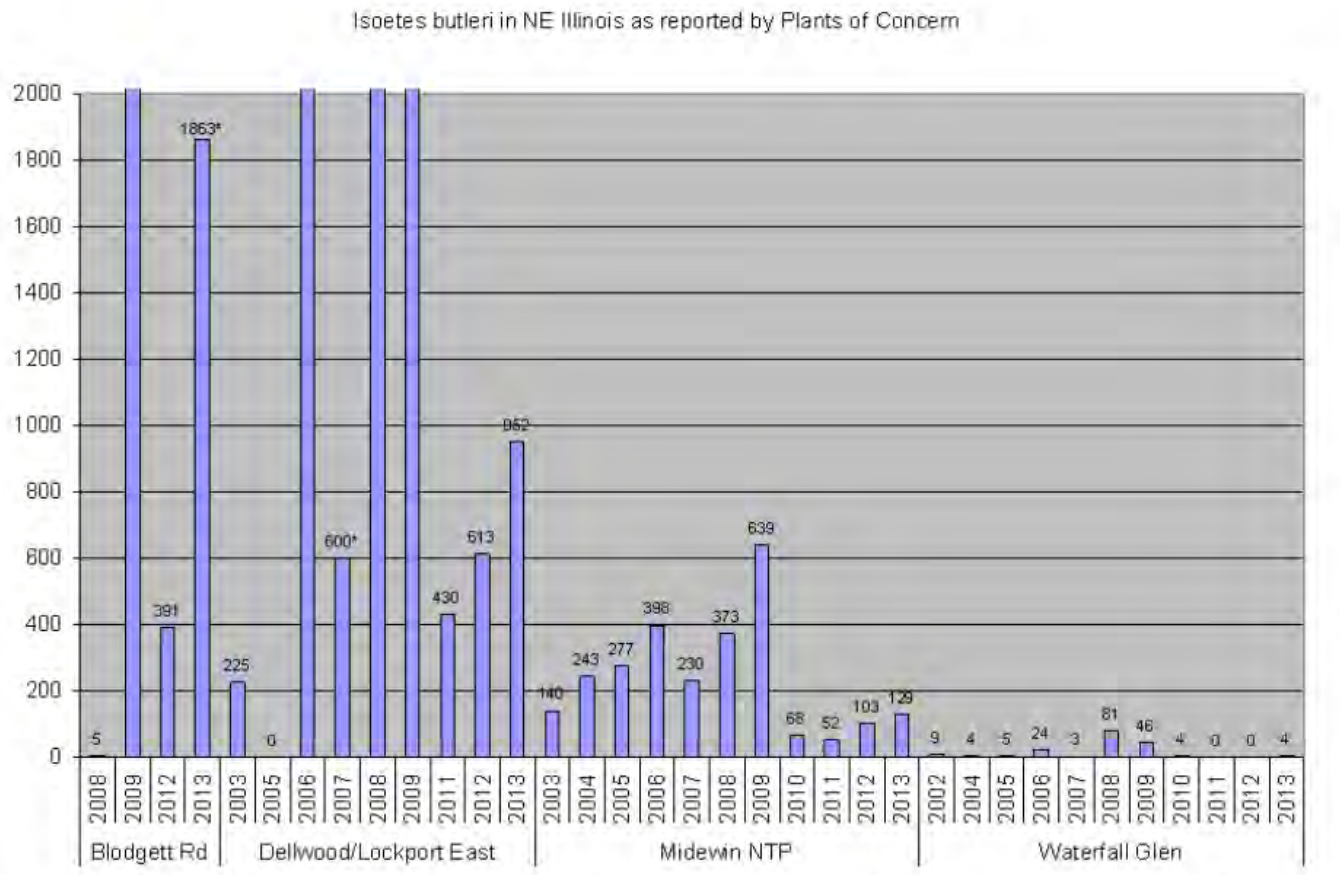
A 7th site, Des Plaines Dolomite Prairie population, not reported on since 2007 when it was observed, but not censused, is "evidently still present," according to Ulaszek. (Email correspondence, July 18, 2013).

Although the number of sites has increased from one in 1994 to 5 (remaining) in 2013, this is an extremely rare plant in Illinois and at the northern edge of its range in NE IL. The Waterfall Glen population has declined from a peak of 81 plants in 2008 to 4 in 2013, and is at high risk. The Midewin population has declined from a peak of 639 plants in 2009 to 129 in 2013. The Dellwood Park/Lockport East populations and the Blodgett Road Dolomite Prairie populations are robust. With only 2-3 sustainable populations (the Des Plaines population size has not been reported since before 2002) - far fewer than EOR numbers for some other Illinois Endangered species - this species merits being maintained as Endangered.

See spreadsheet and chart below for details of the Plants of Concern reports for 2012 and 2013, from the Plants of Concern database. Information from this database is shared each year with the Illinois Natural Heritage Database.

Isoetes butleri in NE Illinois as reported by Plants of Concern: 2012-2013						
			2012 Monitoring		2013 Monitoring	
Site (County)	EOR	# of Subpops *	Total #	Threats	Total #	Threats
Blodgett Road Dolomite Prairie (Will)	36*2	4	392	Invasive Woody Brush Encroachment (1-25%)	1863	Invasive Woody Brush Encroachment (1-25%)
Midewin NTP (Will)	742*3	5	103	Invasive Woody Brush Encroachment (1-25%), heavy duff buildup	129	Invasive Woody Brush Encroachment (1-25%), Duff
Dellwood Park West NP/Lockport Prairie East (Will)	148*0	1	753	Invasive Woody Brush Encroachment (1-25%)	952	Invasive Woody Brush Encroachment (1-25%)
Waterfall Glen (DuPage)	4878*6	1	0	Invasive Woody Brush Encroachment (1-25%), Poa compressa (81-100%)	4	Invasive Woody Brush Encroachment (1-25%), Poa compressa (81-100%)

*Subpopulation is a separate grouping of plants within a larger population area.



- * = Estimated Population Count. Estimates for Blodgett Road for 2009: 6264; for Dellwood 2006: 11,521; 2008: 8568; 2009: 4454. All other numbers represent actual counts.

Mankowski response: In approving the process and schedule for this current List review, the Board agreed that data from the Database would be its primary data source and any other data needs to be submitted to and entered into the Database in order for the Board to consider it. The Board agreed that Database data into the 2012 season would be considered. The schedule for ESPB staff coordination with the Database called for a ESPB staff to get a Database update in February 2013 to use in developing the majority of, if not all, plant species reviews. According to the Database, the Plants of Concern (POC) program submitted its 2012 data to the Database in March 2013, so it was not included in Part 1 or Part 2 of the Plant list 1st cut reviews. The Database is understaffed and often operates with a backlog of data to be entered. The POC 2012 data had still not been entered into the Database when ESPB staff received in July 2013 another update from the Database that will be used to complete the Plant list review. So, the POC 2012 data is not reflected in the Database information included in the ESPB staff species reviews or recommendations – this was the same case for INHS/IDNR 2012 fish data. While the Board has agreed to consider 2013 survey data that has been submitted for a few species that were recommended for delisting, the subject species is not recommended for delisting. ESPB staff recommends that the 2013 data should not be considered in the current review since this is the same standard applied to all other plant species reviewed, with the exception of a few that were proposed for delisting.

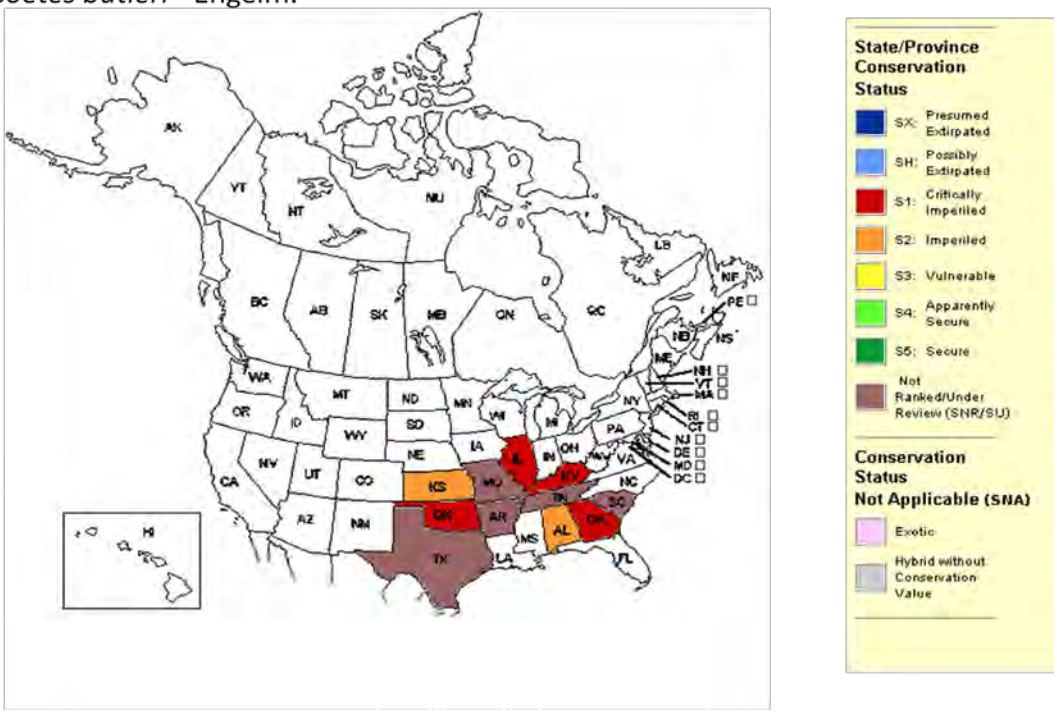
The commenter uses some different names for EOs so it is unclear how the site data correlate to EOs. While it is appreciated that the commenter provides anecdotal information that two EOs (?) may now be extirpated, that determination needs to be made/confirmed by the Database. The commenter's 2012 data may indicate a reduction in the number of individuals at four locations as compared to the Database numbers cited in the ESPB staff species review notes and recommendation. However, the commenter's 2013 data also indicates a significant increase from 2012 in the number of individual in each of the same locations. Upon review of the commenter's

data ESPB staff is not persuaded to change the ESPB staff notes and recommendation and maintains the recommendation for changing the status from endangered to threatened.

Mankowski 08/02/13 recommendation – change from endangered to threatened.

NatureServe Conservation Status in United States

Isoetes butleri - Engelm.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

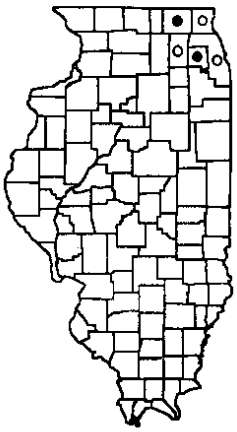
Richardson's Rush, Juncus alpinus (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 10/30/2009
Reason for listing: restricted habitats or low pops in IL;

Juncus alpinus Vill.

RICHARDSON'S RUSH **JUNCACEAE**

Status: Endangered in Illinois.
Habit: Perennial rhizomatous rush, stems to 30 cm tall.
Range: Circumboreal, south into northern United States.



Juncus alpinus reaches its southern range limit in northeastern Illinois, where it occurs rarely in fens, wet sand prairies and interdunal swales near Lake Michigan. It persists in a county conservation area in McHenry County, and in a forest preserve in DuPage County.
Note: In Illinois this taxon is represented by variety *rariflorus* Hartm. and variety *fuscescens* Fern. The scientific name of this species is presently considered to be *Juncus alpinoarticulatus* Chaix.
References: Gates (1912), DeFilipps (1964, 1966), Mohlenbrock (1970b).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

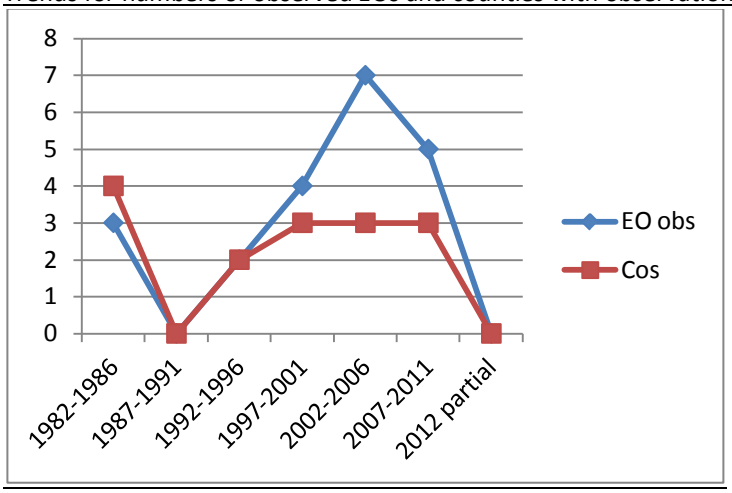
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
07/01/2011	11	8	2	9	4	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	3	0	2	4	7	5	0
Cos	4	0	2	3	3	3	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

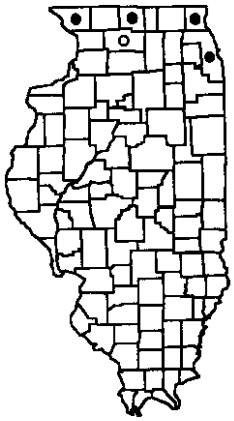
Ground Juniper, Juniperus communis (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Juniperus communis L.

GROUND JUNIPER **CUPRESSACEAE**

Status: Threatened in Illinois.
Habit: Evergreen shrub, to 1.5 m tall.
Range: Circumboreal, south into northern United States.



Juniperus communis occurs in northern Illinois along the southern margin of its range. Its primary habitat is the Lake Michigan dunes, but it also occurs on glacial till bluffs and ravines adjacent to the lakeshore. Some inland populations are in successional communities and do not represent natural occurrences of this species. Most of the Cook County stations have been destroyed by urban growth, and those in Lake County have been greatly reduced. The most extensive populations are in a state nature preserve and a state park, where their habitat is affected by recreational use and accelerated shoreline erosion.
Note: In Illinois this species is represented by variety *communis* and variety *depressa* Pursh.
References: Gates (1910, 1912), Tehon (1942), Moran (1978), Adams (1993).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

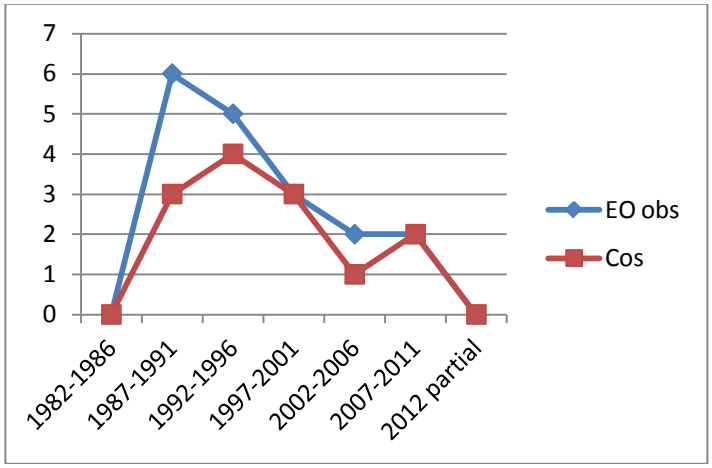
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
10/21/2009	8	3	1	7	4	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	6	5	3	2	2	0
Cos	0	3	4	3	1	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as threatened in 1980, there was occurrence information sufficient to establish two EOs. Since then, six EOs have been added; two in the 1980s and four (one of which was planted) in the 1990s. While there have been no "surveyed w/ no observation" reports at any EO for which there were not subsequent observations, only three EOs (38% of total) have had observations in the last 10 years. Three EOs (38% of total) have not had observations since at least 1996 and two (25% of total) have not had observations since at least 2001. Most recent reported population numbers at four EOs (50% of total) were for observations of single plants. The remaining EOs had most recent reported population numbers of 101-200 clumps (25% fruiting), 17 stems in 2 locations, 11 clumps across 3 nested sites, and observed. Since the number of recent observations is not too different than the number of known locations when the species was first listed as threatened, it would be good to confirm the status of EOs without recent reports before recommending a change in the species' listing status from threatened to endangered.

Mankowski recommendation –no change in listing status.

NatureServe Conservation Status in United States

None queried.

Tamarack, Larix laricina (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Larix laricina (DuRoi) K. Koch

TAMARACK **PINACEAE**

Status: Threatened in Illinois.
Habit: Deciduous coniferous tree, to 20 m tall.
Range: Subarctic and boreal Canada, south into northeastern United States.

Larix laricina is usually limited to peat soils of bogs and forested fens in the Northeastern Morainal Natural Division of Illinois. It has been severely reduced in frequency and abundance in the state, but large populations persist in Lake and McHenry counties. Four of these are protected in state nature preserves. This species continues to be threatened in Illinois by drainage, water table depression, flooding, and competition from the introduced shrub glossy buckthorn. Additionally, some populations have suffered heavy losses during bark beetle outbreaks, and one small stand was destroyed by fire.

References: Emerson (1921), Sheviak and Haney (1973), Taft and Solecki (1990), Parker (1993).

KEY

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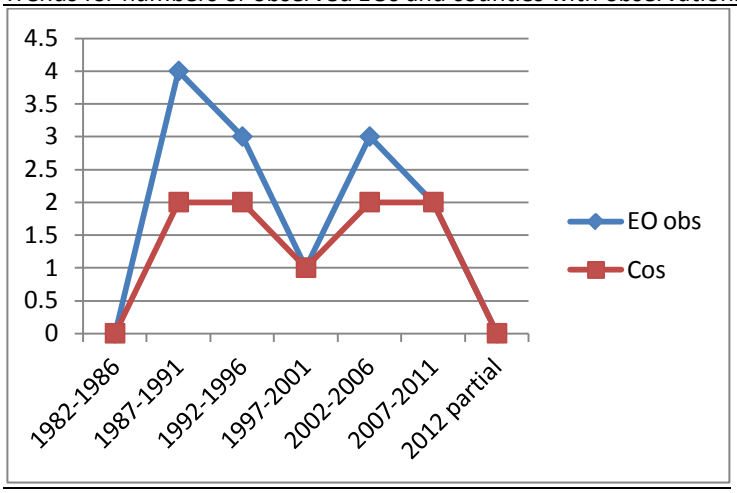
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
06/23/2009	5	4	4	4	2	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	4	3	1	3	2	0
Cos	0	2	2	1	2	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Pale vetchling, Lathyrus ochroleucus (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Lathyrus ochroleucus Hook.

PALE VETCHLING **FABACEAE**

Status: Threatened in Illinois.
Habit: Perennial rhizomatous herb, with sprawling stems to 80 cm long.
Range: Boreal Canada, south into northern United States.

Lathyrus ochroleucus occurs in northern Illinois along the southern margin of its range, where it is known from ten localities. Four populations are protected, two in state nature preserves, one in a state park, and one in a forest preserve.
Reference: Fassett (1961).

KEY

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Citation: 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.

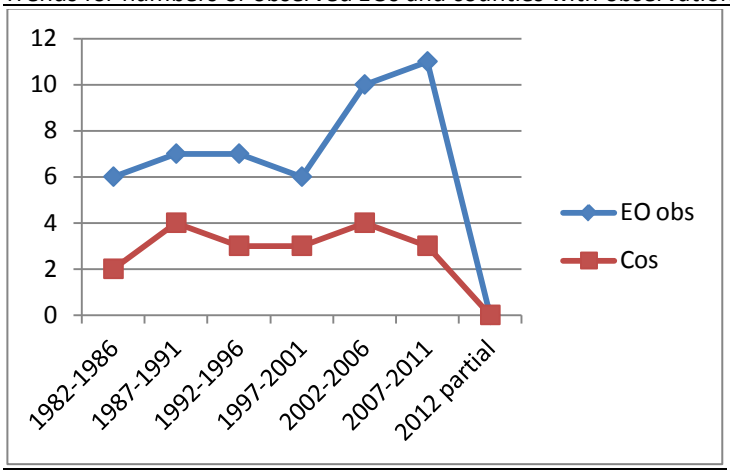
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2010	25	13	9	20	6	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	6	7	7	6	10	11	0
Cos	2	4	3	3	4	3	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was occurrence information brought forth to establish two EOs in one county. Since then, 23 EOs and 5 counties have been added to the species' distribution: 9 EOs were added in the 1980s; 6 EOs were added in the 1990s; and, 8 EOs were added in the 2000s. Thirteen EOs (52% of total) have had observations in the last 10 years and 16 EOs (64% of total) have had observations in the last 15 years. Seven EOs (28% of total) have had repeated observations in at least 2 of the last 3 5-year intervals. Three EOs have had "surveyed w/ no observation" reports without subsequent observation. Nine EOs (36% of total) are protected. Trying to evaluate the species' security based on reported population numbers is difficult because reporting is inconsistent, with only "present" or "observed" reports for most recent observations at 8 EOs (33% of total). Most recent reported population numbers at other EOs with recent observations are: 85 stems: 101-200 stems; 5 stems; 201-400 stems; 377 plants; 707 stems; 14 stems; 101-200 stems; 3 stems; 109 stems; 25 stems; 190 stems. As compared to the status and distribution when the species was initially listed, it appears to be more common than previously thought and/or has recovered considerably. However, since several of the reported individual population numbers are not very large, it would be good to see a larger percentage of EOs with recent observations before making a recommendation to delist the species.

Mankowski recommendation – no change in status.

NatureServe Conservation Status in United States

None queried.

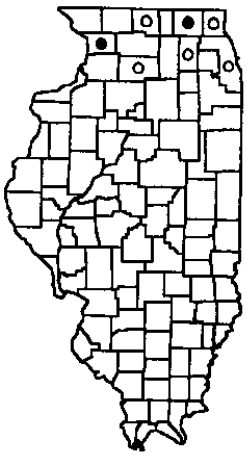
Pinweed, Lechea intermedia (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 12/31/1998
Reason for listing: restricted habitats or low pops in IL;

Lechea intermedia Leggett

PINWEED **CISTACEAE**

Status: Threatened in Illinois.
Habit: Perennial herb, stems 20-60 cm tall.
Range: Northeastern United States and adjacent Canada, south in the Appalachians.



Lechea intermedia occurs in northern Illinois along the southern part of its range, where it occupies dry, sterile, usually sandy soils. It has been found in Illinois at only nine sites. It is presently known from three state localities, two in state nature preserves, the other from a wildlife and fish refuge.
References: Hodgdon (1938), Mohlenbrock (1978), Bowles *et al.* (1995).

KEY

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Citation: 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.

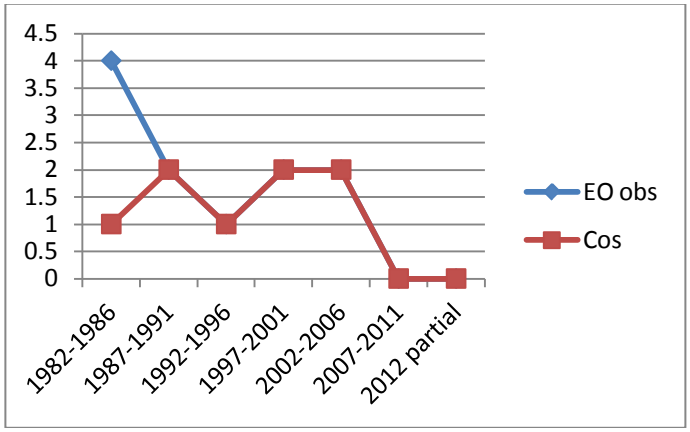
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
09/18/2005	9	2	5	8	6	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	4	2	1	2	2	0	0
Cos	1	2	1	2	2	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was occurrence information brought forth to establish four EOs in four counties. Since then, five EOs and two counties have been added: four EOs were added in the 1980s and one EO was added in the 1990s. It appears the increase in EOs led to a listing status upgrade to threatened in 1998, when four EOs had observations in the most recent 10 years. Five EOs (56% of total) are protected. Trying to evaluate the species' security based on reported population numbers is difficult because reporting is inconsistent, with only "present" or "observed" reports for most recent observations at 6 EOs (66% of total). While the lack of recent observations is likely related to search effort, only two EOs have had observations in the last 10 years and one EO has had repeated "surveyed w/ no observation" reports and no subsequent observation.

Mankowski recommendation – change to from threatened to endangered.

NatureServe Conservation Status in United States

None queried.

Prairie Bush Clover, Lespedeza leptostachya (Illinois endangered, Federally threatened)

Listed as IL E, 5/20/1980; Listed as Fed T 06/09/1987
Reason for listing: restricted habitats or low pops in IL; proposed Fed E or T;

Lespedeza leptostachya Engelm.

PRAIRIE BUSH CLOVER **FABACEAE**

Status: Endangered in Illinois, Federally Threatened.
Habit: Perennial herb, stems to 1 m tall.
Range: Illinois, Wisconsin, Iowa, and Minnesota.

Lespedeza leptostachya occurs on dry gravel and sand prairies and is rare throughout its range. Presently fourteen populations occur in Illinois. Five populations are protected on public land. This species also has been introduced into a state nature preserve in Winnebago County.
References: Steyermark and Swink (1955), Fassett (1961), Clewell (1966a, 1966b), Eisman and Motivans (1986), Smith (1987), Schwegman (1990, 1991), Cole and Biesboer (1992), Bowles and Bell (1999c), Phillippe *et al.* (2000).

KEY

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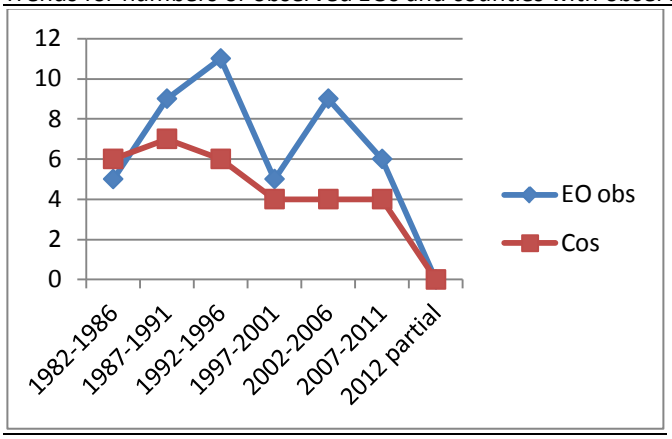
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
07/26/2010	11	7	5	11	6	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

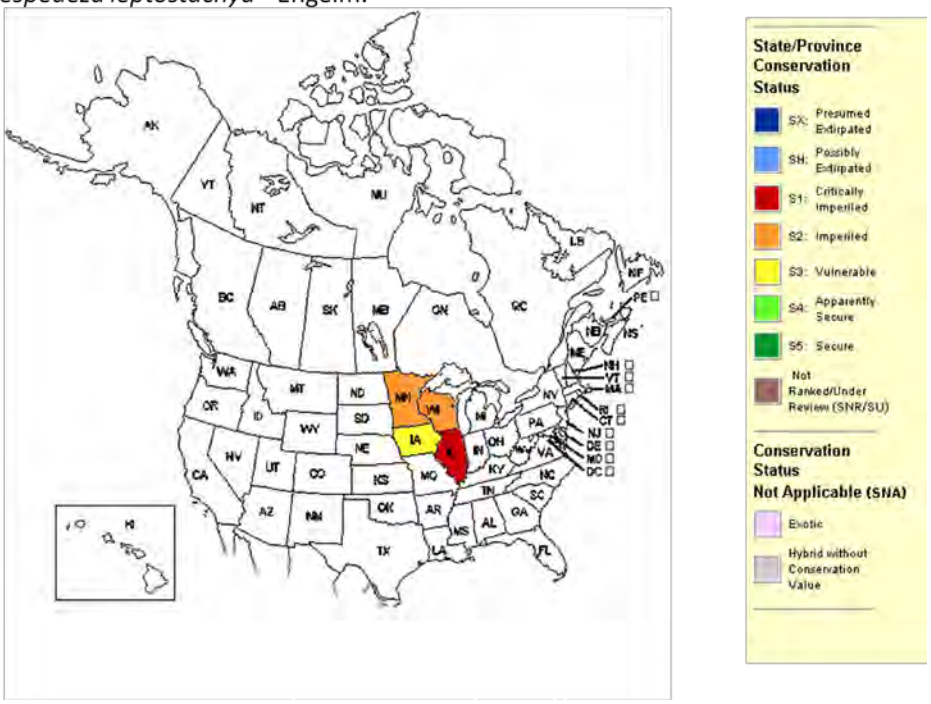
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	5	9	11	5	9	6	0
Cos	6	7	6	4	4	4	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Lespedeza leptostachya - Engelm.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

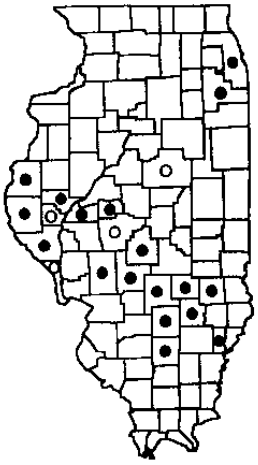
Blazing Star, Liatris scariosa var. nieuwlandii (Illinois threatened)

Listed as IL T, 03/13/1989
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Liatris scariosa (L.) Willd. var. ***nieuwlandii*** Lunell

BLAZING STAR **ASTERACEAE**

Status: Threatened in Illinois.
Synonym: *Liatris* x *nieuwlandii* (Lunell) Gaiser.
Habit: Perennial herb from a corm, stem to 1.5 m tall.
Range: Northeastern and north-central United States.



Formerly misidentified or treated as a hybrid in Illinois, this blazing star is now recognized at the varietal level. It is restricted to areas of silt-loam savanna, primarily on Illinoisan aged glacial till or loess soils in the Southern Till Plain and Western Forest-Prairie Natural Divisions. Presently more than thirty populations are known from eighteen counties. Four populations are in state nature preserves, three in state parks, and two in forest preserves.
References: Wunderlin (1966), Schwegman (1972), Bowles (1988).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

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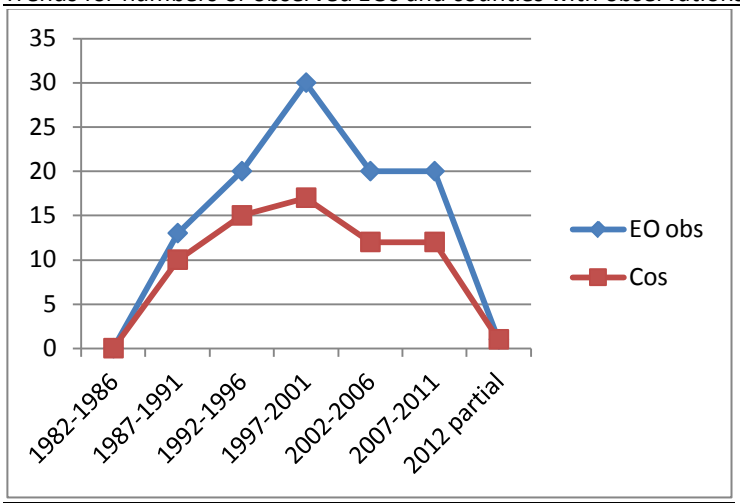
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
08/22/2012	45	33	6	44	21	17

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	13	20	30	20	20	1
Cos	0	10	15	17	12	12	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as threatened in 1989, there was occurrence information brought forth to establish six EOs in five counties. Since then, 39 EOs and 16 counties have been added to the species' distribution: 3 EOs were added in 1989; 25 EOs were added in the 1990s; and 11 EOs were added in the 2000s. Fully 33 EOs (73 of total) have had observations in the last 10 years and 38 EOs (84% of total) have had observations in the last 15 years. While only 6 EOs (13% of total) are protected, that 25 EOs (56% of total) have had repeated observations in at least 2 of the 3 most recent 5-year intervals can be considered some indication of security and persistence. Only three EOs have had "surveyed w/ no observation" reports without subsequent observation. Most recent reported population numbers for EOs with observations in the last 10 years are (single EO numbers are given unless otherwise noted): "observed" at 4 EOs; 1 plant; 2 plants at 2 EOs; 3 plants; 6 plants at 2 EOs; 9 plants; 12 plants; 16 plants; 20 plants; 22 plants; 26 plants; 40+ plants; 45 plants; 50+ plants at 2 EOs; 55 plants; 70 plants; 76 plants; 87 plants; 120 plants; 154 plants; 200 plants; 200-300 plants; 287 plants; >300 plants; 402 plants; 501 plants; >850 plants. The species appears to be more common than previously thought and/or has recovered sufficiently to exceed the definition of threatened.

Mankowski recommendation – remove from threatened.

NatureServe Conservation Status in United States

None queried.

Yellow Honeysuckle, Lonicera flava (Illinois endangered)

Listed as IL T, 5/20/1980; Listed as IL E 01/18/1994
Reason for listing: restricted habitats or low pops in IL;

Lonicera flava Sims

YELLOW HONEYSUCKLE **CAPRIFOLIACEAE**

Status: Endangered in Illinois.
Habit: Twining woody vine.
Range: Southeastern United States.

Lonicera flava reaches its northern range limit on forested sandstone bluffs in the Shawnee Hills and Ozark Natural Divisions in southern Illinois. It is presently known from two sites both in the Shawnee National Forest, one site in a state nature preserve. Though not observed since 1989, it probably still persists at two Jackson County sites.
Reference: Mohlenbrock (1968b).

KEY

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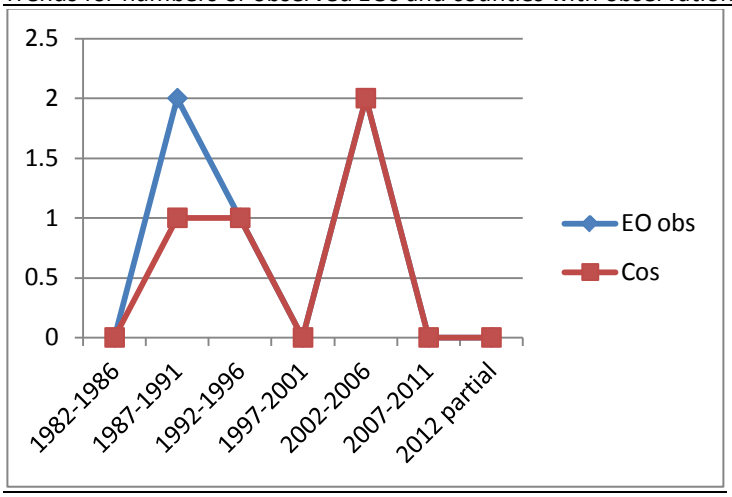
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
5/18/2006	5	2	1	4	3	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	2	1	0	2	0	0
Cos	0	1	1	0	2	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Hairy Woodrush, Luzula acuminata (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Luzula acuminata Raf.

HAIRY WOODRUSH **JUNCACEAE**

Status: Endangered in Illinois.
Synonym: *Luzula saltuensis* Fern.
Habit: Perennial cespitose herb, stems 10-40 cm tall.
Range: Central and eastern Canada, north-central and eastern United States.

In Illinois, *Luzula acuminata* occurs on forested St. Peter's Sandstone outcrops primarily in the Rock River Hill County Natural Division. This species has recently been observed at two state parks in LaSalle County, a state nature preserve in Ogle County, and on private land in Jo Daviess County.
References: Jones (1944), Mohlenbrock (1970b).

KEY

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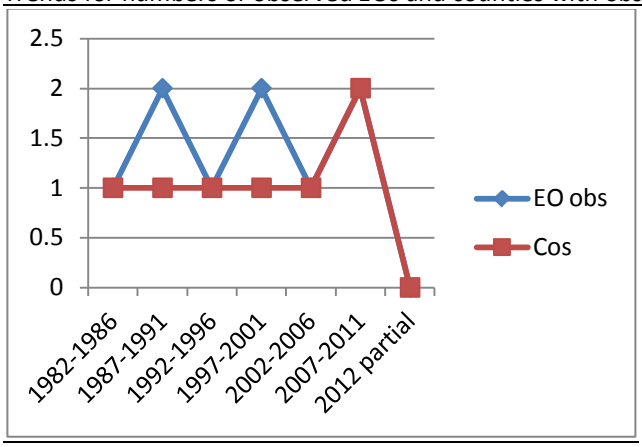
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
6/24/2010	6	3	1	4	3	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

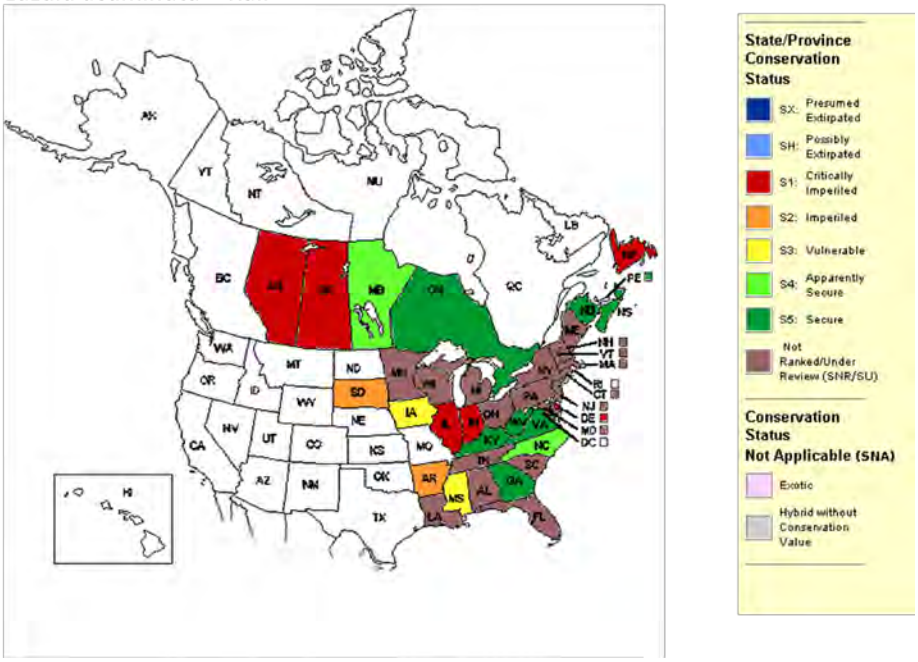
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	2	1	2	1	2	0
Cos	1	1	1	1	1	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Luzula acuminata – Raf.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Running Pine, Lycopodium clavatum (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Lycopodium clavatum L.

RUNNING PINE **LYCOPODIACEAE**

Status: Endangered in Illinois.
Habit: Perennial evergreen clubmoss from a creeping stem, erect stems 7-25 cm tall.
Range: Circumboreal, south into northern United States.

Lycopodium clavatum was first discovered in Illinois in the 1970s but now is known from four stations in four counties. Populations of this species have been found on a north-facing slope, talus and ledges of St. Peter's Sandstone, and in seeps. This species has been found recently in two state parks, a state nature preserve, and a county forest preserve.
Note: Variety *megastachyon* Fern. & Bissell appears restricted to a mesic sand prairie in Will County while variety *clavatum* is more widespread.
References: Tryon *et al.* (1940), Peck (1982), Mohlenbrock (1983), Wagner and Beitel (1993).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

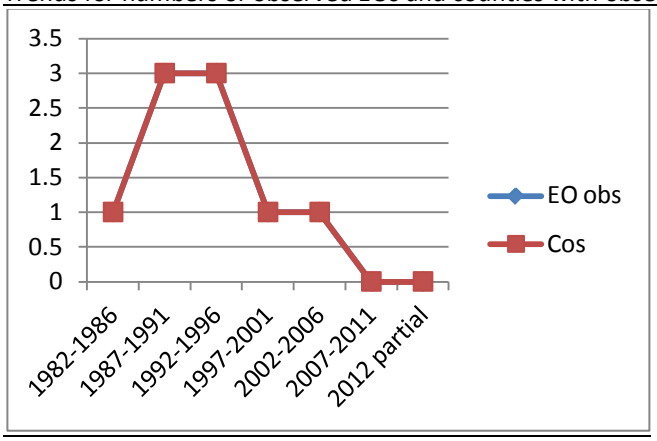
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
10/5/2006	5	1	2	5	5	1

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

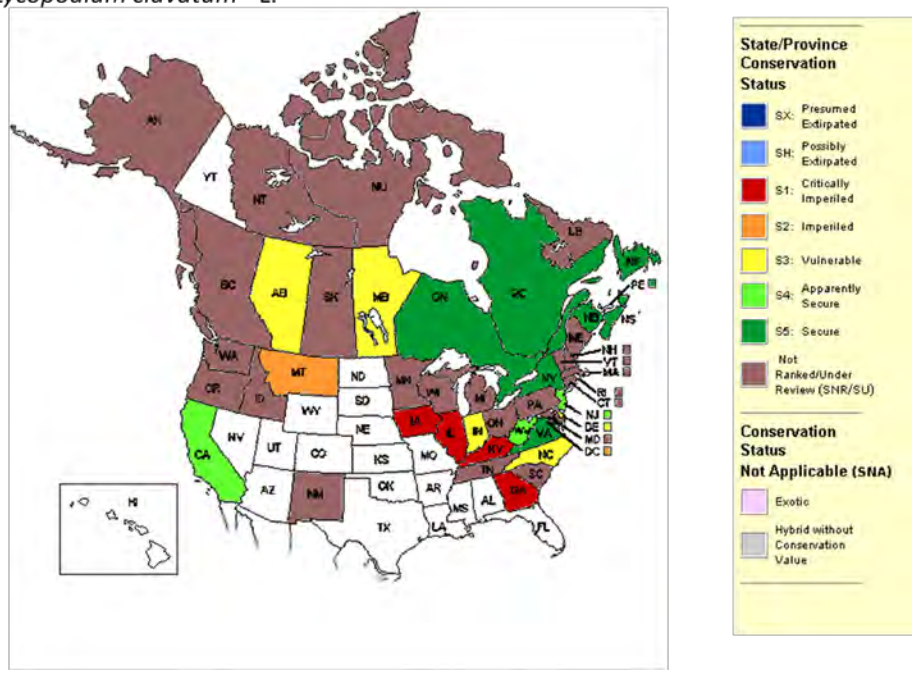
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	3	3	1	1	0	0
Cos	1	3	3	1	1	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Lycopodium clavatum - L.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

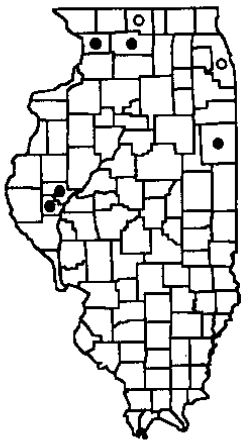
Ground Pine, Lycopodium dendroideum (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Lycopodium dendroideum Michx.

GROUND PINE **LYCOPODIACEAE**

Status: Endangered in Illinois.
Synonym: *Lycopodium obscurum* L. var. *dendroideum* (Michx.) DC. Eaton.
Habit: Perennial evergreen clubmoss from a creeping stem, erect stems 10-30 cm tall.
Range: Boreal Canada and Alaska, south into northern United States, and the Appalachians.



Lycopodium dendroideum has been found in mesic sand forest, sand prairie, and forested ravines in five Illinois counties in the northern half of the state. The population in Cook County was destroyed by urban growth during the nineteenth century. Two populations are known from a state nature preserve in Ogle County. A population in Iroquois County is in a state conservation area, while three populations are on private land.
References: Tryon *et al.* (1940), Mohlenbrock (1967b, 1983), Peck (1982), Schwegman (1982a), Wagner and Beitel (1993).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

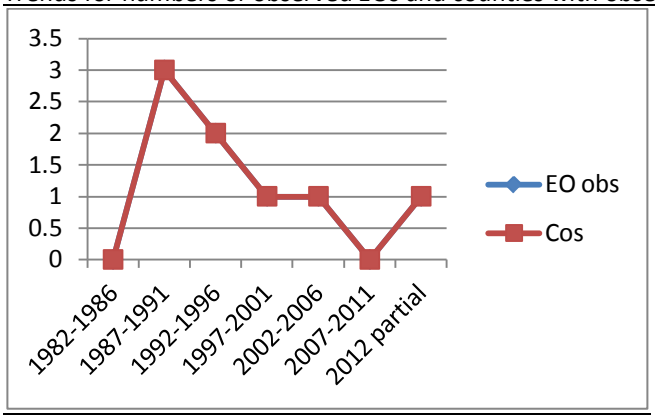
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
02/23/2012	5	1	1	5	5	1

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

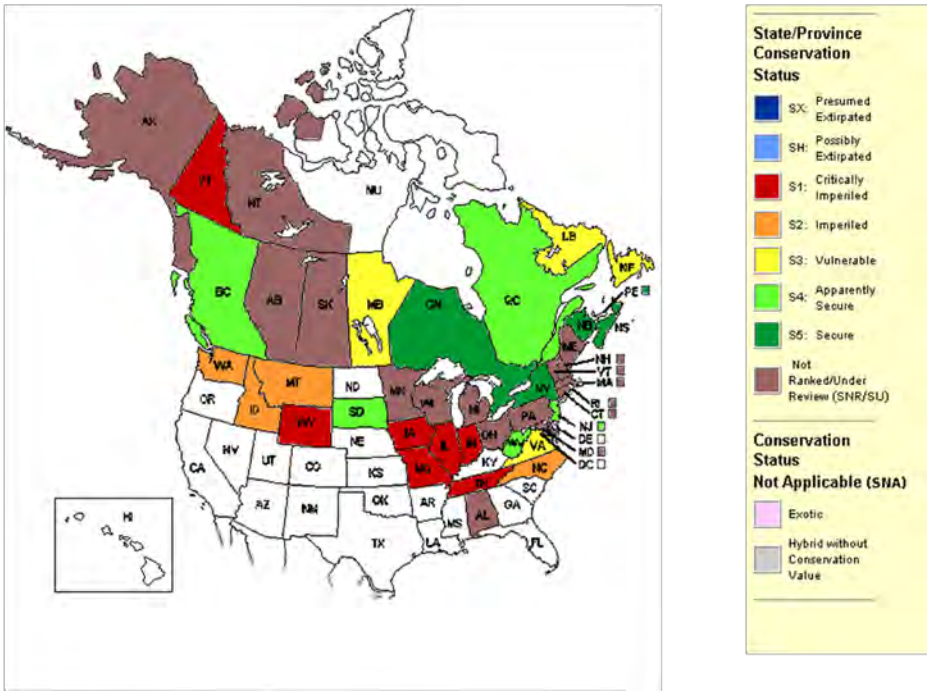
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	3	2	1	1	0	1
Cos	0	3	2	1	1	0	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Lycopodium dendroideum - Michx.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Climbing Milkweed, Matelea decipiens (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Matelea decipiens (Alex.) Woodson

CLIMBING MILKWEED **ASCLEPIADACEAE**

Status: Endangered in Illinois.
Synonym: *Gonolobus decipiens* (Alex.) Perry.
Habit: Perennial twining herb.
Range: Southeastern United States.

Matelea decipiens reaches its northwestern range limit in southern Illinois, where it was first discovered in 1972 in an unprotected floodplain forest. More recently it was found in a City park in Jackson County, and a national wildlife refuge in Williamson County.
Reference: Mohlenbrock and Evans (1974).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

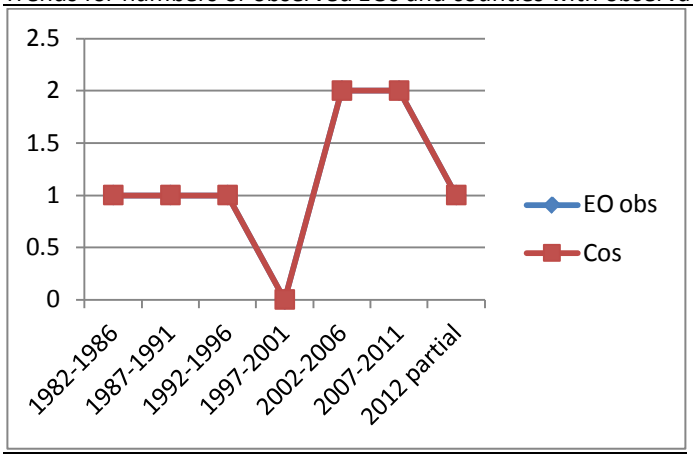
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
06/02/2012	5	3	2	5	4	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	1	1	0	2	2	1
Cos	1	1	1	0	2	2	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Climbing Milkweed, Matelea obliqua (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Matelea obliqua (Jacq.) Woodson

CLIMBING MILKWEED **ASCLEPIADACEAE**

Status: Threatened in Illinois.
Synonym: *Gonolobus obliquus* (Jacq.) Schult.
Habit: Perennial twining herb.
Range: Southeastern United States.

Matelea obliqua occurs in rocky forests and limestone glades and reaches its northwestern range limit in extreme southern Illinois. It is presently known from several collections, all in the Shawnee National Forest. One population occurs in a state nature preserve and two in research natural areas.
Reference: Mohlenbrock and Evans (1974).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

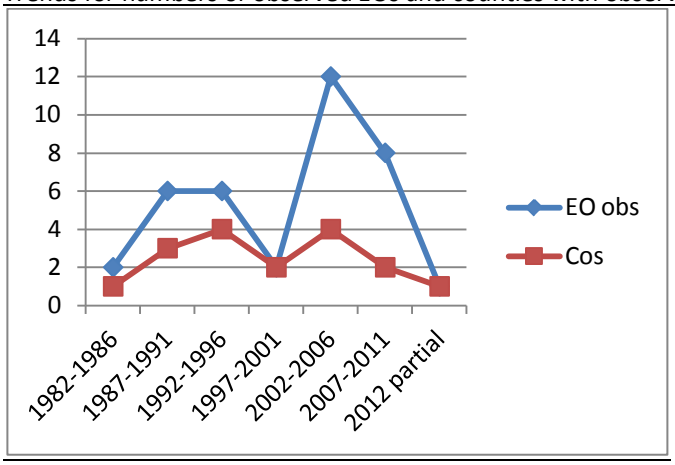
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/30/2012	20	15	1	10	4	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	6	6	2	12	8	1
Cos	1	3	4	2	4	2	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as threatened in 1980, there were no occurrences brought forth to establish any EOs. Since then, 20 EOs across all 4 counties with known historic occurrences have been added: 4 EOs in 3 counties were added in the 1980s; 8 EOs were added in the 1990s (adding 1 new county); 7 EOs were added in the 2000s; and, 1 EO has been added since 2010. There have been no "surveyed w/ no observation" reports at any EO. Fifteen EOS (75% of total) have had observations in the last ten years. Most recent reported population numbers are: 1 plant/vine at 4 EOs; from 3-10 plants/vines at 12 EOs; 23 plants/vines at 2 EOs; 35 plants/vines at 1 EO; and, >100 plants/vines at 1 EO. Although individual population numbers are not large, it appears the species may be more common than previously thought.

Mankowski recommendation – remove from threatened.

NatureServe Conservation Status in United States

None queried.

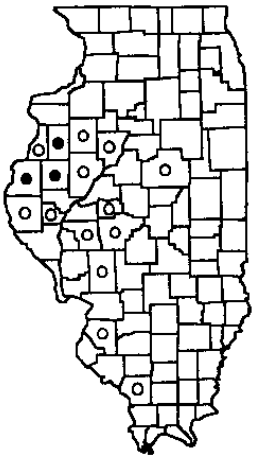
Bunchflower, Melanthium virginicum (Illinois threatened)

Listed as IL T, 01/18/1994
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Melanthium virginicum L.

BUNCHFLOWER **LILIACEAE**

Status: Threatened in Illinois.
Habit: Perennial herb, stems to 1.5 m tall.
Range: Eastern United States.



Melanthium virginicum was originally common in western Illinois where it occurred in wet prairies. Historically it was known from sixteen counties. Presently thirteen populations are known from three counties, two in a state nature preserve. This dramatic decline is the result of habitat loss and degradation. Several Illinois populations have been destroyed by plowing of prairie remnants and construction projects.
References: Mohlenbrock (1970c), Gleason and Cronquist (1991).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

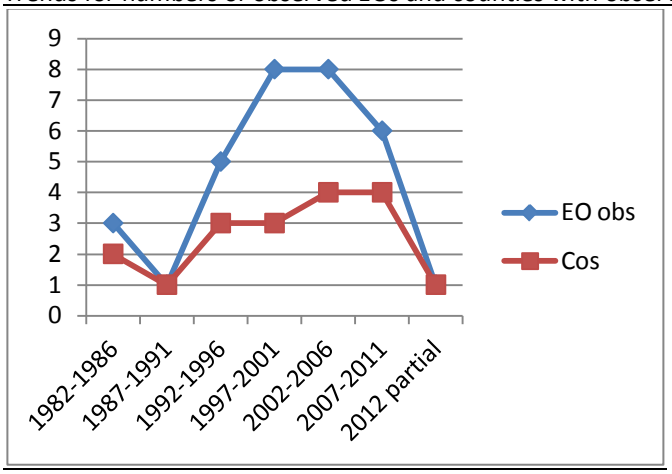
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/24/2012	21	9	3	20	12	5

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	3	1	5	8	8	6	1
Cos	2	1	3	3	4	4	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as threatened in 1994, there was occurrence information sufficient to establish 18 EOs (including 1 planting) in 11 counties. Since then, three EOs (including two plantings) and one county have been added. While this is a relatively large number of EOs and counties, the security of this status and distribution is unclear; fully 13 EOs (62% of total) are located in railroad rights-of-way (RRROW) and have always been known to be subject to threats associated with RRROW vegetation management practices. Additionally, 3 EOs (14% of total; 2 of which are in RRROW) have been reported as "likely extirpated" and 4 EOs (19% of total; all 4 are in RRROW) have had repeated "surveyed w/ no observation" reports and no subsequent observations. On the other hand, 3 EOs are protected and 9 EOs (43% of total) have had recent observations and with fairly robust population numbers reported: hundreds of basal rosettes; about 280 plants, 50 flowering; about 500 plants, 46 flowering; 4 plants; about 1,340 plants, 54 flowering; 2 flowering plants; about 60 flowering plants; 1 flowering plant; and, 3 flowering plants. Overall, it appears that the species' status and distribution has declined since it was listed. However, nine EOs (43% of total) have not had survey reports submitted since at least 2001 and it would be good to have updated reports on the status of those EOs before recommending a change in listing status from threatened to endangered.

Mankowski recommendation – no change in status

NatureServe Conservation Status in United States

None queried.

Squirting Cucumber, Melothria pendula (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 12/31/1998
Reason for listing: restricted habitats or low pops in IL;

Melothria pendula L.

SQUIRTING CUCUMBER **CUCURBITACEAE**

Status: Threatened in Illinois.
Habit: Climbing herbaceous vine with tendrils.
Range: Southern United States and adjacent Mexico.

A species of damp thickets and gravelly stream beds, *Melothria pendula* reaches its northern range limit in southern Illinois. It has been found at only nine Illinois localities and is presently known from five sites; three are in the Shawnee National Forest, one in a state conservation area.
References: Mohlenbrock (1968b, 1978).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

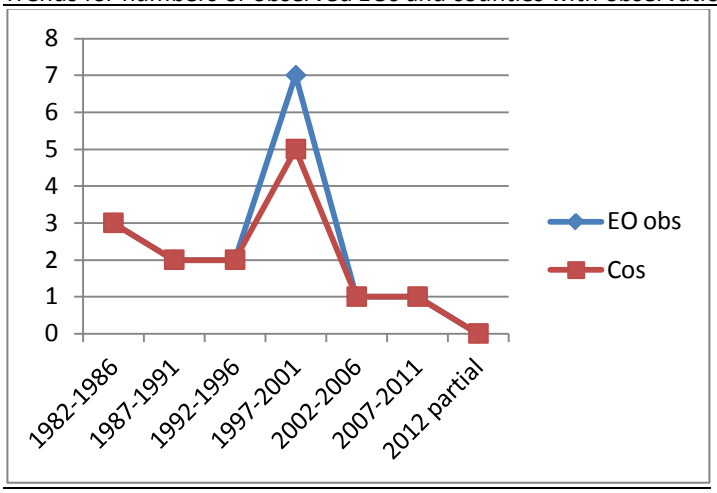
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
7/1/2007	13	2	0	13	6	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	3	2	2	7	1	1	0
Cos	3	2	2	5	1	1	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was occurrence information sufficient to establish two EOs across two counties. Nine EOs across six counties (adding four new counties) were added from 1982 through 1998 when the listing status was upgraded to threatened. Two additional EOs were added in 2001. Only 2 EOs (15% of total) have had observations in the last 10 years. The number increases to 7 EOs (54% of total) with observations in the last 15 years. The lack of recent observations appears to be related to search effort, with only one EO having a "surveyed w/ no observation" report in the last 15 years. While the number of recent observations is consistent with the level when the species was listed as endangered, three EOs have not had survey reports since at least 1986 and one EO has not had a survey report since 1996. It would be good to have updated survey information for a greater percentage of EOs before making a recommendation for a listing status change from threatened back to endangered.

Mankowski recommendation – no change in status.

NatureServe Conservation Status in United States

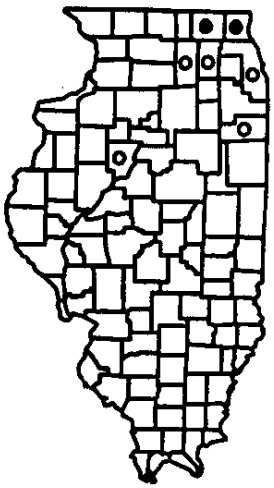
None queried.

Buckbean, Menyanthes trifoliata (Illinois threatened)

Listed as IL T 09/01/2004
Reason for listing: restricted habitats or low pops in IL;

Menyanthes trifoliata L.

BUCKBEAN **MENYANTHACEAE** **Status:** Threatened in Illinois



Habit: Aquatic, rhizomatous, perennial herb, scapes to 30 cm tall.

Range: Circumboreal, south to central United States.

Menyanthes trifoliata is an emergent aquatic species of shallow, quiet, cool waters being particularly common in bogs and marshes. Buckbean is mostly restricted to the extreme northeast part of the state with historic collections known from Cook, DeKalb, Kane, Kankakee, Lake, McHenry, and Peoria counties. This species is now mostly associated with bogs and marshes in Lake and McHenry counties where it is has been found in a state park and five state nature preserves.

References: Gleason and Cronquist (1991).

MAP

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species is known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle.

Citation: Nÿboer, R. W. and J. E. Ebinger, editors. 2004. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 3: 2004 Changes to the Illinois List of Endangered and Threatened Plant Species. Illinois Endangered Species Protection Board, Springfield, Illinois. 34 pp.

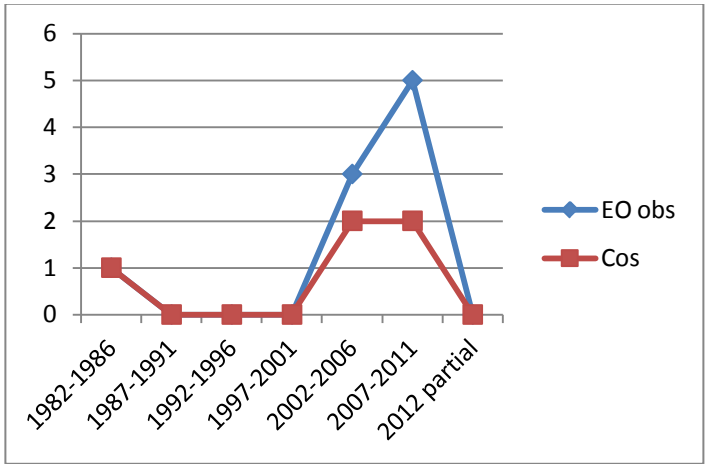
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
09/29/2009	9	6	8	7	2	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	0	0	0	3	5	0
Cos	1	0	0	0	2	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Yellow Monkey Flower, Mimulus glabratus (Illinois endangered)

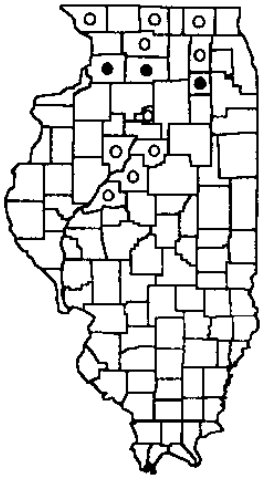
Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Mimulus glabratus HBK.

YELLOW MONKEY FLOWER

SCROPHULARIACEAE

Status: Endangered in Illinois.
Habit: Perennial rhizomatous herb, stems prostrate.
Range: Mexico, central United States, and adjacent Canada.



Mimulus glabratus is restricted in Illinois to a few northern and central counties, where it occurs in calcareous seeps. It has become rare in Illinois due to habitat destruction and is presently known from three sites, all in private ownership, one a private preserve.
Note: In Illinois this taxon is represented by variety *fremontii* (Benth.) Grant.
References: Gates (1911), Pennell (1935), Tai and Vickery (1972).

KEY

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Citation: 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.

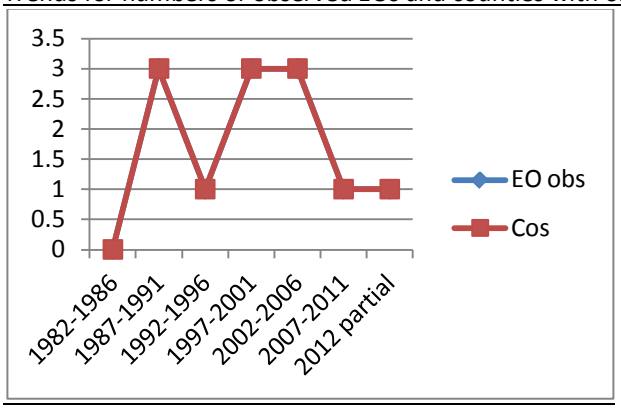
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
03/2012	5	3	3	5	5	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

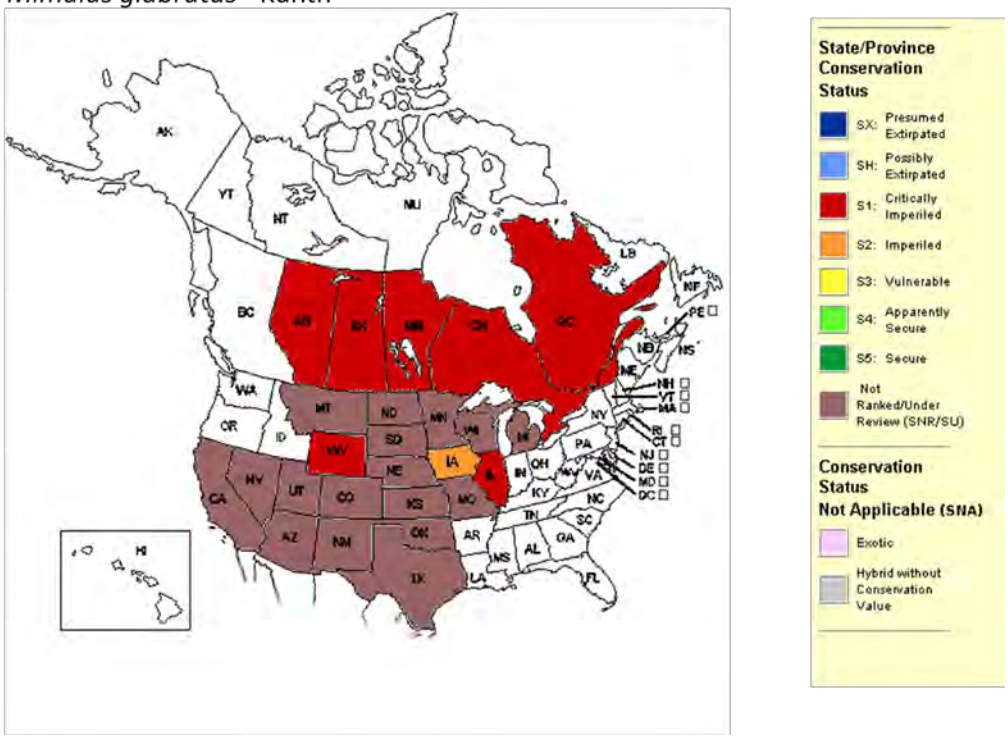
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	3	1	3	3	1	1
Cos	0	3	1	3	3	1	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Mimulus glabratus - Kunth



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

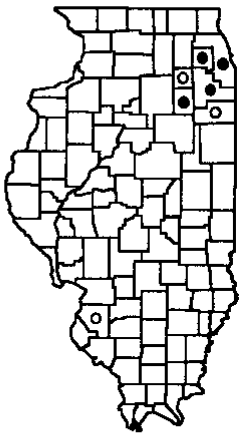
Slender Sandwort, Minuartia patula (Illinois threatened, Illinois endangered)

Listed as IL T, 5/20/1980; Listed as IL E 01/18/1994; Listed as IL T 12/03/1998
Reason for listing: restricted habitats or low pops in IL;

Arenaria patula Michx.

SLENDER SANDWORT **CARYOPHYLLACEAE**

Status: Threatened in Illinois.
Habit: Annual much-branched herb, stems 10-20 cm tall.
Range: Southeastern United States.



Arenaria patula reaches its northern range limit in Illinois, where it occurs on rock ledges and dolomite prairies along the Des Plaines, Fox, and Illinois rivers. It is presently known from eight localities in the state. One population is in a state nature preserve, two are in a state conservation areas, and two additional population occurs in county forest preserves.
Note: The scientific name of this species is presently considered to be *Minuartia patula* (Michx.) Mattf.
References: Steyermark (1941), Maguire (1951).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

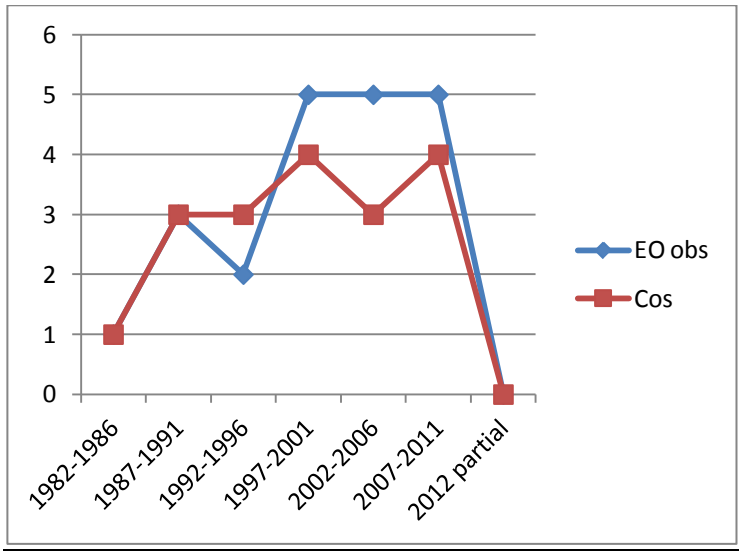
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2010	8	6	4	7	5	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	3	2	5	5	5	0
Cos	1	3	3	4	3	4	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

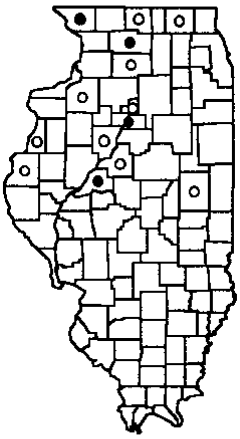
Prairie Dandelion, Nothocalais cuspidata (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Microseris cuspidata (Pursh) Schultz-Dip

PRAIRIE DANDELION **ASTERACEAE**

Status: Endangered in Illinois.
Habit: Perennial herb, scapes 5-35 cm tall.
Range: North-central United States.



Microseris cuspidata reaches its eastern range limit in dry-mesic prairies in Illinois. It was originally scattered locally throughout the northern half of the state, but has been largely extirpated by overgrazing, gravel mining, and urban growth. Presently only five Illinois populations are known, four in state nature preserves.
Note: The scientific name of this species is presently considered to be *Nothocalais cuspidata* (Pursh) Greene.
References: Evers (1955), Fell and Fell (1956), Johnson and Iltis (1963).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

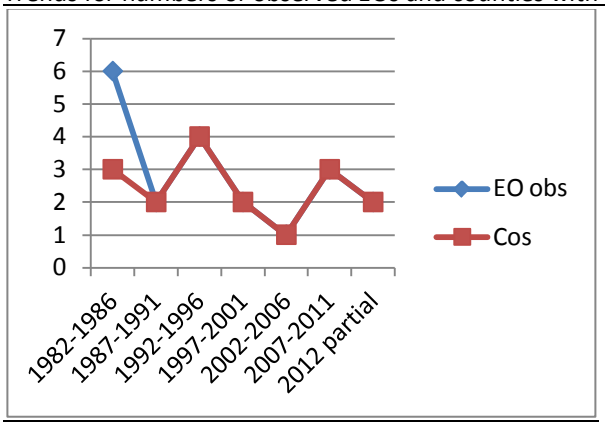
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
04/27/2012	9	3	5	8	5	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

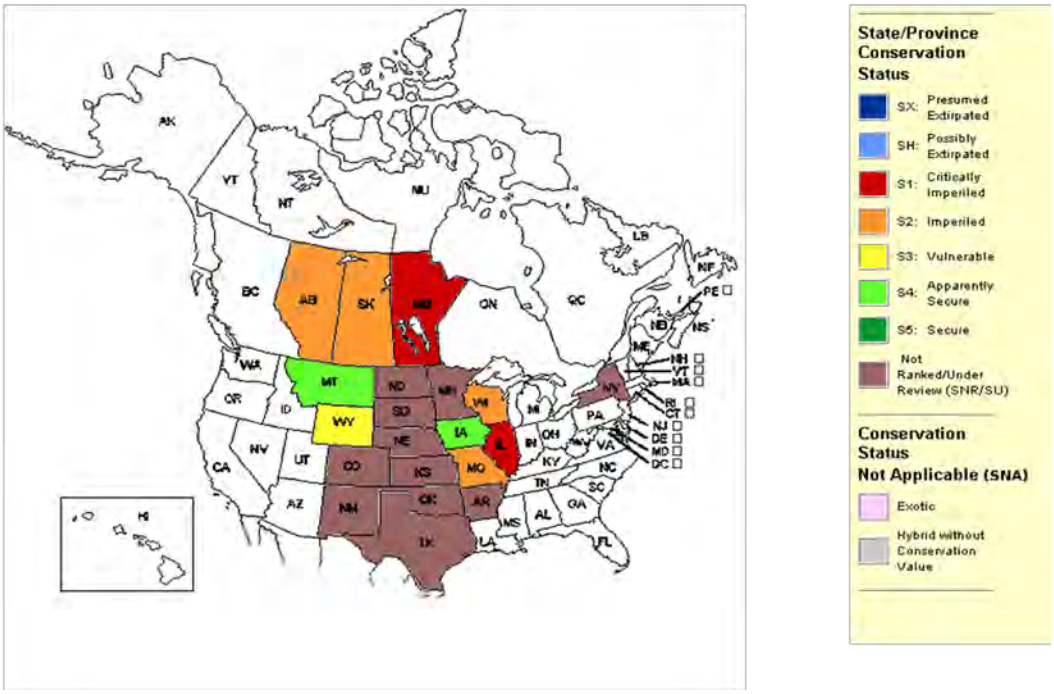
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	6	2	4	2	1	3	2
Cos	3	2	4	2	1	3	2

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Nothocalais cuspidata - (Pursh) Greene



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Small Sundrops, Oenothera perennis (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 12/03/1998
Reason for listing: restricted habitats or low pops in IL;

Oenothera perennis L.

SMALL SUNDROPS **ONAGRACEAE**

Status: Threatened in Illinois.
Habit: Perennial herb, stems 20-60 cm tall.
Range: Eastern United States and adjacent Canada.

Oenothera perennis occurs in sand and gravel prairies and on dry rocky prairie slopes and knobs in northern Illinois. Eleven populations are presently known from Cook, Lake, and Winnebago counties. Two populations occur in a state nature preserve, and five occur in county forest preserves. This species has been successfully introduced into several prairie restorations in Cook County.
References: Straley (1977), Taft and Solecki (1990).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

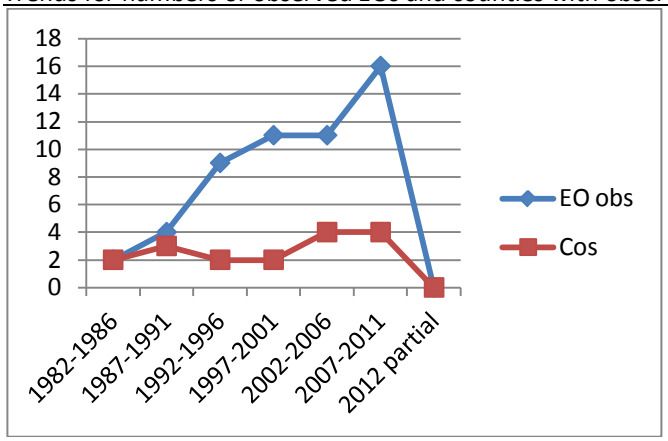
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2010	20	17	9	16	5	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	4	9	11	11	16	0
Cos	2	3	2	2	4	4	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was occurrence information brought forth to establish only one EO in one county. Since then, 19 EOs and 4 counties have been added to the species' distribution: 5 EOs were added in the 1980s; 6 EOs were added in the 1990s; and, 8 EOs were added in the 2000s. The addition of 11 EOs in the 1980s and 1990s led to a status upgrade to threatened in 1998. Since then 8 additional EOs have been added. Fully 17 EOs (85% of total) have had observations in the last 10 years and 19 EOs (95% of total) have had observations in the last 15 years. Seven EOs (35% of total) have had repeated observations in at least 3 of the 4 most recent 5-year intervals. Only one EO has had "surveyed w/ no observation" reports without subsequent observation. Nine EOs (45% of total) are protected. Most recent reported population numbers are: 147 stems, 63% reproductive; 41 flowering stems; present; 4 flowering stems; 30,000 stems, 95% flowering; 8 flowering stems; 35 flowering clumps; 2,813 stems; 334+ plants; 329 flowering plants; 152 plants; 10 stems; 1,517 stems; 573 stems; 20 individuals; 992 stems; 401-801 flowering stems; 300 flowering stems; and, 14 reproductive stems. The species appears to be more common than previously thought and/or has recovered sufficiently to exceed the definition of threatened.

Mankowski recommendation – remove from threatened.

NatureServe Conservation Status in United States

None queried.

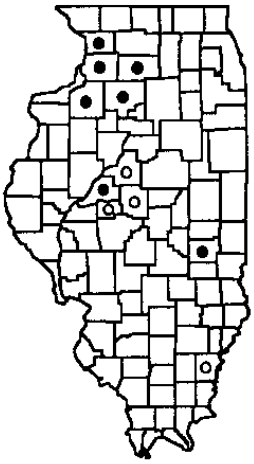
Broomrape, Orobanche ludoviciana (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 12/03/1998
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Orobanche ludoviciana Nutt.

BROOMRAPE **OROBANCHACEAE**

Status: Threatened in Illinois.
Habit: Root-parasitic herb, stems 10-30 cm tall.
Range: Central Canada and central United States.



Orobanche ludoviciana reaches its eastern range limit in Illinois, where it occupies blowouts in dry sand prairies and on alluvial floodplains along rivers. This species is parasitic on the roots of various members of the Asteraceae. Presently ten populations are known from seven counties. Six stations are protected, two of which are in state nature preserves.
References: Gleason and Cronquist (1991).

KEY

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Citation: 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.

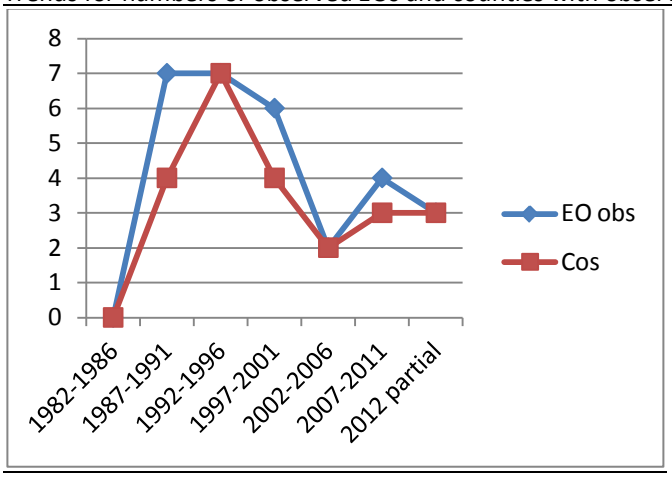
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
11/28/2012	17	7	4	14	9	6

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	7	7	6	2	4	3
Cos	0	4	7	4	2	3	3

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was occurrence information brought forth to establish three EOs. Since then, 14 EOs have been added: 3 EOs were added in the 1980s; 8 EOs were added in the 1990s; 2 EOs were added in the 2000s; and, 1 EO was added since 2010. The addition of 10 EOs between 1980 and 1998 led to a status upgrade to threatened in 1998 – with 11 EOs having recent observations at that time. Since then, four additional EOs have been added. Seven EOs (41% of total) have had observations in the last 10 years and 11 EOs (65% of total) have had observations in the last 15 years. Two EOs have had "surveyed w/ no observation" reports without subsequent observation. Four EOs (24% of total) are protected. While the number of EOs with recent observations represents a level below when the species was upgraded to threatened (7 vs. 11), it still exceeds the level when the species was first listed as endangered (7 vs. 3)

Mankowski recommendation – no change in status

NatureServe Conservation Status in United States

None queried.

Illinois Wood Sorrel, Oxalis illinoensis (Illinois endangered)

Listed as IL E, 03/13/1989
Reason for listing: restricted habitats or low pops in IL;

Oxalis illinoensis Schwegman

ILLINOIS WOOD SORREL **OXALIDACEAE**

Status: Endangered in Illinois.
Habit: Perennial herb from a fusiform tuber, stems to 20 cm tall.
Range: Interior lowland plateau province of southeastern United States.

Oxalis illinoensis was described as a new species in 1982. Formerly, its populations were treated as state endangered under the name *Oxalis grandis*, which now is known not to occur in Illinois. *Oxalis illinoensis* occupies mesic forests over limestone or other calcareous substrates in the Shawnee Hills Natural Division of Illinois. Populations are known from two Hardin County stations, both in the Shawnee National Forest. Though not found recently, some populations probably persist in Pope County.
Reference: Schwegman (1982b).

KEY

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Citation: 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.

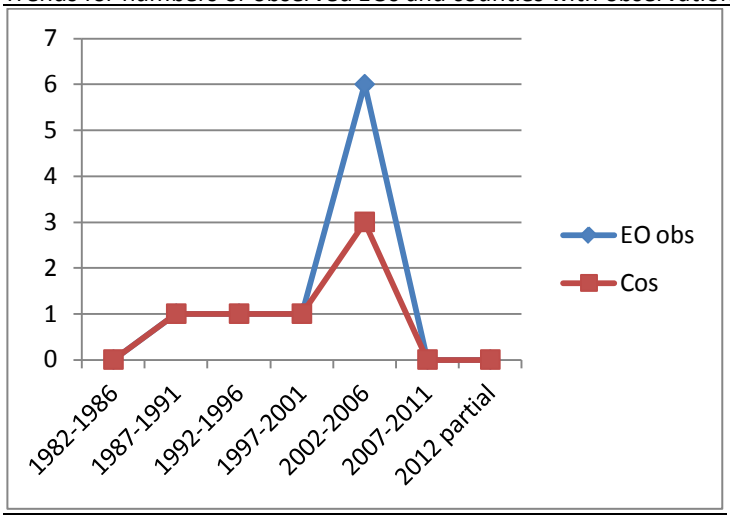
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
5/16/2003	6	6	0	7	3	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	1	1	1	6	0	0
Cos	0	1	1	1	3	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals

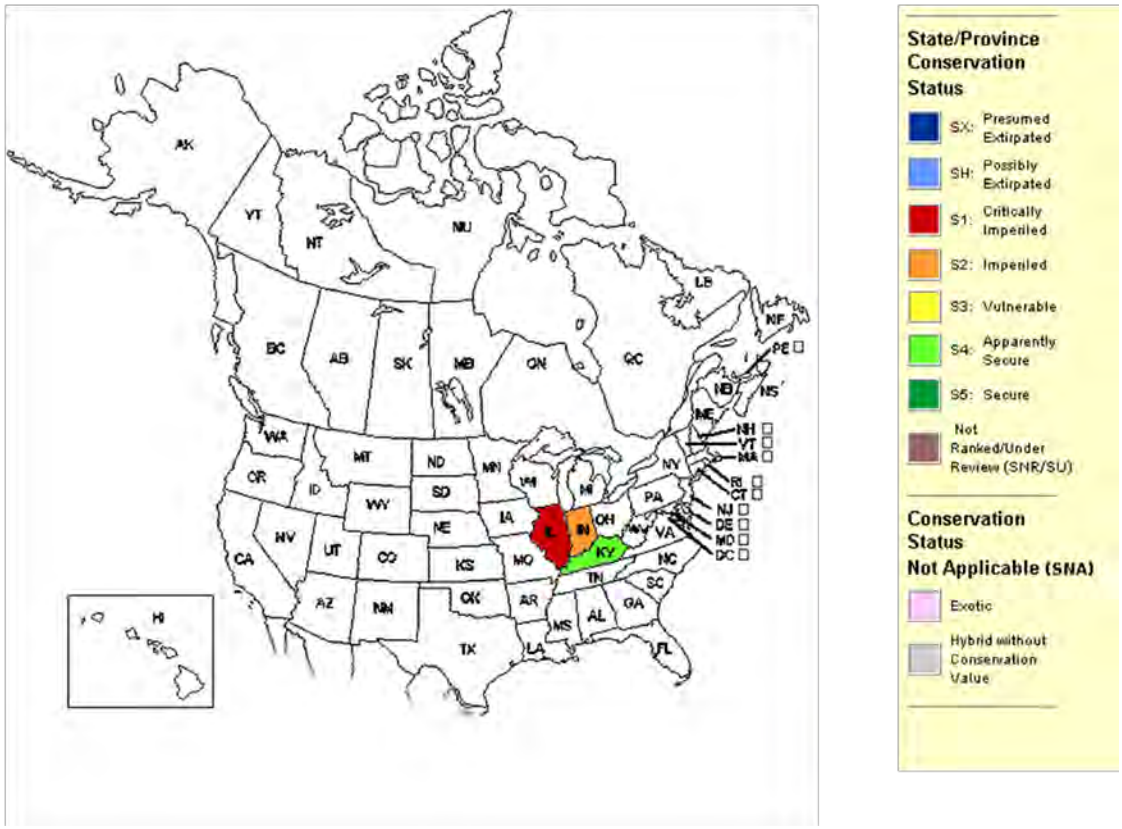


Mankowski notes and recommendation:
When the species was originally listed as endangered in 1989, there were four known occurrences in two counties that were established as EOs. Since then, two EOs and one county have been added. There have been no "surveyed w/ no observation" reports at any EO. Fully 100% of EOs have had observations in the last ten years. Older reported observations from the four original EOs range from "observed" to "several hundred individuals". Recent reporting suggests increases in numbers at the four original EOs and indicates significant population numbers at every EO and. Most recent reported population numbers are: >1,500 plants across 2 nested sites; from 500 to 1,000s of plants across 4 locations; 1,000+ plants; 2 clusters, each with >100 plants; >1,000 plants; and, several hundred plants. It appears the species' status exceeds the definition of endangered.

Mankowski recommendation – change from endangered to threatened.

NatureServe Conservation Status in United States

Oxalis illinoensis - Schwegm.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Bead Grass, Paspalum dissectum (Illinois endangered)

Listed as IL E, 05/20/1980
Reason for listing: proposed Fed E or T; restricted habitats or low pops in IL;

Paspalum dissectum (L.) L.

BEAD GRASS **POACEAE**

Status: Endangered in Illinois.
Habit: Perennial subaquatic grass, culms creeping, 20-60 cm long.
Range: Southeastern United States.

A species of disturbed sites and shallow water, *Paspalum dissectum* occurs in Illinois along the northern margin of its range. It was originally known from three early collections in the state, none more recent than 1893. An adventive population was discovered in Williamson County in 1987; however, this could be derived from a local native population.
References: Verts and Mohlenbrock (1966), Mohlenbrock (1972), Bowles *et al.* (1991).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
09/11/1987	1	0	0	1	1	0

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	1	0	0	0	0	0
Cos	0	1	0	0	0	0	0

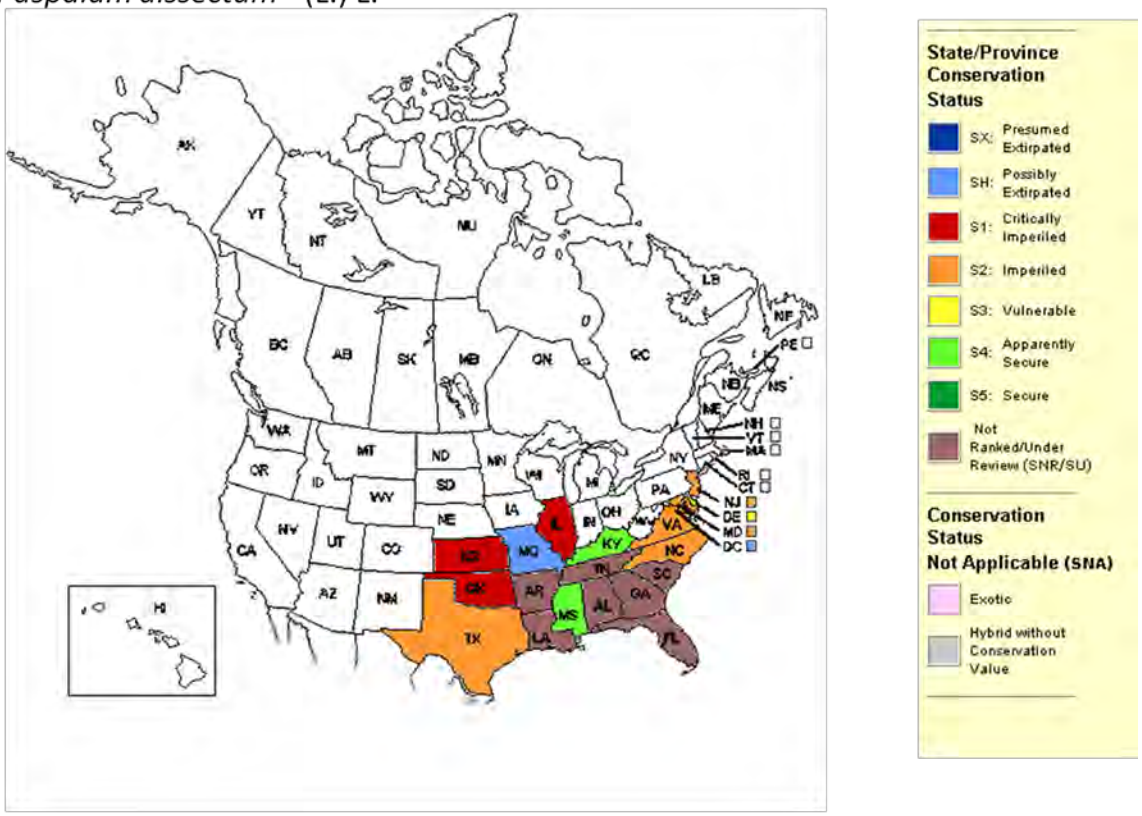
Trends for numbers of observed EOs and counties with observations, for 5-year intervals
No graph produced

Mankowski notes and recommendation:
The species is known from a singular EO and has not been observed since 1987. Surveys with no observation were reported in 2001 and 2005, with the 2005 survey noting that the dam had been breached and the pond and associated habitat that it created and supporting the species were no longer present.

Mankowski recommendation – remove from endangered as extirpated.

NatureServe Conservation Status in United States

Paspalum dissectum - (L.) L.



NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Large Flowered Beard Tongue, Penstemon grandiflorus (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Penstemon grandiflorus Nutt.

LARGE-FLOWERED BEARD TONGUE

SCROPHULARIACEAE

Status: Endangered in Illinois.
Habit: Perennial herb, stems to 1 m tall.
Range: Central United States.

Penstemon grandiflorus reaches its eastern range limit in northwestern Illinois. It is known from dry sand prairies along the Mississippi River and a gravel prairie in Winnebago County. This species is extant in three stations, state nature preserves in Whiteside and Winnebago counties, and a state forest in Henderson County. All populations of this extremely showy plant are threatened by collectors. The McHenry County population is adventive.

References: Gleason (1910), Pennell (1935), Mohlenbrock and Stritch (1985) Davis *et al.* (1991a, 1991b), Phillippe *et al.* (2000).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

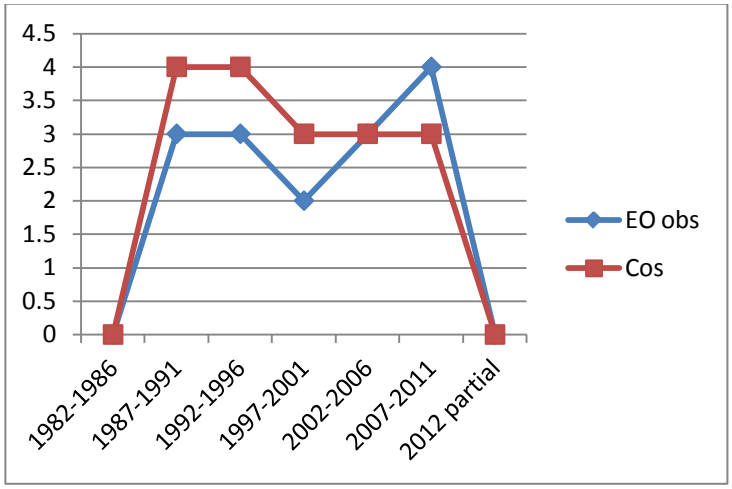
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
6/4/2009	5	4	2	5	4	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

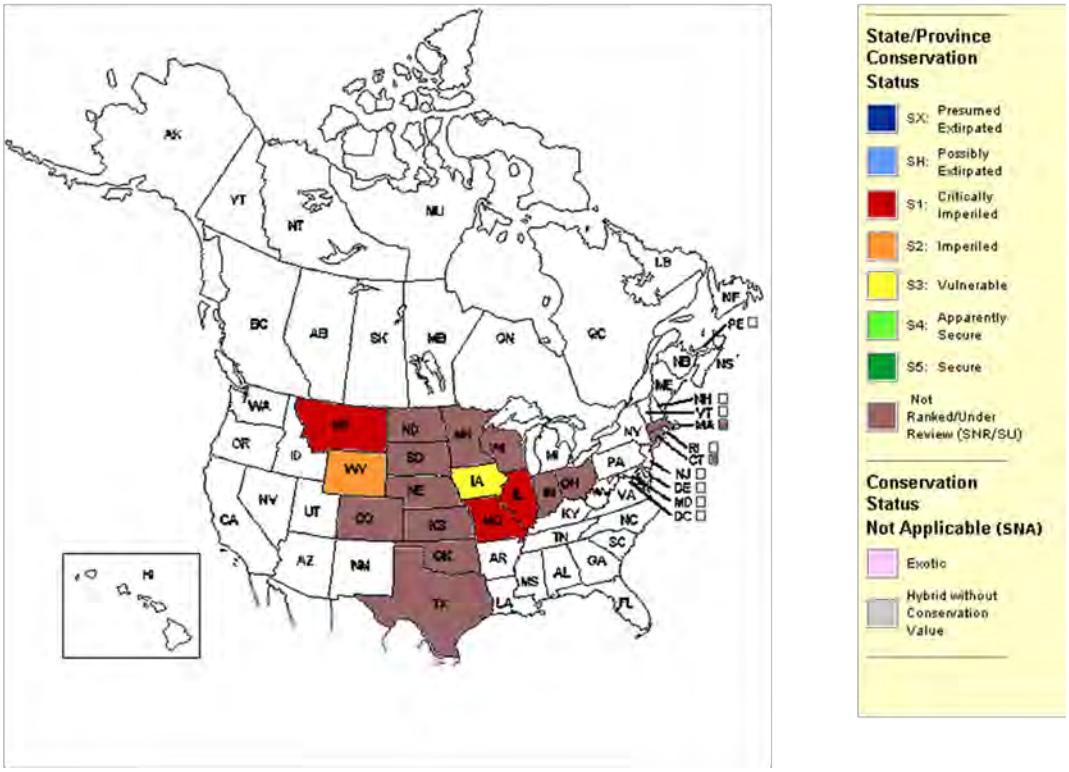
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	3	3	2	3	4	0
Cos	0	4	4	3	3	3	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Penstemon grandiflorus – Nutt.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

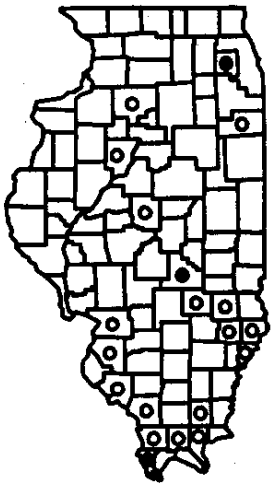
NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Tube Beard Tongue, Penstemon tubaeflorus (Illinois endangered)

Listed as IL E, 09/01/2004
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Penstemon tubaeflorus Nutt.

TUBE BEARDSTONGUE **SCROPHULARIACEAE** **Status:** Endangered in Illinois



Habit: Perennial herb, stems to 1 m tall.

Range: Central and southeastern United States.

A species of rich prairies and moist, open woods, *Penstemon tubaeflorus* is presently very rare in Illinois. The tube beardstongue has been reported from 20 counties in the state. Most of these are historical reports from the southern counties that were made prior to 1965. Presently the only extant populations known in the southern half of Illinois are from a roadside in Shelby County and a cemetery in Alexander County. Recent reports of this species from restored prairies in two DuPage County forest preserves probably represent adventive individuals.

References: Gleason and Conquist (1991), Swink and Wilhelm (1994).

MAP

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species is known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle.

Citation: Nÿboer, R. W. and J. E. Ebinger, editors. 2004. Endangered and Threatened Species of Illinois: Status and Distribution, Volume 3: 2004 Changes to the Illinois List of Endangered and Threatened Plant Species. Illinois Endangered Species Protection Board, Springfield, Illinois. 34 pp.

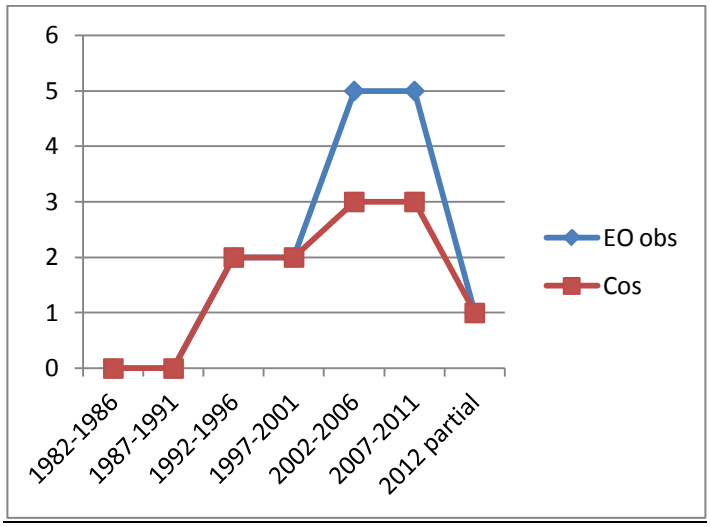
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/21/2012	10	6	3	10	7	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

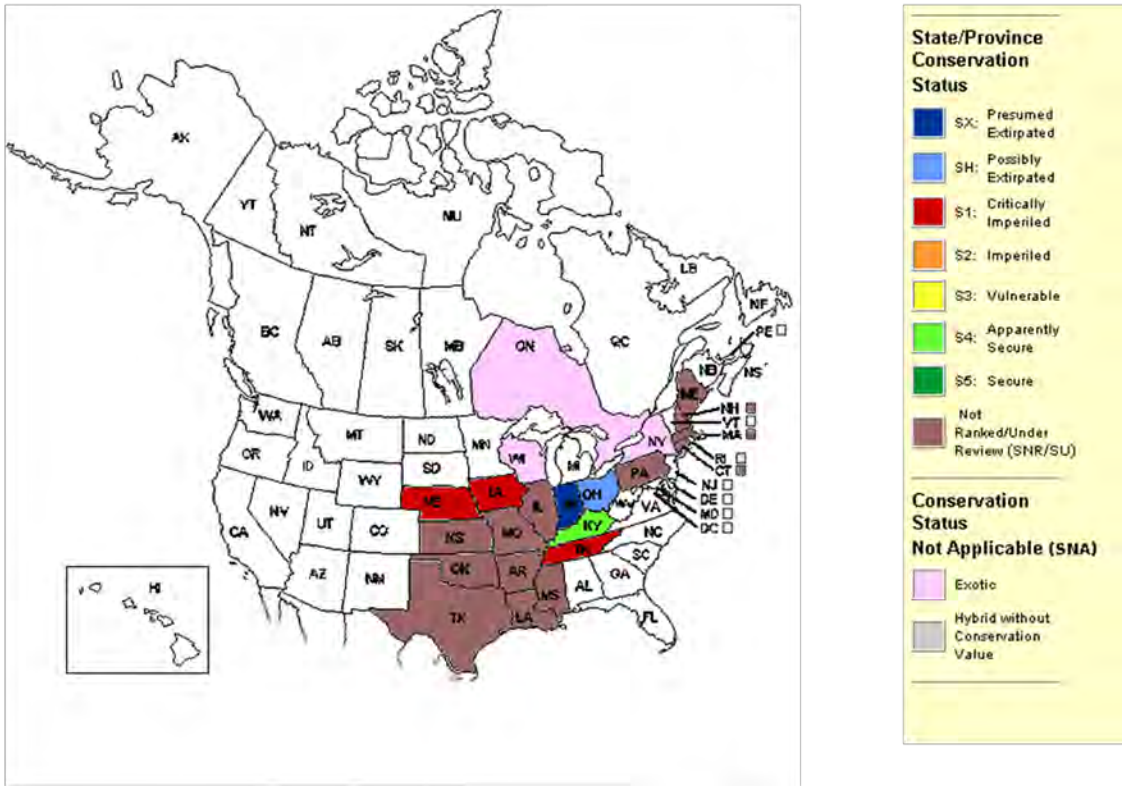
	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	0	2	2	5	5	1
Cos	0	0	2	2	3	3	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

Penstemon tubiflorus – Nutt.



(Notes: SX = presumed extirpated; SH = possibly extirpated; S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SU = unranked [due to lack of information or substantially conflicting information]; SNR = not ranked/under review)

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life (web application). Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed January 10, 2013).

Lea's Bog Lichen, Phaeophyscia leana (Illinois threatened)

Listed as IL E, 01/18/1994; Listed as IL T 09/01/2004
Reason for listing: restricted habitats or low pops in IL;

Phaeophyscia leana (Tuck.) Essl.

LEA'S BOG LICHEN **PHYSCIACEAE**

Status: Endangered in Illinois.
Habit: Foliose lichen, thallus with a smooth surface and forked branching.
Range: Southern Illinois, western Kentucky and west-central Tennessee.

Lea's bog lichen has been found in five counties in Illinois, all in the floodplains of the Ohio and Wabash rivers. Here it occurs only on that part of the bark of trees that is seasonally flooded. One population occurs in a state park, another in the Shawnee National Forest, the rest on private land. This species was first discovered in Cincinnati, Ohio in 1839 and was considered to be extinct until rediscovered in Hardin County, Illinois. Although exceedingly rare, it is most common in Gallatin County near oxbow lakes.
References: Taylor (1967), Esslinger (1978), Skorepa (1984), Wilhelm and Masters (1994), Wilhelm *et al.* (2000).

KEY

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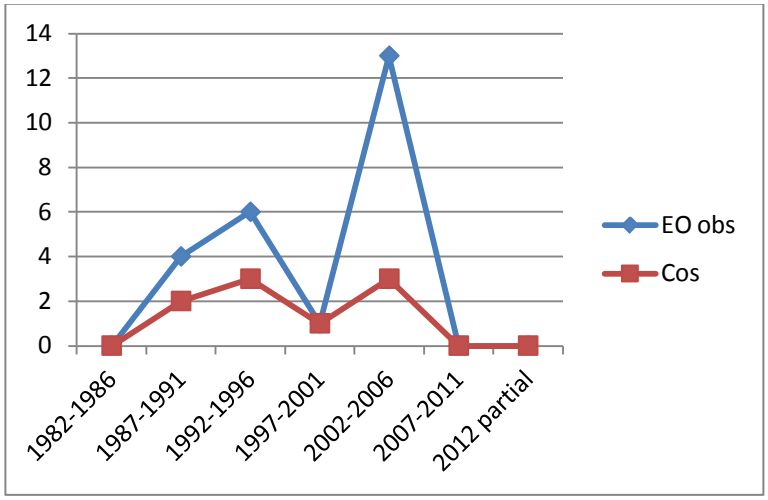
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2/24/2002	23	14	0	13	5	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	4	6	1	13	0	0
Cos	0	2	3	1	3	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Water Elm, Planera aquatica (Illinois endangered)

Listed as IL E, 5/20/1980; Listed as IL T 03/13/1989; Listed as IL E 12/03/1998
Reason for listing: restricted habitats or low pops in IL;

Planera aquatica (Walt.) J. F. Gmel.

WATER ELM **ULMACEAE**

Status: Threatened in Illinois.
Habit: Tall shrub or small tree, to 10 m tall.
Range: Southeastern Coastal Plain, north in the Mississippi Embayment to southern Illinois.

Planera aquatica reaches its northern range limit in swamps and floodplain forests in the southern tip of Illinois. It is presently known from six stations in the state, primarily along a single drainage system. Two populations occur in state nature preserves, one in a national wildlife refuge, and another in a state natural area. The remaining populations are in private ownership and are vulnerable to regional manipulation of water levels and to land clearing.
References: Evers and Page (1977), Mohlenbrock (1982), Barker (1997).

KEY

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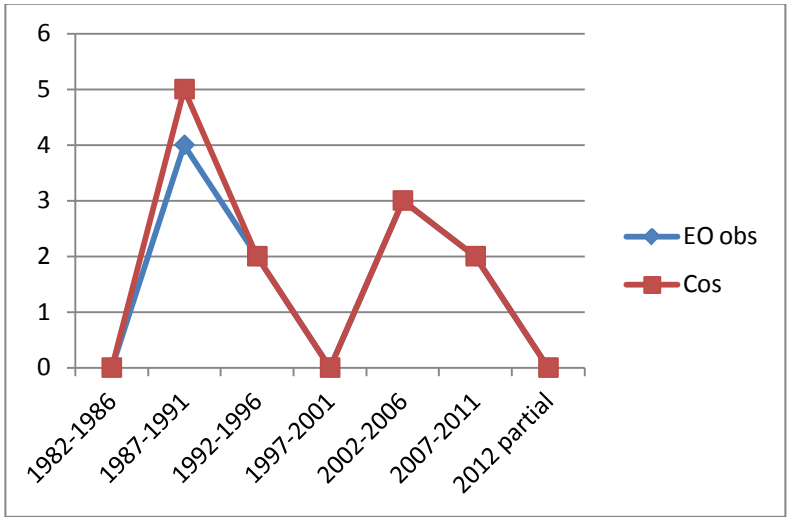
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
9/30/2010	6	3	3	6	5	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	4	2	0	3	2	0
Cos	0	5	2	0	3	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

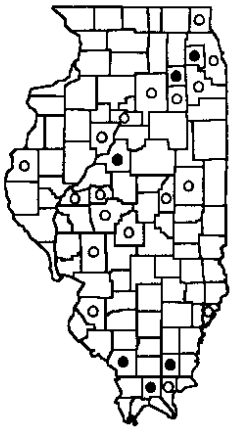
Heart-leaved Plantain, Plantago cordata (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 09/01/2004
Reason for listing: restricted habitats or low pops in IL; proposed Fed E or T;

Plantago cordata Lam.

HEART-LEAVED PLANTAIN **PLANTAGINACEAE**

Status: Endangered in Illinois.
Habit: Perennial herb, scape 10-30 cm tall.
Range: Eastern United States and Ontario, Canada.



Plantago cordata usually occurs in sand or gravel bars of shallow, clear-water streams under a forest canopy. Presently, nine stations are known in Illinois, including four in the Shawnee National Forest, one in a county forest preserve, another in a state park, and two in state nature preserves. This species has declined throughout its range due to alteration of stream habitat by erosion and siltation caused by poor watershed management.
References: Cowles (1901), Clute (1942), Mohlenbrock *et al.* (1961), Tessene (1969), Moran (1978), Ketzner (1988), Bowles and Apfelbaum (1989), Stromberg and Stearns (1989), Schwegman (1990).

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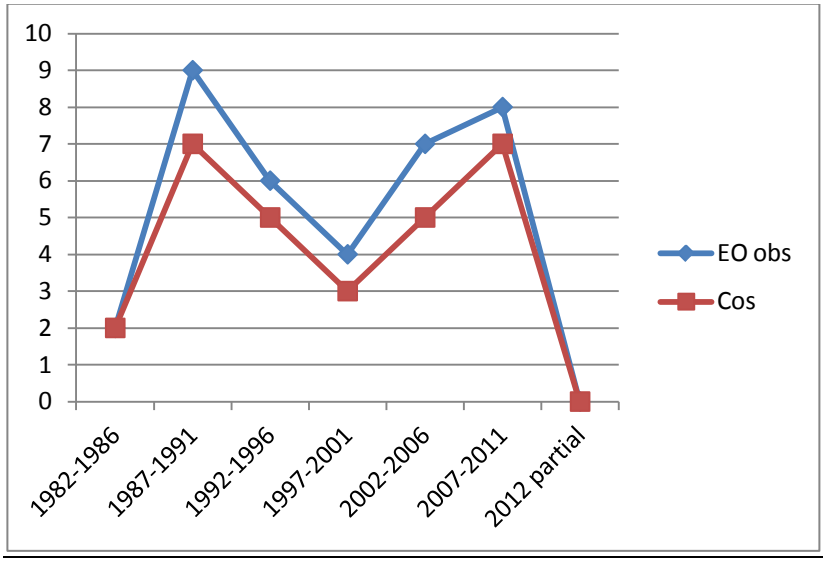
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
06/09/2011	15	13	2	11	11	9

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	9	6	4	7	8	0
Cos	2	7	5	3	5	7	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

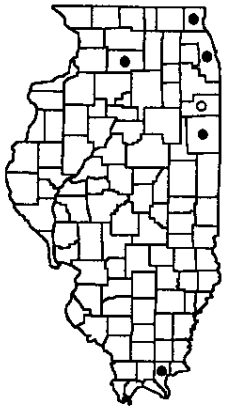
Wood Orchid, Platanthera clavellata (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Platanthera clavellata (Michx.) Luer

WOOD ORCHID **ORCHIDACEAE**

Status: Endangered in Illinois.
Synonym: *Habenaria clavellata* (Michx.) Spreng.
Habit: Perennial tuberous orchid, stems to 45 cm tall.
Range: Eastern United States and adjacent Canada.



Platanthera clavellata occurs in mesic sand prairies and thickets in northern Illinois and in acidic forested seeps in southern Illinois. Six populations of this species are presently known in the state, two in state nature preserves, one in the Shawnee National Forest, and another in a state conservation area. There are unverified reports of this species from Cass and Will counties.
References: Gates (1912), Schwegman and Mohlenbrock (1966), Mohlenbrock (1970c), Sheviak (1974a).

KEY

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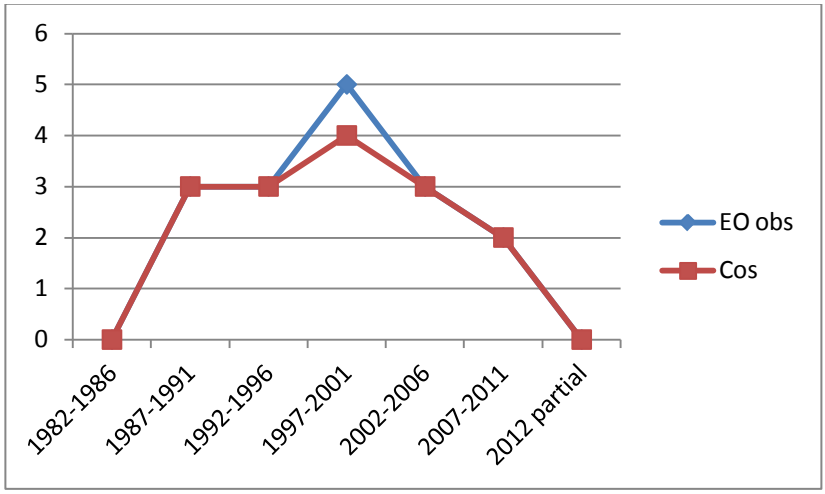
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
8/11/2009	8	3	4	7	5	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	3	3	5	3	2	0
Cos	0	3	3	4	3	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Tubercled Orchid, Platanthera flava (Illinois threatened) *

Proposed as T in the IL E&T List review and revision process that should end in 2014*.
Reason for listing: (v. flava) restricted habitats or low pops in IL; (v. herbiola) formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures*

** The ESPB voted at the 05/17/2013 meeting to combine varieties flava and herbiola and the species Platanthera flava will be listed as threatened. The proposed change is not official at this time; it would become official if it is continued through the entire statutorily required List revision process. For the purposes of this species review, the species P. flava is generally reviewed using combined data for the two varieties.*

NO ESPB STATUS AND DISTRIBUTION PUBLICATION SPECIES ACCOUNTS INCLUDED.

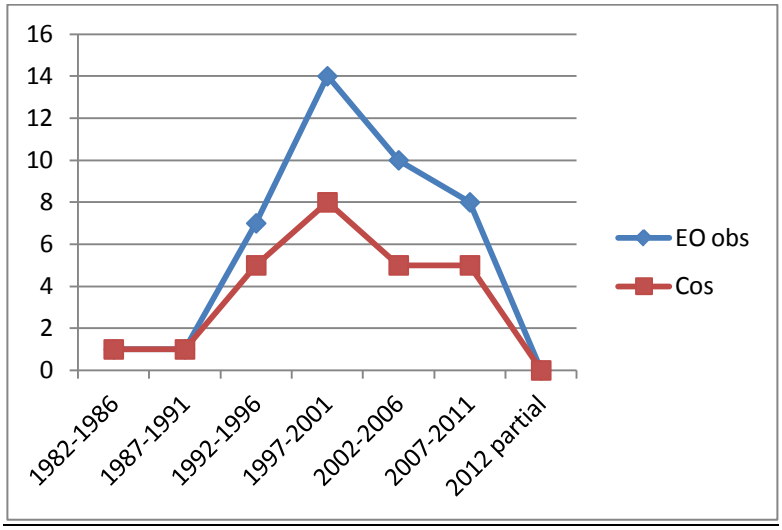
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
07/01/2011	23	14	13	15	10	5

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	1	7	14	10	8	0
Cos	1	1	5	8	5	5	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

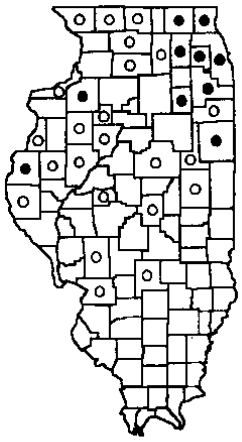
Eastern Prairie Fringed Orchid, Platanthera leucophaea (Illinois endangered, Federally threatened)

Listed as IL E, 5/20/1980; Listed as Fed T 09/28/1989
Reason for listing: restricted habitats or low pops in IL; proposed Fed E or T

Platanthera leucophaea (Nutt.) Lindl.

EASTERN PRAIRIE FRINGED ORCHID

ORCHIDACEAE



Status: Endangered in Illinois, Federally Threatened.
Synonym: *Habenaria leucophaea* (Nutt.) Gray.
Habit: Perennial tuberous orchid, stems to 1 m tall.
Range: East-central and eastern United States, also Ontario, Canada.

Formerly a characteristic plant of mesic to wet prairies throughout much of Illinois, *Platanthera leucophaea* has been nearly exterminated from all but northeastern Illinois. This species is now rare and local with thirty known Illinois populations. It is presently known in Illinois from several state nature preserves, county forest preserves, a state park, and other populations given various degrees of protection. Degradation of prairie habitat threatens most populations unless given active management.
References: Gates (1912), Pepoon (1916), Sheviak (1974a), Myers and Henry (1976), Bowles (1983), Sheviak and Bowles (1986), Bowles *et al.* (1992, 1999a), Bowles and Bell (1999b), Phillippe *et al.* (2000), Lynn (2001), Zettler *et al.* (2001).

KEY

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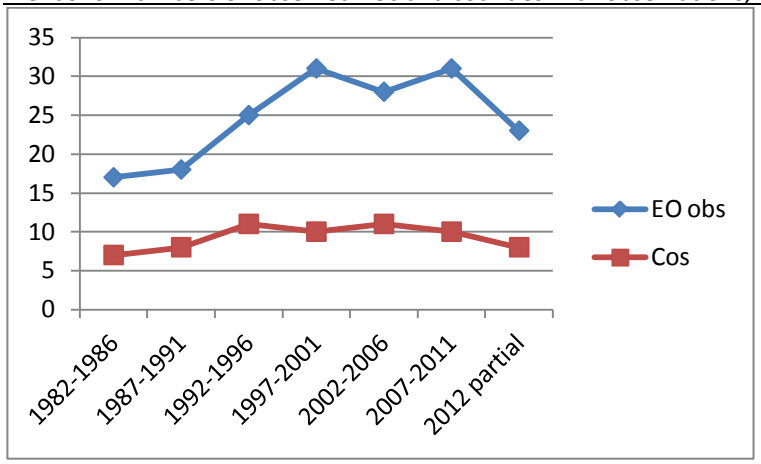
Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2012	43	34	23	25	11	10

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	17	18	25	31	28	31	23
Cos	7	8	11	10	11	10	8

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as Illinois endangered in 1980, there was occurrence information sufficient to establish eight EOs across five counties. Since then, a total of 35 EOs have been added (12 from 1981 to 1989, 11 during the 1990s, 11 during the 2000s, and 1 since 2010), expanding the distribution to 11 counties. The species is subject to, and has benefitted from, intensive monitoring, management, and population manipulation. Nearly all EOs are monitored annually (only 2 EOs have not had reports in the last 15 years), 23 EOs (53% of total) occur on protected sites, 5 EOs have been established from seedings, and nearly all EOs with flowering plants undergo hand-pollination annually (Cathy Pollack, pers. comm. 07/01/2013). The hand pollination has been demonstrated to improve seed production, but it is unclear how any single, or the statewide, population would fare in the absence of the ongoing population manipulation. For example, despite such interventions, nine EOs (21% of total) have had multiple years of reported "surveyed w/ no observation" over the course of the last 10 or more years.

The species' status and distribution have improved greatly since its initial listing, although since this may be largely attributed to ongoing population manipulation it does not seem clear that the definition of state "endangered" has been exceeded. It would be good to see some percentage of EOs liberated from population manipulation for a few years (two or more generations) and maintaining stable or increasing populations before recommending an upgrade in state listing status to Illinois threatened.

Mankowski recommendation – no change in listing status.

NatureServe Conservation Status in United States
None queried.

Purple Fringed Orchid, Platanthera psycodes (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Platanthera psycodes (L.) Lindl.

PURPLE-FRINGED ORCHID **ORCHIDACEAE**

Status: Endangered in Illinois.
Synonym: *Habenaria psycodes* (L.) Spreng.
Habit: Perennial tuberous orchid, stems to 75 cm tall.
Range: Boreal eastern Canada, south into northeastern United States and the Appalachians.

Platanthera psycodes occurs in flatwood openings, mesic sand prairies, and, rarely, in disturbed sites in the Lake Michigan region of Illinois. Presently it is known from five populations in the state, four within state nature preserves or adjacent county forest preserves. These populations fluctuate considerably in the number of flowering plants from year to year, possibly in relation to rainfall. In recent years, populations have been greatly reduced by deer overgrazing.
References: Gates (1912), Mohlenbrock (1970c), Sheviak (1974a).

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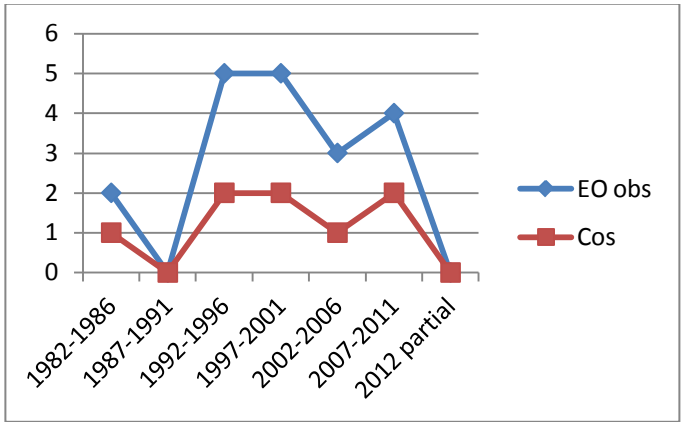
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
08/08/2009	5	4	5	3	2	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	0	5	5	3	4	0
Cos	1	0	2	2	1	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Grove Bluegrass, Poa alsodes (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures;

Poa alsodes Gray

GROVE BLUEGRASS **POACEAE**

Status: Endangered in Illinois.
Habit: Perennial loosely tufted grass, culms to 80 cm tall.
Range: Eastern Canada, south into northeastern United States and the Appalachians.

A species of mesic forests, *Poa alsodes* occurs in Illinois on wooded bluffs, in ravines bordering Lake Michigan, and in rugged, wooded areas in the southern part of the state. It is presently known from a natural heritage landmark in Calhoun County and a state conservation area in Lake County. It probably still persists at some of the historic sites in the Shawnee National Forest.
Reference: Moran (1978).

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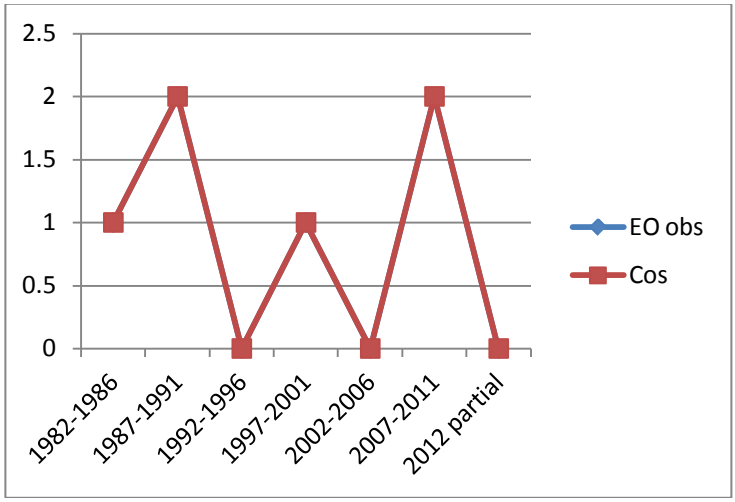
Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
6/4/2008	6	2	2	6	4	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	2	0	1	0	2	0
Cos	1	2	0	1	0	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

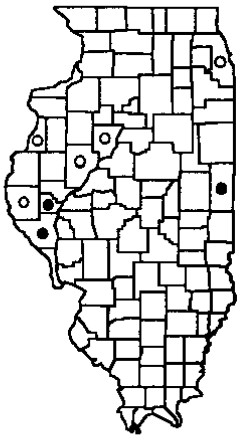
Wolf's Bluegrass, Poa wolfii (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Poa wolfii Scribn.

WOLF'S BLUEGRASS **POACEAE**

Status: Endangered in Illinois.
Habit: Perennial cespitose grass, culms to 80 cm tall.
Range: Ohio to Minnesota, south to Missouri and Virginia.



Poa wolfii is a rare and local woodland species in Illinois. Originally known from three Illinois collections made before 1900, it was discovered in a state park in Adams and Brown counties in 1985 and 1984, respectively. Presently this species is known from a state nature preserve in Vermilion County and from private land in both Brown and Pike counties.
References: Jones (1952), Bowles *et al.* (1991), Schwegman (1991).

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Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
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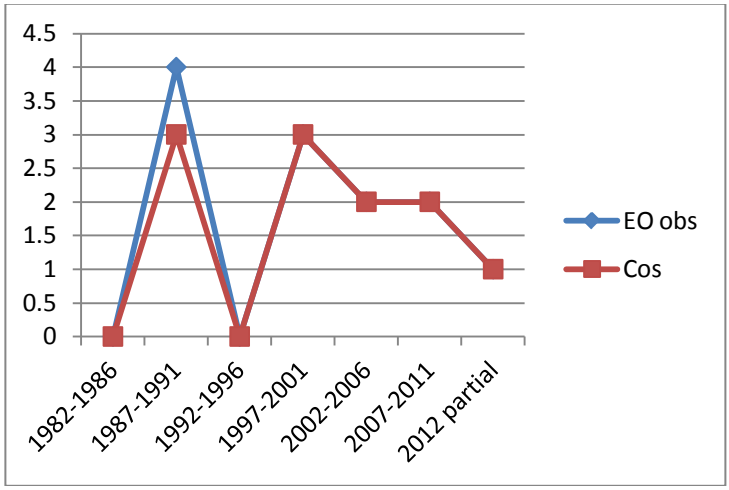
Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/14/2012	10	5	1	10	5	5

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	4	0	3	2	2	1
Cos	0	3	0	3	2	2	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

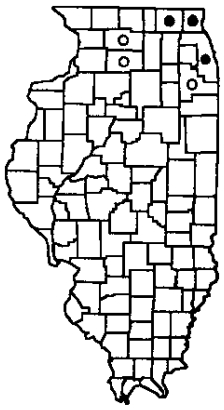
Snake-mouth, Pogonia ophioglossoides (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Pogonia ophioglossoides (L.) Ker

SNAKE-MOUTH **ORCHIDACEAE**

Status: Endangered in Illinois.
Habit: Perennial rhizomatous orchid, stems to 65 cm tall.
Range: Boreal eastern Canada, south into eastern United States.



Pogonia ophioglossoides has been collected from wet sand prairies, sphagnum bogs, and graminoid fens in the northern part of the state. Most of the collections are old, and the species has been largely exterminated in the state by agriculture and urban development. Presently five populations are known in Illinois, four from state nature preserves.
References: Emerson (1921), Sheviak and Haney (1973), Sheviak (1974a), Moran (1981), Hess and Stoynoff (1989), Schwegman (1995).

KEY

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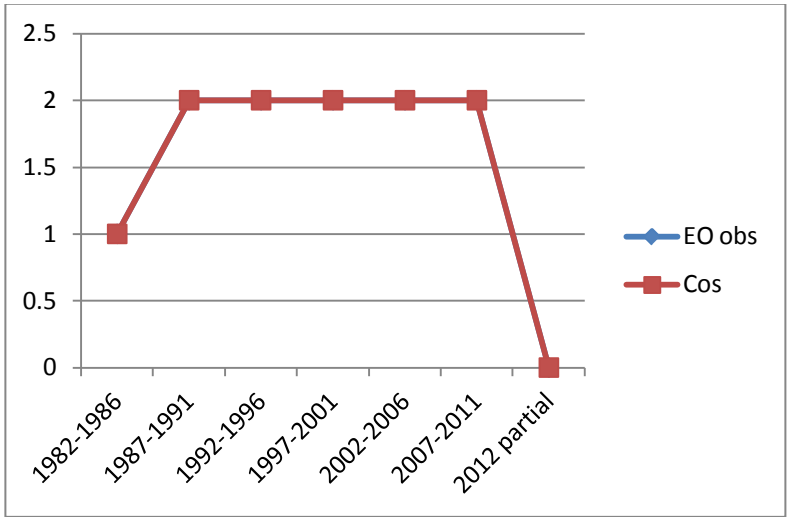
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
06/23/2009	7	2	6	7	3	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	2	2	2	2	2	0
Cos	1	2	2	2	2	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

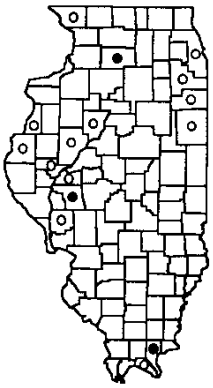
Pink Milkwort, Polygala incarnata (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: formerly widespread, but nearly extirpated from IL due to habitat destruction, collecting, or other development pressures

Polygala incarnata L.

PINK MILKWORT **POLYGALACEAE**

Status: Endangered in Illinois.
Habit: Annual herb, stems 15-60 cm tall.
Range: Central and eastern United States; southern Ontario.



Polygala incarnata is known from sand prairies, hill prairies, and barrens in scattered localities throughout Illinois. It has become exceedingly rare due to overgrazing, developmental projects, fire suppression and mining activities. This species is presently known from four state populations, one in a state nature preserve, two in the Shawnee National Forest, and another on private land. Populations of this species are often small and may not always be apparent.
References: Evers (1955), Schwegman and Mohlenbrock (1966), Schwegman (1968a), Myers and Henry (1976), Taft (1991).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

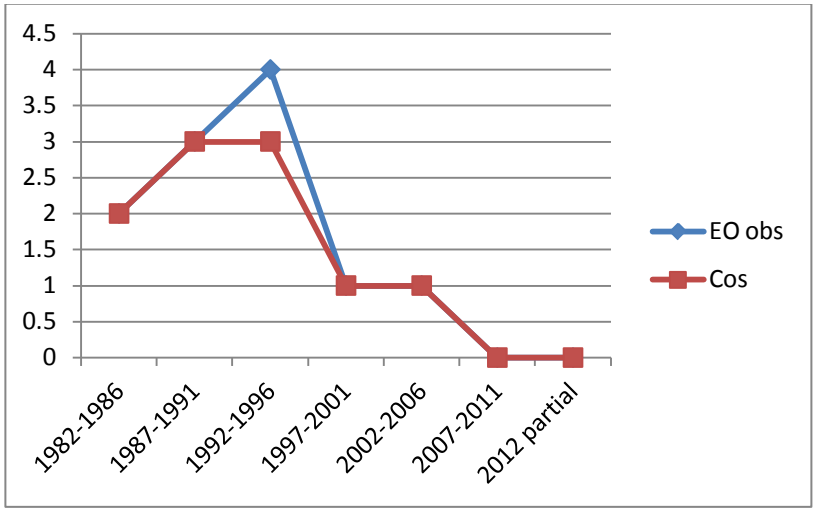
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
6/30/2006	8	1	2	8	7	1

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	2	3	4	1	1	0	0
Cos	2	3	3	1	1	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

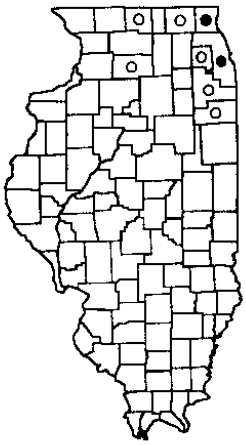
Downy Solomon's Seal, Polygonatum pubescens (Illinois endangered)

Listed as IL E, 5/20/1980; Listed as IL T 03/13/1989; Listed as IL E, 12/03/1998
Reason for listing: restricted habitats or low pops in IL;

Polygonatum pubescens (Willd.) Pursh

DOWNY SOLOMON'S SEAL **LILIACEAE**

Status: Endangered in Illinois.
Habit: Perennial rhizomatous herb, stems 50-90 cm tall.
Range: Northeastern United States and adjacent Canada, south in the Appalachian Mountains.



Polygonatum pubescens reaches its southwestern range limit in rich mesic forests of northern Illinois. It has been collected primarily in the Chicago area, and many of these stations have been destroyed by urban growth. Presently it is known from Lake Michigan bluff ravines and mesic forests in Lake County, and a state nature preserve, and four forest preserves in Cook County.
References: Moran (1978), Evert (1988).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

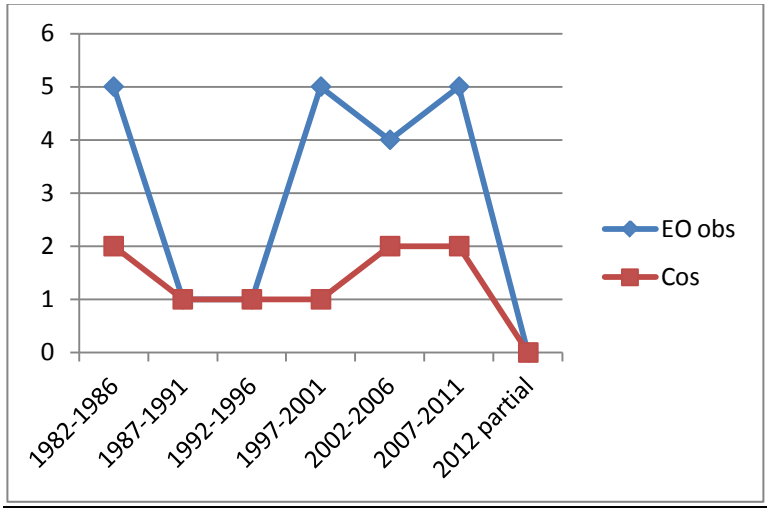
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
06/06/2009	9	6	1	5	2	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	5	1	1	5	4	5	0
Cos	2	1	1	1	2	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski 07/15/13 notes and recommendation:
When the species was originally listed as endangered in 1980, there was only one occurrence in one county that was established as an EOs. Since then, eight EOs have been added, expanding the known distribution to two counties. It appears that the addition of five EOs during the 1980s led to a listing status upgrade to threatened in 1989. Despite the addition of another EO in the early 1990s, the listing status was downgraded to endangered in 1998. Following that change, two additional EOs have been added for the species. One EO is protected. One EO has had "surveyed w/ no observation" reports for several years. Reported population numbers from most recent observations across EOs are: 130 stems in 5 pops; 14 vegetative plants; 21 vegetative stems; 19 fruiting plants; 218 stems; 30 plants; <100 vegetative stems; and, "observed". It appears that the current status and distribution is similar to that when the species' listing status was previously upgraded to threatened.

Mankowski 07/15/13 recommendation – change from endangered to threatened.

ESPB TEC Susanne Masi email of 07/23/13
In deliberating the recommendation to upgrade *Polygonatum pubescens* to Threatened status, please consider the following information provided by the Plants of Concern program for the 2012 and 2013 data season and by the Chicago Botanic Garden surveys of 1999. The data is included in the spreadsheet below, based on records in the Plants of Concern database. These records are reported each year to the Illinois Natural Heritage Database.

Plants of Concern monitors 8 EORs of *Polygonatum pubescens* and has informal 2013 reports on 2 additional, new populations. A 1999-2000 survey by the Chicago Botanic Garden monitored an additional three populations. Of these **combined** populations:

2 populations were searched and not found, and are considered extirpated.
4 populations had fewer than 20 plants.
6 populations had fewer than 60 plants.
Most populations had low reproductive rates.
4 populations were impacted by moderate to severe erosion.

Polygonatum pubescens in NE Illinois as reported by Plants of Concern: 2012-2013

5 of 10 populations < 60 plants; 3 populations < 20 plants; 1 population extirpated; low reproductive rates; 4 populations threatened by erosion/severe erosion

Site (County)	EOR	Nature Preserve?	Subpop #	2012 Monitoring			2013 Monitoring		
				Total #	% Reproductive	Biggest Threat to Subpop	Total #	% Reproductive	Biggest Threat to Subpop
Edgebrook Woods (Cook)	487*5	No	1	N/A	N/A	N/A	Present		16 plants reported in 2010; Severe Erosion
Fort Sheridan Forest Preserve (Lake)	3381*1	No	1	1515	14%	Erosion (26-50%)	N/A		
			2	4	50%	Erosion (26-50%)	N/A		
			8	8	25%	Erosion (26-50%)	N/A		
			9	7	0%	Erosion (26-50%)	N/A		
Harms Woods (Cook)	3809*6	No	1	N/A	N/A	N/A	present		
			2	85	27%	Authorized Trail Impact (76-100%)	N/A		
			3	69	17%	Authorized Trail Impact (26-50%)	N/A		
Lake Ave. Woods East (Cook)	850*8	No	1	212	4%	Invasive Woody Brush Encroachment < 1m tall (76-100%)	298	3%	Invasive Woody Brush Enroachment < 1m tall (76-100%)
MacArthur Woods (Lake)	POC-POPU4*21 3	Yes	1	7	0%	None	Present		
			2	16	0%	None	Present		
			3	33	0%	None	Present		
Openlands Lakeshore Preserve (Lake)	POC-POPU4*38 3	Yes	1	10	0%	Invasive Woody Brush Encroachment > 1m tall (26-50%)	11	18%	Invasive Woody Brush Encroachment > 1m tall (1-25%), Deer Browse (1-25%), Erosion (1-25%)

Queen Anne Cemetery (McHenry)	POC-POPU4*436	No	1	N/A	N/A	N/A	0	0%	Historic EOR; searched not refound
St. Paul Woods	3041*3	No	1	N/A	N/A	N/A	~ 10		14 reported in 2010; Severe Erosion
New 2013; reports pending									
Ryerson Conservation Area							100		email correspondence K. Klick
Wright Woods							50		email correspondence K. Klick
1999 searches by Chicago Botanic Garden Project									
(last time reported to NH Database)									
1 population 30 plants; 1 population < 15 plants; 1 population extirpated									
Busse Woods (Cook)			30			1999			
Carle Woods (Kloempken; Cook)			0			1999			
Clayton Smith Woods (Cook)			14			1999			

At this point I am not making a specific recommendation to maintain *Polygonatum pubescens* as Endangered, but suggest that Board and TEC members to consider these factors in their decision/response.

Mankowski response: In approving the process and schedule for this current List review, the Board agreed that data from the Database would be its primary data source and any other data needs to be submitted to and entered into the Database in order for the Board to consider it. The Board agreed that Database data into the 2012 season would be considered. The schedule for ESPB staff coordination with the Database called for a ESPB staff to get a Database update in February 2013 to use in developing the majority of, if not all, plant species reviews. According to the Database, the Plants of Concern (POC) program submitted its 2012 data to the Database in March 2013, so it was not included in Part 1 or Part 2 of the Plant list 1st cut reviews. The Database is understaffed and often operates with a backlog of data to be entered. The POC 2012 data had still not been entered into the Database when ESPB staff received in July 2013 another update from the Database that will be used to complete the Plant list review. So, the POC 2012 data is not reflected in the Database information included in the ESPB staff species reviews or recommendations – this was the same case for INHS/IDNR 2012 fish data. While the Board has agreed to consider 2013 survey data that has been submitted for a few species that were recommended for delisting, the subject species is not recommended for delisting. ESPB staff recommends

that the 2013 data should not be considered in the current review since this is the same standard applied to all other plant species reviewed, with the exception of a few that were proposed for delisting.

The commenter does not explain how the data presented relates to EOs in the Database. There are 9 EOs in the Database, but the commenter's data mentions monitoring 8 EOs, finding 2 new EOs, and then monitoring 3 additional locations – so it is unclear if/how these correlate to EOs. Further, while it is appreciated that the commenter states that two EOs (?) are now considered extirpated, that determination needs to be made/confirmed by the Database. Board staff elected to not dedicate very much time to trying to cross-reference data between the commenter's submittal and the Database, but upon review of the commenter's data ESPB staff is not persuaded to change the ESPB staff notes and recommendation and maintains the recommendation for changing the status from endangered to threatened.

Mankowski 08/02/13 recommendation – change from endangered to threatened

NatureServe Conservation Status in United States

None queried.

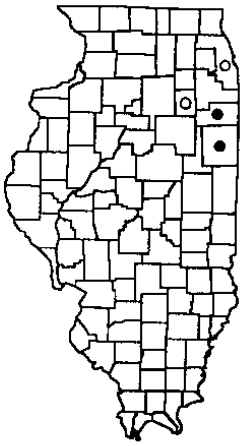
Carey's Smartweed, Polygonum careyi (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Polygonum careyi Olney

CAREY'S HEARTSEASE **POLYGONACEAE**

Status: Endangered in Illinois.
Habit: Annual herb, stems to 1.5 m tall.
Range: Northeastern United States and adjacent Canada.



Polygonum careyi is restricted in Illinois to sand prairies in the northeastern counties. Presently this species is known from three sites in Illinois, a state conservation area in Iroquois County, and from two locations on privately owned land in Kankakee County. It was found in a state nature preserve in Cook County in 1980 and may persist at that site. This annual species often appears after fires and may recur at other localities in northern Illinois.
Reference: Mohlenbrock and Thompson (1987).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

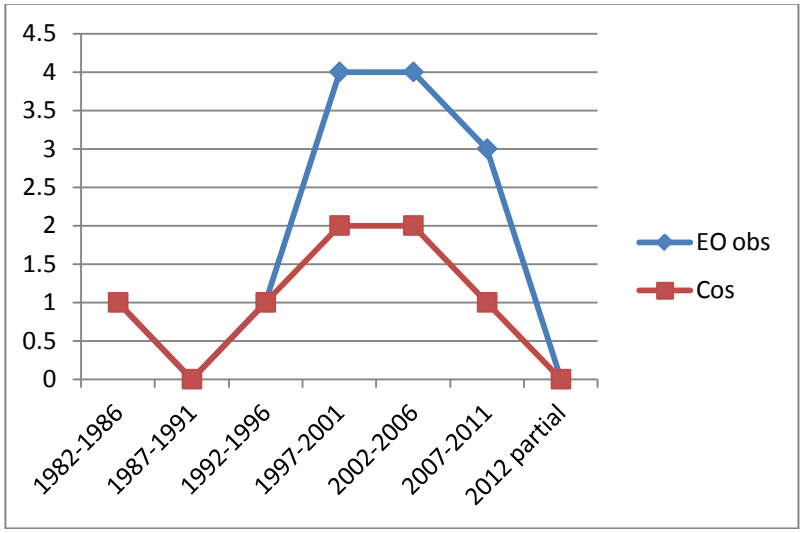
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
2010	6	5	2	4	3	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	1	0	1	4	4	3	0
Cos	1	0	1	2	2	1	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was only one occurrence in two counties that was established as an EOs. Since then, five EOs have been added, expanding the known distribution to three counties. Fully five EOs (83% of total) have had observations in the last 10 years. Two EOs are protected in Nature Preserves and three additional EOs occur in Land and Water Reserves. Despite the increase in number of EOs and protection status of sites with EOs, population sizes for this species are poorly reported and therefore unclear, with only reports of "observed" for 3/5 recent observations and "several plants" and ">100 plants" for the remaining two EOs.

Mankowski recommendation – no change in listing status.

NatureServe Conservation Status in United States

None queried.

Balsam Poplar, Populus balsamifera (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Populus balsamifera L.

BALSAM POPLAR **SALICACEAE**

Status: Endangered in Illinois.
Habit: Tree, to 30 m tall.
Range: Boreal and subarctic Canada and Alaska, south into northernmost United States.

Populus balsamifera was formerly a characteristic tree of the Lake Michigan bluffs and adjacent sand dunes, occurring locally inland along streams, bog margins, and mesic prairies. However, agriculture and urban development have nearly extirpated this species from Illinois. Now populations are occasionally found colonizing disturbed sites, and four stations for this tree are known, two in state nature preserves.
Note: This species reportedly hybridizes with *Populus deltoides* Marsh., and at least one extant population shows some sign of hybridization. The balsam poplar extensively planted by the Cook County Forest Preserve District is the sterile hybrid *Populus* x *gileadensis* Rouleau.
References: Steyermark and Swink (1952), Moran (1978).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

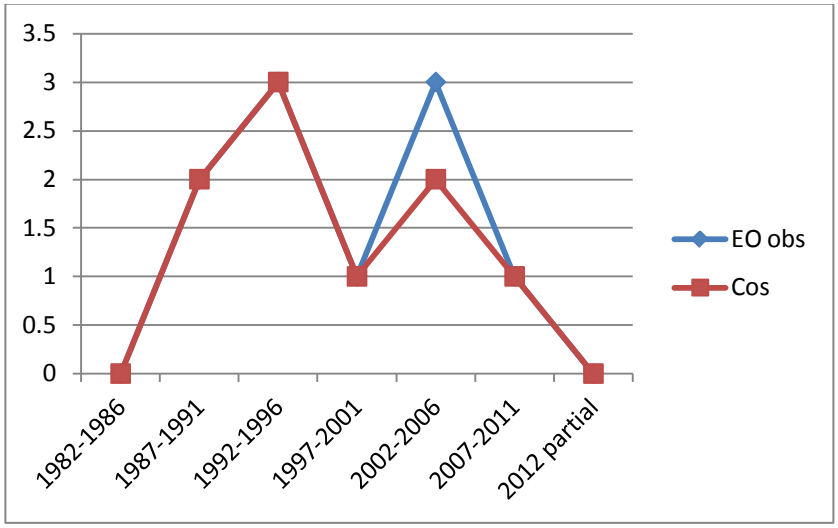
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
6/29/2011	5	4	3	4	3	3

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	2	3	1	3	1	0
Cos	0	2	3	1	2	1	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Grass-leaved Pondweed, Potamogeton gramineus (Illinois threatened)

Listed as IL E, 5/20/1980; Listed as IL T 12/03/1998
Reason for listing: restricted habitats or low pops in IL;

Potamogeton gramineus L.

GRASS-LEAVED PONDWEED

POTAMOGETONACEAE

Status: Threatened in Illinois.
Habit: Perennial aquatic pondweed with floating leaves.
Range: Circumboreal south into northern United States.

Potamogeton gramineus is extremely rare in Illinois. Until recently, nearly all Illinois collections of this species were made during the nineteenth century, and many sites have been destroyed by urban growth. Modern collections of this species are from at least ten stations in Lake, McHenry and Cook counties. One of these sites is within a state conservation area, another in a county forest preserve, while others are unprotected.

References: Ogden (1943), Fassett (1960), Curtis (1990), Bowles *et al.* (1991), Haynes and Hellquist (2000b).

KEY

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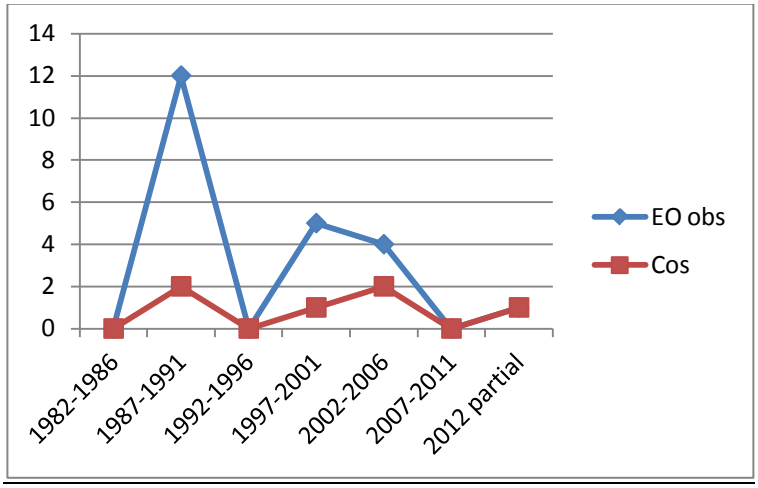
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
05/05/2012	15	5	3	7	3	2

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	12	0	5	5	0	1
Cos	0	2	0	1	2	0	1

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



Mankowski notes and recommendation:
When the species was originally listed as endangered in 1980, there was only one occurrence in two counties that was established as an EO. Since then, 14 EOs have been added, expanding the known distribution to three counties. It appears the addition of 12 EOs in the 1980s and 1990s led to the listing status upgrade to threatened in 1998. Five EOs (33% of total) have had observations in the last 10 years and nine EOs (60% of total) with observations in the last 15 years. While there has been a reduction since the 1990s in the number of EOs with observations, the lack of recent observations is likely related to search effort rather than the absence of presence, since there is only one "surveyed w/ no observation" report across all EOs. Three EOs are protected in Nature Preserves. Population sizes (or area occupied) for this species are poorly reported and therefore unclear, with only reports of "observed" for 10/15 EOs.

Mankowski recommendation – no change in listing status.

NatureServe Conservation Status in United States

None queried.

White-stemmed Pondweed, Potamogeton praelongus (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Potamogeton praelongus Wulfen

WHITE-STEMMED PONDWEED

POTAMOGETONACEAE

Status: Endangered in Illinois.
Habit: Perennial submersed aquatic pondweed.
Range: Circumboreal, south into northern United States.

An inhabitant of cold-water lakes, *Potamogeton praelongus* is restricted in Illinois to glacial lakes in the Northeastern Moraine Natural Division. This species has been found in seven Lake County ponds in the last ten years, one in a state nature preserve, another in a county forest preserve. It is possible that this species may persist in other glacial lakes in northeastern Illinois.
References: Ogden (1943), Fassett (1960), Curtis (1990), Bowles *et al.* (1991), Haynes and Hellquist (2000b).

KEY

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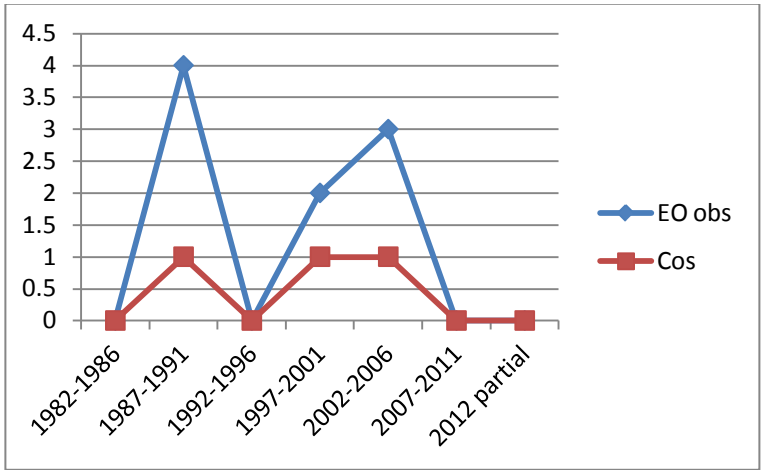
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
9/25/2003	7	3	2	3	1	1

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	4	0	2	3	0	0
Cos	0	1	0	1	1	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

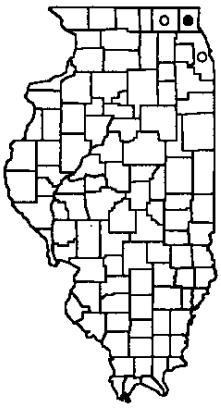
Fern Pondweed, Potamogeton robbinsii (Illinois endangered)

Listed as IL E, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Potamogeton robbinsii Oakes

FERN PONDWEED **POTAMOGETONACEAE**

Status: Endangered in Illinois.
Habit: Perennial submersed aquatic pondweed.
Range: Boreal Canada and adjacent northern United States.



In Illinois, *Potamogeton robbinsii* is restricted to glacial lakes in the Northeastern Morainal Natural Division. Most of the Illinois collections are old, but the species was recollected in Cook County in 1987 and discovered in McHenry County in the same year and may persist at these sites. It has been recently discovered at five Lake County locations, two in county forest preserves.
References: Ogden (1943), Fassett (1960), Curtis (1990), Bowles *et al.* (1991), Haynes and Hellquist (2000b).

KEY

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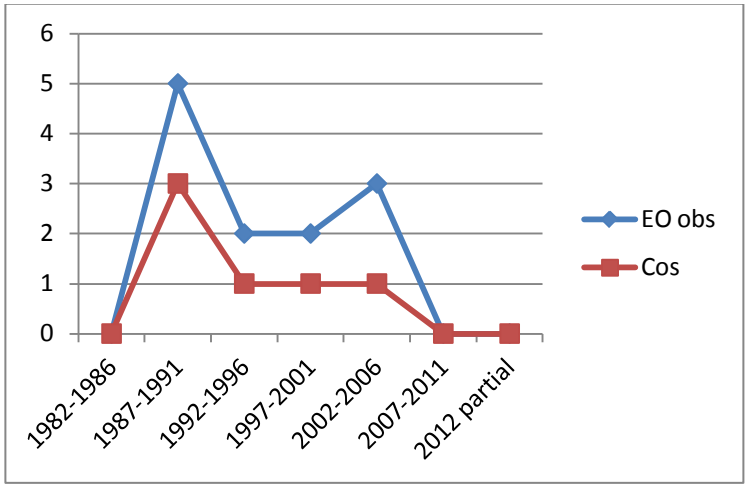
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
09/25/2003	6	3	1	4	3	1

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	5	2	2	3	0	0
Cos	0	3	1	1	1	0	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Rock Chestnut Oak, Quercus montana (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Quercus montana Willd.

ROCK CHESTNUT OAK **FAGACEAE**

Status: Threatened in Illinois.
Habit: Tree, to 30 m tall.
Range: Eastern United States and adjacent Canada.

A species of dry, often rocky forests and ridgetops, *Quercus montana* occurs in Illinois along the western margin of its range. Seven populations are presently known in the state, all from the Shawnee National Forest. Although some cutting of these populations has occurred, reproduction at these sites seems adequate for reestablishment of the species.
Note: Mohlenbrock (1986) and Gleason and Cronquist (1991) use the name *Quercus prinus* L. for this species.
References: Evers (1950), Bailey and Swayne (1951), Schwegman (1972), Weaver and Robertson (1981), Nixon and Muller (1997).

KEY

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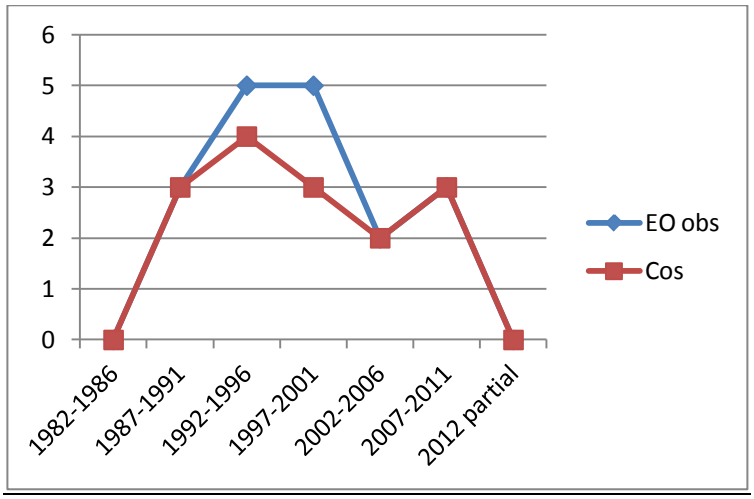
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
10/21/2008	8	4	0	8	6	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	0	3	5	5	2	3	0
Cos	0	3	4	3	2	3	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

Willow Oak, Quercus phellos (Illinois threatened)

Listed as IL T, 5/20/1980
Reason for listing: restricted habitats or low pops in IL;

Quercus phellos L.

WILLOW OAK **FAGACEAE**

Status: Threatened in Illinois.
Habit: Tree, to 25 m tall.
Range: South-central and southeastern United States.

Quercus phellos reaches its northern range limit in floodplain forests in extreme southern Illinois. It is presently known from a state nature preserve, a state conservation area, and a few localities on private land. There are historical records of this species in state nature preserves in Johnson and Union counties, and it probably still persists at these sites.
References: Palmer (1921), Mohlenbrock *et al.* (1961), Schwegman and Mohlenbrock (1966), Jensen (1997).

KEY

The narrative for each species is accompanied by a map of Illinois with county outlines shown. Counties from which the species in known to occur are shown as a solid circle; county records which may no longer be extant are shown as an open circle. An example of a species treatment is as follows:

Citation: 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.

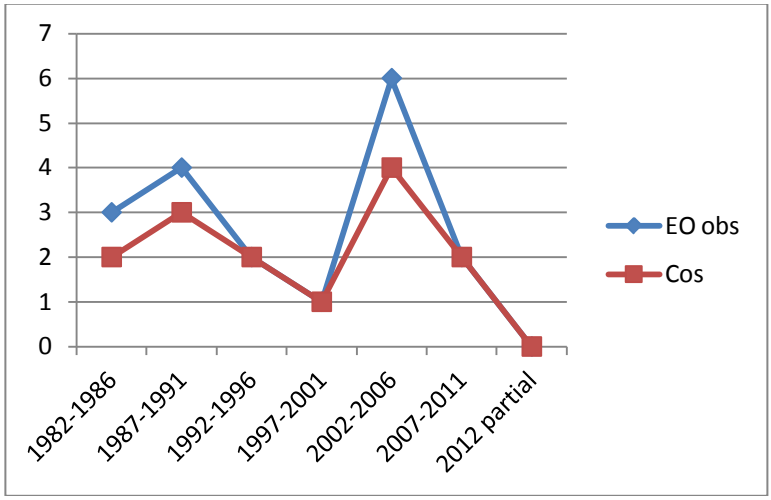
Illinois – Natural Heritage (Biotics 4) Database – last updated, February 2013
(EO = element occurrence and is roughly equivalent to one or more local individuals)

Last Observation	Total # Eos	Total seen since Jan 2002	# protected occurrences	# topo quads	# Counties	# Counties since 2002
9/28/2010	10	7	3	9	5	4

Observed EOs and counties with observations, for 5-year intervals, and any for 2012

	1982-1986	1987-1991	1992-1996	1997-2001	2002-2006	2007-2011	2012 partial
EO obs	3	4	2	1	6	2	0
Cos	2	3	2	1	4	2	0

Trends for numbers of observed EOs and counties with observations, for 5-year intervals



NatureServe Conservation Status in United States

None queried.

ESPB TEC Susanne Masi nomination to list as endangered, Juglans cinera (Butternut)

Nomination form begins following compiled ESPB staff and ESPB TEC comments.

Mankowski 07/15/13 notes and recommendation relative to the 1st version of the nomination form:
ESPB staff does not recommend listing Juglans cinera as endangered because it is staff opinion that the information submitted does not provide sufficient evidence regarding the statewide status and distribution of the species including population numbers, occurrence, or changes.

Historic status and distribution

- No data/evidence (such as listings of records from museum or collections, etc.) has been provided to document the historic statewide status and distribution for use in comparing information about the current status and distribution.
- For ease of reference as one type of example, ESPB staff sent Ms. Masi a pdf copy of the distribution map for Juglans cinera from Mohlenbrock and Ladd (1978), which shows a statewide county-level distribution.

Current/Recent status and distribution

- While the Ostrey and Woeste (2004) publication states that according to USDA USFS inventory data, there was a reduction of 87% in the number of trees during the 1998-2002 data collection interval, the publication does not include the actual USDA USFS data nor does it explain whether it reflects an actual statewide inventory or an inventory of only USFS lands in the state.
- The Plants of Concern information that was provided describes reduction in health, survivorship, and recruitment for several populations, but addresses only a four-county area of the state.

Mankowski 07/15/13 recommendation:
If the nomination is revised to include necessary information by the 07/29/2013 deadline for comments/information/evidence on the Plants, Part 2, 1st cut draft document, staff will reconsider the nomination and recommendation. If the nomination is not revised, staff recommendation here will be maintained.

ESPB TEC Beth Shimp 07/26/13 comments:
Anne,
I failed to mention that I whole-heartedly agree with the proposal submitted to list Juglans cinerea. I rarely encounter it on the Forest, rarely. In going to a site years ago where a tree persisted in Burke Branch RNA, I found that it was gone… likely fallen into the creek and decayed away as it was leaning into the creek when discovered by Eric Ulaszek and Dan Spivey over 15 years ago. Ice storms and blowdowns definitely contributed to the demise of several tree species in this area of south Pope County.

I had J. cinerea listed as Regional Forester's Sensitive several years ago for the Shawnee National Forest. I know that several other Forests in Region 9 also have it listed and protected.

Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. As explained in the Part 2, Plant list 1st cut draft document, staff recommendation for not adding the species to the List is because the nomination form did not provide adequate justification through evidence and explanation. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information

sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

ESPB TEC Randy Nyboer 07/29/13 comments:
Recommendation for listing *Juglans cinerea* L. as IL-E. I do not think this species should be considered for listing to the Illinois List. While I agree with Ms. Masi's concern over the decline of this species in Illinois due largely to the Butternut Canker, this tree is still too common to be considered for listing. This spring alone it occurred in the sampling data as mature trees with seedlings and saplings in two INAI quality mesic forests and one mesic woodland in JoDaviess County. This species has a statewide distribution and during the INAI Update, a number of non-infected occurrences were observed. This species is also considered as a renewable, harvestable forest resource by the Division of Forestry. The American Chestnut (*Castanea dentata*) was once listed by the Board because of the Chestnut Blight, but also because the American Chestnut had only a few naturally occurring locations in the state. I really don't see how listing *Juglans cinerea* will ever improve the condition of this tree.

Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

ESPB TEC John Taft 07/29/13 comments:
Juglans cinerea – Butternut or white walnut, prone to the butternut canker and in decline throughout its range, is an excellent example of the need for a selective Watch List for tracking population trends for species at risk of rapid decline. We formerly saw this tree a scattered localities in Jo Daviess County but have not been back to confirm status. However, because it was on an informal Watch List that existed at the time, we reported the occurrences to the IDOT and IDNR in the course of our observations. With no informal Watch List, such observations have gone unreported to the Heritage Database. Since the Jo Daviess County observations in the early 1990s, in the past 20 years I have seen 1 and 2 naturally occurring trees only, in Kendal and Lake counties, respectively.

Mankowski response: Comments noted and will be added to staff notes and recommendation that precedes the nomination form for Board information. As explained in the Part 2, Plant list 1st cut draft document, staff recommendation for not adding the species to the List is because the nomination form did not provide adequate justification through evidence and explanation. The commenter provides anecdotal information that may be helpful to the Board. The commenter does not provide information sufficient to further document historic or current statewide status and distribution (in the form of element occurrence reports). Staff maintains recommendation for not adding the species to the List.

Mankowski 08/02/13 notes and recommendation relative to the 2nd version of the nomination form:
Additional information and evidence provided in the revised nomination form did not persuade ESPB staff to change the recommendation against listing the species as endangered. Some reasons are provided here:

- While the species may be under threat from disease and has suffered a statewide population reduction, the data submitted is insufficient to establish an accurate statewide catalog of historic or current EOs, which seems to fall below our evidentiary requirement and will make any future evaluations very challenging for the same reason.

- With regard to the USFS data, as is explained the sampling error is significant. While the data suggest a 22% reduction in the number of individual trees between 2007 and 2012, the data indicate as many as 682,000 live trees were counted statewide in 2012 – is this endangered? The data do not indicate whether number fluctuations are a result of disease, harvest, or other factors. Most of the trees recorded in 2012 (92%) were from

the smallest size class (1.0-2.9" DBH) and there is a reduction in the number of trees from larger size classes, which may indicate problems with survivorship. However, the 2012 data also indicate an increase of 6% from 2007 for the number of individuals in the smallest size class, which suggests that recruitment is still taking place and may be on the increase.

- The nomination form suggests that the listing as an Illinois endangered or threatened species will somehow involve action against the butternut canker – it should probably not be expected that adding a species to the IL List will involve or increase actions against a disease.

Nomination form begins next page

Illinois Endangered Species Protection Board (ESPB) required 5-year review of the Illinois List of Endangered and Threatened Species (Illinois List) ending in 2014:

Form for ESPB Technical Expert Consultant (ESPB TEC) recommendation for adding a species to the Illinois List of Endangered and Threatened Species

Prepared by:
Anne Mankowski, Director
Illinois Endangered Species Protection Board
One Natural Resources Way
Springfield, IL 62702-1271
Office phone: 271-785-8687
Email: anne.mankowski@illinois.gov
March 2012

Complete one form for each species nomination. Fill-in all sections to the best of your ability with available information. Return the form and copies of attachments to Anne Mankowski.

A.

Date: May 28, 2013 (initial recommendation); July 24, 2013 (revised recommendation)

B. **Proposer Information**

Name: Susanne Masi

Address: 1000 Lake Cook Road, Glencoe, IL 60022

Phone number: 847-835-8269

Email address: smasi@chicagobotanic.org

Title: Manager of Regional Floristics

Institution/Organization affiliation: Chicago Botanic Garden

C. **The scientific and common name, including nomenclature citation, of any species involved (the ESPB may elect to use the common name identified by NatureServe).**

Scientific Name: *Juglans cinerea*

Common Name: Butternut, White Walnut

Nomenclature Citation: *Juglans cinerea* L.

D. **Identification of the specific listing status recommended – endangered or threatened – and reference to specific ESPB listing criteria that are affecting the species, including where these factors are acting upon the species, the magnitude and imminence of these factors, and whether, either singly or acting in combination,**

these factors may cause the species to be an endangered or threatened species (endangered = at risk of extinction in the wild in Illinois; threatened = likely to become endangered in the wild in Illinois within the foreseeable future).

Recommend listing as endangered __X__

Recommend listing as threatened ____

Identify which ESPB listing criteria are affecting the species and for which your proposal provides supporting evidence: 3a, 3c, 4b. In addition, the ESA considers decline by disease may be a factor in listing decisions:

"Endangered Species" means any species of plant or animal classified as endangered under the Federal Endangered Species Act of 1973, P.L. 93-205, and amendments thereto, plus such other species which the Board may list as 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.*

1. Species or subspecies designated as federally endangered or threatened.
2. Species proposed for Federal Endangered or Threatened status that occurs in Illinois.
3. Species which formerly were more widespread in Illinois but have shown significant declines which may lead to extirpation from the State due to habitat destruction, collecting, or other pressures resulting from the development of Illinois. This includes species which:
    a. are experiencing reproductive impairment;
    b. have experienced a range reduction;
    c. occur in reduced numbers even though range or number of populations remains steady.
4. Species which are low in numbers and for which known or potential threats are likely to cause significant declines, including:
    a. species which exhibit very restricted geographic ranges, of which Illinois is a part;
    b. species which exhibit restricted habitats or low populations in Illinois;
    c. species which are significant disjuncts in Illinois, i.e., the Illinois population is far removed from the rest of the species' range.

E. **Biological information on the species (including habitat and life-history traits) that is relevant to determining whether a species may be endangered or threatened**.

Juglans cinerea is a medium sized monoecious tree species of bottomland and rich wet woods in Illinois. Butternuts usually will not sprout after stem death. Biologically, it is considered to be extremely susceptible to the butternut canker. When a population is infected, that particular gene pool has the potential to be permanently lost. (Schlarbaum, Hebard, Spaine and Kamalay, p. 49)

F. **A detailed narrative justification for the recommended measure, describing, based on available information, past and present numbers and distribution of the species involved (location information should include lat/long coordinates and other information necessary to add a record to the Natural Heritage (Biotics 4) Database) and any threats faced by the species; it is most helpful if this narrative contains an analysis of the information presented.**

The Plants of Concern monitoring program of the Chicago Botanic Garden has received 55 monitoring reports beginning in 2003 from 12 populations (comprising 17 subpopulations or separate groupings within a larger population) of *Juglans cinerea* throughout northeast Illinois (see spreadsheet below taken from the POC

database). The most recent reports provide numbers of 0 to 3 trees within all but one population. This population numbered 19 trees in 2007, but the 2013 report indicates that 10 of these trees have died. The 2013 report shows 14 living trees (5 additional trees were discovered) and "most of these show serious signs of disease - only three looked reasonably healthy." The three populations with 0 trees report on formerly observed trees now dead from the butternut canker disease. Most of the other populations report dying or diseased trees. Only one population reported reproductive trees in the most recent reports. In speaking with land managers in DuPage County and at McDonald Woods, Cook County, I learned that the butternut was once much more common and scattered throughout the sites where they occurred. The six trees that were present in the 1980s in McDonald Woods are now all dead – I have personally observed the fallen trunks of several of these.

Plants of Concern records for Juglans cinerea- most recent record. Detailed reports of each population can be provided if listing occurs.

Mon Date	SiteName	GPS Coord	Datum	Subpop	County	Land Owner	Stems	%Reprod	notes
20-Aug-09	**Big Woods Forest Preserve**			**Subpop 1**	**DuPage**	**FPD DuPage County**	**0**	**0**	**Historic. Last seen mid-90s, not found 2007-8-9**
07-Jul-12	**Brush Hill Forest Preserve**	**41.815261; -87.947667**	**NAD 27**	**Subpop 1**	**DuPage**	**FPD DuPage County**	**2**	**0**	**severe drought**
27-Jul-12	**Fort Sheridan Forest Preserve**	**42.2215116; -87.8121015**	**WGS 84**	**Subpop 1**	**Lake**	**FPD Lake County**	**1**	**100**	**2nd tree had been cut down due to blight**
05-May-12	**Fort Sheridan Forest Preserve**	**42.224975; -87.81434506**	**NAD 83**	**Subpop 2**	**Lake**	**FPD Lake County**	**1**	**0**	**healthy 2-trunked tree**
25-May-12	**Heritage Woods**	**41.77978; -88.16734**	**WGS 84**	**Subpop 1**	**DuPage**	**Naperville Park District**	**3**	**NA**	**all three trees with canker, 1 nearly dead**
01-Sep-12	**Herrick Lake**	**41.812421; -88141258**	**NAD 27**	**Subpop 1**	**DuPage**	**FPD DuPage County**	**2**	**0**	**1 tree had 2 dead and 1 live branches**
03-May-12	**Hoover Forest Preserve**	**41,64295; -88.47258**	**WGS 84**	**Subpop 1**	**Kendall**	**FPD Kendall County**	**1**	**0**	**looks healthier this year, but with splits in trunk**
14-Jun-12	**Knoch Knolls Park**	**41.70732; -88.14659**	**WGS 84**	**Subpop 1**	**DuPage**	**Naperville Park District**	**2**	**0**	**1 tree dead - blown over in a wind storm in 2010; 1 tree has canker, dead lower branches**
05-May-09	**Maple Grove**	**41.78919; -88.02416**	**NAD 27**	**Subpop 1**	**DuPage**	**FPD DuPage County**	**1**	**0**	**no other info provided**
16-Jul-10	**McDowell Grove**	**41.79913906; -88.18450116**	**WGS 84**	**Subpop 1 (EMC06)**	**DuPage**	**FPD DuPage County**	**1**	**0**	**Tree in poor health, few live branches, bark falling off**
16-Jul-10	**McDowell Grove**	**41.7989; -88.18330092**	**WGS 84**	**Subpop 2 (EMC06)**	**DuPage**	**FPD DuPage County**	**0**	**0**	**Subpop 2 is historic at this point, tree dead in 2008**
16-Jul-10	**McDowell Grove**	**41.80114402; -88.18385326**	**WGS 84**	**Subpop 4 (EMC06)**	**DuPage**	**FPD DuPage County**	**2**	**0**	**1 tree declining, bark crumbling, rotting at base, many dead branches. 1 tree/3trunks healthier, tho some dead branches**
16-Jul-10	**McDowell Grove**	**41.79829547; -88.18594132**	**WGS 84**	**Subpop 5 (EMC11)**	**DuPage**	**FPD DuPage County**	**1**	**0**	**declining, dieback on branches, cracking on bark**
27-Aug-08	**Ryerson Conservation Area**	**42.43694; -87.60167**	**NAD 27**	**Subpop 1**	**Lake**	**FPD Lake County**	**0**	**0**	**Reported dead in 2008**
10-Aug-06	**Ryerson Conservation Area**	**42*10.533'; -87*55.042'**	**NAD 27; Deg minutes**	**Subpop 2**	**Lake**	**FPD Lake County**	**1**	**0**	**Reported dead in 2006, fallen**
23-Aug-11	**Waukegan Bowen Park**	**42.38825; -87.8271**	**WGS 84**	**Subpop 1**	**Lake**	**Waukegan Park District**	**1**	**0**	
05-Sep-07	**West Chicago Prairie**	**4638548; 398328**	**WGS 84; UTM**	**Subpop 1**	**DuPage**	**FPD DuPage County**	**19**	**21**	
05-Jun-13	**West Chicago Prairie**	**41.89233; -88.22501**	**WGS 84; Dec Deg**	**Subpop 1**	**DuPage**	**FPD DuPage County**	**14**	**0**	**10 of 19 from '07 dead; 5 new found; most diseased; 3 reasonably healthy.**
	In POC database with no records								
.	Fullersburg Woods			Subpop 1	DuPage	FPD DuPage County	.	.	Historic*
.	Hawk Hollow			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	Hidden Lake			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	Lyman Woods			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	Meacham Grove			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	Thatcher Woods			Subpop 1	Cook	FPD Cook County	.	.	Checking it out in 2013 - unclear if it is at this site
.	Timber Ridge			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	Warrenville Grove			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
.	West DuPage Woods			Subpop 1	DuPage	FPD DuPage County	.	.	Historic
	McDonald Woods			Subpop 1	Cook	FPD Cook County			6 trees known from 80s now dead; personal observation by J. Steffen and S. Masi

* Note: All historic DuPage County sites originally observed by Wayne Lampa. Scott Kobal, Ecologist, FPD DuPage County, stated: "I do not recall seeing the trees in any of the sites recently."	Email correspondence, May 23, 2013.

Personal correspondence and quotes from published sources relevant to this proposal:

John Schwegman, former chief botanist with IDNR. "I have not seen this species in the wild for many years. The Butternut Canker seems to have gotten most of them. Back in the 90s when the disease was actively spreading in Illinois, I had a lot of folks send me seed from all over the state to conserve the biodiversity of the species in Illinois. Almost everyone who sent in seed indicated that the species was dieing out in their area. Unfortunately, this diverse seed collection was lost." (Email communication to S. Masi, December 17, 2012)

Butternut is "Susceptible to butternut dieback or butternut canker *(Sirococcus clavigignenti-juglandacearum)* which is usually a fatal fungal disease that is devastating butternut trees in the wild….this canker has no cure." www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant. 3/21/13

Juglans cinerea is "…occasional but becoming very rare because of disease...." (Mohlenbrock 2002, p. 229)

"Butternut (*Juglans cinerea* L.) is being killed throughout its range by a canker caused by the fungus, *Sirococcus clavivnenti-juglandacearum* Nair, Kostichka, and Kuntz, described as a new species in 1979….Spores of the fungus develop under infected bark in sticky masses and are dispersed by rainsplash and wind during the growing season." (Ostry and Woeste, p. 114)

"The most recent U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis survey data examined for butternut (NCRS, FIA Website, October 2003) revealed that overall in seven Midwestern states the number of butternut trees in all size classes decreased by 23%….The states with a decrease in the number of trees and the inventory interval from which the data were collected are as follows:…Illinois 87% (1998-2002)." (Ostry and Woeste, p. 115)

In response to Ms. Mankowski's recommendation about the need for additional data describing the scope and methodology of Forest Service surveys to support the above statements, I contacted the M.E. Ostry, cited above, as well as Susan Crocker, Research Forester, U.S. Forest Service, Northern Research Station. Pasted below are an email from Crocker and two spreadsheets they provided from USFS survey data from 1998 to 2012. The FS methodology is also described in the attachment: Illinois' Forests 2005, Data Sources and Techniques. Crocker confirms that the Forest Service census covers all forests, public and private, and not just those on FS lands.

From: Crocker, Susan J -FS [mailto:scrocker@fs.fed.us]
Sent: Friday, June 21, 2013 5:51 PM
To: Susanne Masi
Cc: May, Dennis -FS
Subject: FW: Juglans cinerea

Hi Susanne,

Thanks for your questions regarding the utility of FIA data to answer questions related to butternut canker.

I'll start by saying that the Forest Inventory and Analysis (FIA) program of the USDA Forest Service is the nation's only continuous forest census (http://www.fia.fs.fed.us/). As such, FIA collects, analyzes and reports information on the status and trends of America's forests (both public and private). Historically, FIA data was collected on a periodic basis (on a cycle averaging approximately every 12 years and which varied by state), however, an annual inventory program was initiated in the late 1990s. Under the annual system, data is collected every year with a complete inventory consisting of data collected over a 5-year period. Results are thus reported using a 5-year moving average. As Mike pointed out, differences in periodic and annual data collection can make some comparisons between inventories problematic.

Regarding the actual data from Ostry and Woeste (2004), I'm not sure exactly what analyses were conducted in that study, so I can't provide a replica of the data that was used. I can, however, point you to the FIA database, which contains publicly available information which may be of help to you. If you are interested in accessing raw inventory data, this information is available for download via the FIA Data Mart - http://apps.fs.fed.us/fiadb-downloads/datamart.html. If you would prefer to view data in a table or map format, the EVALIDator and FIDO tools will allow you to customize estimates according to your specific interests - http://www.fia.fs.fed.us/tools-data/default.asp.

In answer to your question regarding change in the number of butternut trees since 1998, I have included the attached spreadsheet [see below]. You will find that this spreadsheet differs somewhat from the previous spreadsheet, in that I have only included the total number of butternut trees by inventory year between 1998 and 2012. This is related to the relative sparseness of butternut in Illinois compared to other tree species. Because butternut is relatively few in number, the error associated with the number of trees by size class is extremely high (please consult the sampling error percentages for each year and size class in the worksheet tabs labeled with an individual year. The tabs include the raw output from the EVALIDator tool). Because of the high error, comparisons are best conducted at the statewide level and even then, the associated error is large.

You will also note that data specific to 2002 is not included in the spreadsheet. This is due to the completion date of the first annual inventory in Illinois. As referenced above, the last periodic inventory of Illinois' forests was conducted in 1998. The

first annual inventory of Illinois began in 2001 and was not completed until 2005 (please see Crocker et al. 2009 for more information - http://www.nrs.fs.fed.us/pubs/7094). Data from 2001 to 2002 represents only 20 percent of the completed inventory and thus carries a high degree of sampling error. Because of this, when possible, it is preferable to compare estimates using the complete set of data, i.e. all 5 years of data. As the full inventory was not completed nor available in 2004, the best available data was included in the Ostry and Woeste study.

While I did not include size class estimates in the provided data, FIA records DBH, or diameter at breast height, in inches. The chart below, provided by Crocker, is from the Forest Inventory and Analysis National Program, Forest Inventory Data Online (FIDO). The multiple worksheets after the first worksheet show data from individual years: 1998, and 2005-2012, which I can provide.

Total number of butternut trees on timberland, Illinois, 1998-2012.

Inventory Year	Number of live butternut (greater than 1 inch)	Sampling error (percent)	Sampling error (no. trees)
1998	736,336	36.01	265,155
2005	596,573	77.18	460,435
2006	781,016	66.33	518,048
2007	873,453	68.79	600,848
2008	701,282	74.39	521,684
2009	902,290	64.27	579,902
2010	811,340	72.2	585,787
2011	773,223	73.59	569,015
2012	681,982	80.29	547,563

Source: Forest Inventory and Analysis, 2012 data

Citation: Miles, P.D. Fri Jun 21 14:20:20 CDT 2013. Forest Inventory EVALIDator web-application version 1.5.1.05. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station. [Available only on internet: http://apps.fs.fed.us/

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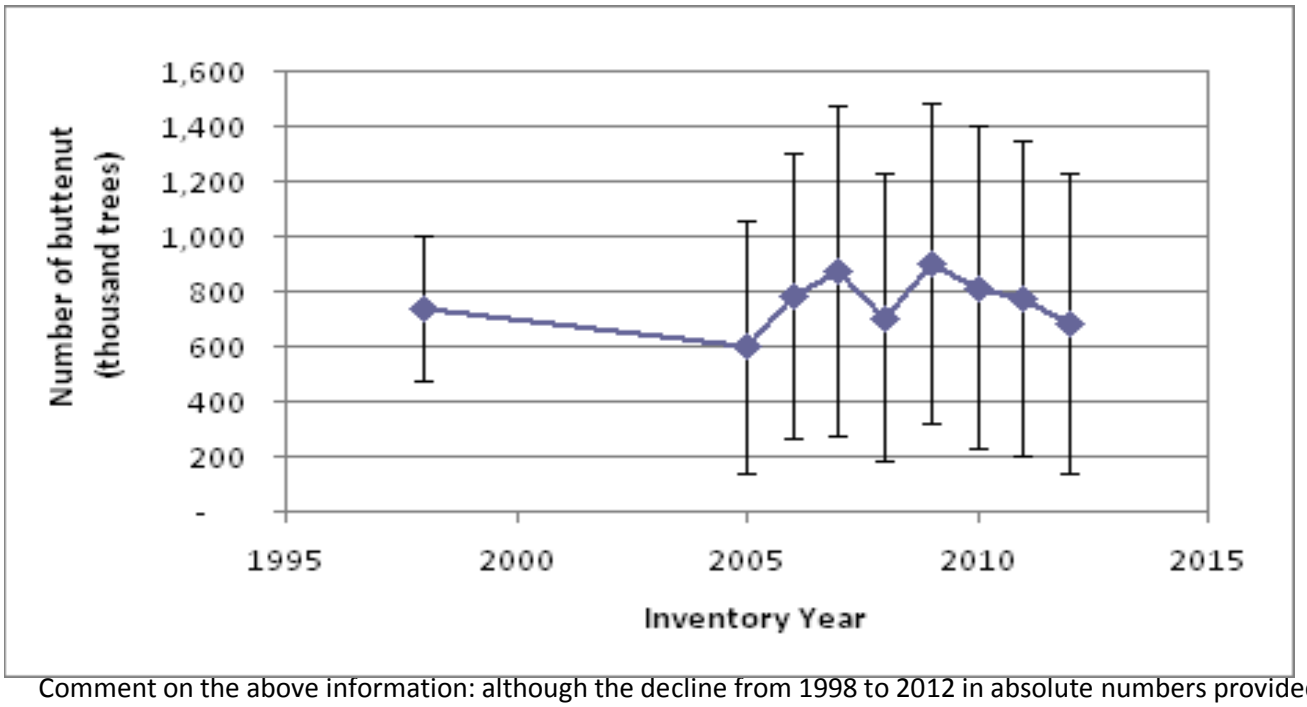

Comment on the above information: although the decline from 1998 to 2012 in absolute numbers provided is 7.4%, the margin of error (80.29% or 547,563 trees) could radically increase the reported % of decline.

The spreadsheet below from FS Survey data for Illinois shows declines from 2007 to 2012 (provided by M. Ostry).

The status of *Juglans cinerea* for the two most recent inventories in the North Central Region(Forestland)

State	Year	Source	Total all live trees (1000's)	% Decrease in Numbers of Trees	1.0 - 2.9	3.0 - 4.9	5.0 - 6.9	7.0 - 8.9	9.0 - 10.9	11.0 - 12.9	13.0 - 14.9	15.0 - 16.9	17.0 - 18.9	19.0 - 20.9	21.0+
Illinois	2007	FS web	873	22%	594	0	175	55	0	49	0	0	0	0	0
	2012	FS web	682		630	0	0	52	0	0	0	0	0	0	0
Indiana	2007	FS web	87	10%	0	0	46	17	24	0	0	0	0	0	0
	2012	FS web	78		0	0	22	18	38	0	0	0	0	0	0
Iowa	2007	FS web	570	92%	0	453	36	0	45	36	0	0	0	0	0
	2012	FS web	46		0	0	0	0	0	46	0	0	0	0	0
Michigan	2007	FS web	366	73%	0	0	108	40	34	14	76	49	0	29	16
	2012	FS web	98		0	0	0	49	49	0	0	0	0	0	0
Minnesota	2007	FS web	4938	26%	2577	1094	406	323	292	130	35	36	0	18	27
	2012	FS web	3676		1783	732	391	253	210	155	40	35	18	0	59
Missouri	2007	FS web	1342	52%	1068	0	0	90	67	31	86	0	0	0	0
	2012	FS web	647		444	0	0	73	39	0	18	73	0	0	0
Wisconsin	2007	FS web	4406	14%	1525	814	592	574	336	221	186	109	36	13	0
	2012	FS web	3776		1711	504	611	295	281	137	119	60	58	0	0
Total NCFIA		Past Total	12582	28%	5764	2361	1363	1099	798	481	383	194	36	60	43
		Current Total	9003		4568	1236	1024	740	617	338	177	168	76	0	59
		% Decrease			21%	48%	25%	33%	23%	30%	54%	13%	-111%	100%	-37%
		FS web = Forest Inventory and Analysis National Program, Forest Inventory Data Online (FIDO)													
		USDA Forest Service - Northern Research Station - St. Paul, MN													

Comment: although the decline for *Juglans cinerea* in Illinois is 22% from 2007 to 2012, 92% of the trees reported are less than 3" DBH. The 49,000 trees in 2007 that measured 11.0-12.9" DBH are no longer found in this size class. Unfortunately, the dataset only records that trees are live, but not whether they are diseased.

Similar statements of decline are found in attached and referenced articles in this recommendation. Because this species is threatened with extirpation throughout its Illinois range, it would seem to merit listing as Endangered in Illinois. Although the 1978 Illinois County Distribution Map for *Juglans cinerea* showed locations in 65 counties, and the Illinois Natural History Survey Herbarium has collections from 32 counties from 1930 to 2011 (only 8 counties collected since 2000), declines as shown in the literature cited as well as in the POC data, indicate a downward spiral for this species. I was not able to get county distribution records for the USFS 2012 surveys.

G. **Information on regulatory protections and conservation activities initiated or currently in place that may or may not protect the species or its habitat**.

Although all its known locations in NE Illinois are on public, protected sites (not all Nature Preserves), the protection does not involve action against the butternut canker. None of the landowners whose reports are included in the Plants of Concern database are using biological controls.

H. **Information regarding the status of the species over all or a significant portion of its range**.

The species range is throughout Eastern North America, except Florida and the Canadian Maritime Provinces, but it is concentrated in the northeastern quarter of the U.S.

USDA Plants website reports the following status listings: KY: Special Concern; NY: Exploitably Vulnerable; TN: Threatened.

In addition, butternut was listed under Category 2 on the list of Endangered and Threatened Plants under the Federal Endangered Species Act of 1973. However, this category has been eliminated.

Butternut is considered a Regional Forester Sensitive Species in the Tallgrass Prairie Division of the USFS on 13 of 16 National Forests. www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5384462.pdf.

In Canada, butternut was nationally listed as endangered in 2003. (Ostry and Woeste, p. 114)

I. **Supporting documentation in the form of copies of reprints of pertinent publications, data, reports or letters from authorities, and maps**.

The ESPB may consult information already in our files for a subject species, but will only conduct additional research as time and resources allow when evaluating whether a listing recommendation presents substantial information indicating listing may be warranted. Therefore, to ensure that we will consider any supporting documentation you reference, you should provide either electronic or hard copies of any supporting materials cited in the recommendation, or valid links to public websites where the cited materials can be accessed; these materials should be in English. If you do not, we may at our option contact you to obtain supporting documentation. However, if you do not provide the supporting documentation, and it is not otherwise readily available in our files, we will be unable to consider this information in making our finding. In addition, we request that you provide literature citations that are specific enough to allow us to easily locate within the documentation the particular information cited in the petition, including page numbers or chapters, as applicable.

Provide specific citations here: (format single space).

Crocker, S. J. et al. 2009. Illinois Forests 2005. Resource Bulletin NRS-20-2009. USDFA-FS. Northern Research Station.

Forest Inventory and Analysis National Program, Forest Inventory Data Online (FIDO)

Illinois Natural History Survey Collection Database. Plants. Listing of Juglans cinerea collections. http://ellipse.inhs.uiuc.edu:591/INHSCollections/FMpro.

Miles, P.D. 2013. Forest Inventory EVALIDator web-application version 1.5.1.05. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station. http://apps.fs.fed.us/

Mohlenbrock, R.H. 2002. Vascular Flora of Illinois. Southern Illinois University Press, Carbondale and Edwardsville, IL. P. 229.

Mohlenbrock, R.H. and D. Ladd. 1978. Map for *Juglans cinerea.* Distribution of Illinois Vascular Plants. Southern Illinois University Press, Carbondale and Edwardsville.

Ostry, M.E. and K. Woeste. 2004. Spread of Butternut Canker in North America, Host Range, Evidence of Resistance within Butternut Populations and Conservation Genetics. Proceedings of the 6th Walnut Council Research Symposium.

Schlarbaum, S.E., F. Hebard, P. C. Spaine and J.C. Kamalay. Three American Tragedies: Chestnut Blight, Butternut Canker, and Dutch Elm Disease.

www.plants.usda.gov/core/profile?symbol=JUCI. In the PLANTS Database.

www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant.

www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5384462.pdf.

Provide a list of attachments here:

Crocker, S. J. *et al*. 2009. Illinois' Forests 2005. Data Sources and Techniques in *Resource Bulletin* NRS-29-2009. USDFA-FS. Northern Research Station. 102-106.

Ostry, M.E. and K. Woeste. 2004. Spread of Butternut Canker in North America, Host Range, Evidence of Resistance within Butternut Populations and Conservation Genetics. Proceedings of the 6th Walnut Council Research Symposium.

Schlarbaum, S.E , F. Hebard, P. C. Spaine and J.C. Kamalay. Three American Tragedies: Chestnut Blight, Butternut Canker, and Dutch Elm Disease.