

ILLINOIS ENDANGERED SPECIES PROTECTION BOARD

MINUTES OF THE 143rd MEETING

ILLINOIS AUDUBON SOCIETY HEADQUARTERS, SPRINGFIELD, ILLINOIS

14 AUGUST 2009

(Approved at the 143rd meeting, August 14, 2009)

BOARD MEMBERS PRESENT: Chairman Dan Gooch, Vice-Chair Marilyn Campbell, Secretary Chris Phillips, Dr. Mike Retzer, Ms. Susanne Masi, Dr. John Taft.

BOARD MEMBERS ABSENT: Mr. John Clemetsen, Dr. James Herkert, Mr. Marc Miller.

OTHERS PRESENT: Mr. Mike Mankowski, Mr. Stephen Janasie, Ms. Jennifer Scanlan, and Mr. James Morgan (Illinois Attorney General's Office); Dr. George Rose (Friends of the Sangamon Valley); Dr. Meredith Mahoney (Illinois State Museum); Dr. Mike Dreslik (University of Illinois Urbana-Champaign - Illinois Natural History Survey); Mr. Randy Heidorn and Ms. Kelly Neal (Illinois Nature Preserves Commission); Mr. Glen Kruse and Mr. Joe Kath (Illinois Department of Natural Resources – Office of Resource Conservation); Ms. Kathi Davis (Illinois Department of Natural Resources – Office of Realty and Environmental Planning); and, Ms. Anne Mankowski (Endangered Species Protection Board).

143-1 Call to Order, Welcome and Introduction of Guests

Chairman Gooch called the 143rd meeting of the ESPB to order at 10:00 A.M. Secretary Phillips called the roll call of Board Members and Chairman Gooch noted that there was a quorum. Meeting attendees introduced themselves.

143-2 Adoption of Agenda

Chairman Gooch asked if there were any changes to the agenda. Susanne Masi recommended the addition under Other Business to commend the service of two distinguished long-time Department of Natural Resources (DNR) staff and Ms. Mankowski noted that Dr. Dreslik had just prior to the meeting presented recommended recovery criteria for the **Eastern Massasauga Rattlesnake** and asked if the Board would discuss it at today's meeting. Chairman Gooch acknowledged the addition of these items under Other Business and noted that the Board would not take formal action with regard to the **Eastern Massasauga Rattlesnake** recovery criteria during this meeting, but would require advance notice of the issue, with relevant supporting documentation, as an agenda item for the Board to take formal action.

143-3 Approval of the Minutes of Previous Meeting

Chairman Gooch asked if there were any corrections to the draft minutes of the 142nd meeting. There were no corrections and Susanne Masi moved to approve the minutes as final. Vice-Chair Campbell seconded the motion and it was approved unanimously.

143-4 IDNR Staff Report

Mr. Kruse, Chief of the Division of Natural Heritage, gave his report (Attachment A).

143-5 INPC Report

Mr. Heidorn, Assistant Director of the Illinois Nature Preserves Commission, gave his report (Attachment B).

143-6 ESPB Staff Report

Ms. Mankowski, Director of the Illinois Endangered Species Protection Board, gave her report (Attachment C).

143-7 ESPB Budget

Ms. Mankowski reviewed the status of the Board's budget, noting that in the March 18, 2009 release of the proposed FY10 state budget there was no recommended appropriation identified for the Board and that has not changed as of July 30. The Board has been without a budget since 2002. The current DNR-funded contract with the Illinois Natural History Survey that solely covers the personnel services expenses to employ the Board's Director has been renewed for FY10.

The Board discussed its FY11 budget request and agreed that Ms. Mankowski should forward request to DNR Director Marc Miller for the same amount that had been requested in previous years; \$329,800 to restore the staffing of three full-time positions (Director, Listing and Recovery Coordinator, and Administrative Assistant) and operating expenses to regain full performance of the Board.

143-8 ESPB Member Appointments

Ms. Mankowski explained that following the Board's 142nd meeting, she drafted a package of letters of recommendation for the reappointments and appointment listed below, and DNR Director Marc Miller approved, and forwarded his recommendation of all, to the Governor's Office on June 3, 2009. Ms. Mankowski noted that by forwarding these letters, the Board was continuing its traditional practice for making recommendation for Board Member appointments, and that practice is now in addition to the process required via the Appointments.Illinois.Gov website.

Ms. Marilyn Campbell – reappointment with a term ending May 15, 2010.

Dr. Mike Retzer – reappointment with a term ending May 15, 2011.

Ms. Susanne Masi – reappointment with a term ending May 15, 2011.

Mr. R. Dan Gooch – reappointment with a term ending May 15, 2012.

Dr. James Herkert – reappointment with a term ending May 15, 2012.

Dr. Joyce Hofmann – new appointment with a term ending May 15, 2010 (this is an abbreviated term in order to restore the rotation of three members being appointed each year).

Chairman Gooch reviewed that the Board now needed to make recommendation to Governor Pat Quinn for a new member appointment to the Board to fill the vacancy created by the May 2009 decision by Dr. Chris Phillips to not seek reappointment. Ms. Mankowski presented the Board with curriculum vitae for two candidates (Mr. Glen Kruse and Dr. Meredith Mahoney) for consideration. Both candidates were in attendance at the meeting and Board members engaged each in brief discussion about their respective expertise and experience. Chairman Gooch noted that both candidates were well qualified and thanked them for their willingness to serve. He went on to explain that due to the uncertainty of member appointment status, he

hoped that whichever candidate was not chosen might again consider serving at a later date if a member vacancy should arise. Additionally, the Board considered how to conduct a vote.

Secretary Phillips made motion to consider both candidates in a show-of-hands vote. Dr. Retzer seconded the motion and it was approved unanimously. Mr. Kruse was considered first and received five votes from Chairman Gooch, Vice-Chair Campbell, Dr. Retzer, Ms. Masi, and Dr. Taft. Dr. Mahoney was then considered and received one vote from Secretary Phillips. Chairman Gooch asked Ms. Mankowski to draft letters to DNR Director Marc Miller and Governor Pat Quinn recommending the appointment of Mr. Kruse to the Board.

143-9 ESPB Endangered Species Technical Advisory Committees Review

Ms. Mankowski reviewed the Board's policy to reevaluate the composition of the ESTACs prior to each list revision and her intended process over the next several months to do so, as well as develop an ESTAC manual to aid Board and ESTAC members and Board staff in understanding respective roles, functions, and responsibilities. She explained that she would be querying Board members for any recommended changes to each ESTAC composition and chair designation and the recommendation to split the Invertebrate ESTAC into an Aquatic Invertebrate ESTAC and a Terrestrial Invertebrate ESTAC. Additionally, she plans to query existing ESTAC members to see if they wished to continue serving, request a copy of a current CV, ask for nominations to fill vacancies, and ask for feedback about ESTAC composition, role, function, communication, etc.

143-10 Species Updates

Joe Kath, DNR Endangered Species Program, reported on some 2009/2010 **Alligator Snapping Turtle** recovery project activities. Radio-telemetry work for Clear Creek/Union County Pilot Study included AST release sites along Clear Creek in Union County occurred the week of 13 July: We had a total of 3 sites along the Clear Creek levee - 10 animals were released at each site [total of 30 animals released - each animal was 2 years old]. Each site was flagged and a GPS point was taken. We also tested the transmitters and could detect all but one from the levee road once the animals were released, which is good news. Mr. Kath reported that District Heritage Biologist, Scott Ballard, tracked released ASTs on 21 July and 28 July, getting transmitter signals from 29 of the 30 released turtles. Of the three sites, the middle site still has all ten (10) signals at the release point. The northern most site has eight (8) signals at the release site and then two (2) others approximately 0.1 mile upstream. The southernmost site is the one with only nine (9) signals. Of those nine (9), seven (7) are still at the release site, one (1) has moved 0.1 mile downstream and the other has moved 0.1 mile upstream. These animals will be tracked approximately 2x per month for the next 10-12 months. The following criteria will be used to assess success/failure of this study: *30 ASTs released, expect a 46% loss due to numerous cases (moving out of range etc.) leaving us 14 turtles on air (the minimum we said we needed to make a decision). Of those 14, six (6) must be alive. So when we say 14 turtles, it is really 14 individuals we can radio-locate, we will not know their fate until we recover them. So 14 turtles need to be "available" for recapture at the end of the study, note necessarily alive or dead.

Mr. Kath also reported the following information about **Alligator Snapping Turtle** recovery project, egg production.

A. June 25, 2009 Update: Just to let everyone know, this morning (6/25/09) I retrieved another 30 AST eggs from one (1) nest - that now makes 6 nests and a total of 175 eggs. They are all incubating at this moment. Interestingly enough, 3 of the 6 nests so far discovered have been in the small area of sand placed in the

northwestern corner of the breeding pond enclosure.

B. July 6, 2009 Update: Hello, everyone: I wanted to pass along that this morning, Monday, July 6, 2009 we retrieved another 27 AST eggs from our breeder pond - that now makes a total of 202 eggs. The eggs found this morning were once again in the sand pile. They have been placed in the incubator units here in Springfield.

Mr. Kath presented information about IDNR/USFWS/Cook County/Lincoln Park Zoo recovery activities for the **Eastern Massasauga Rattlesnake**. He noted that 2 Massasaugas (a male and a female) came from Cook County were transferred to Lincoln Park Zoo in April and the female gave birth to 5 offspring; four of them are surviving and one was not fully developed. The female would have been gravid when she was captured as she has not been with this male while at LPZ. The four offspring have been weighed and given their own individual housing and are looking good. They are miniature replicas of the adults – gorgeous – tiny little pink on their tails. Mom (named Sanders by zoo staff) looks great too. The MOU team's objective was to build a zoo population that can fuel a future reintroduction as part of a recovery effort. So this is a great beginning. We hoped for reproduction next year but sooner is even better than expected.

Mr. Kath reported that on 07/29/09, he participated in a conference call with all Region 3 states as well as various industry and NGO representatives about a proposed multi-state/multi-species Habitat Conservation Plan (HCP) for wind energy development and operation in the Midwest region – with focus on the **Indiana bat**. In summary, a non-traditional Section 6 grant is being proposed for development of a Region 3 Wind HCP that will address numerous species, with a focus on the Indiana bat. All states within Region 3 are being asked to participate. As of now, both the FWS and State Agencies are looking to industry to provide the necessary 10% non-federal match. The proposal is due by August 19, 2009. A large meeting will be held in Ohio tomorrow where a designated working group will begin drafting the proposal. Within the next week, a "letter of intent to participate" in this HCP (for each State Agency to sign) will be posted on the web. In addition, the working group will also draft each individual state's portion of the HCP grant. The state portion will be somewhat generic and fill-in-the-blank format. This will also be posted on the web when complete. This is all being done in an effort to get as many State's participating as possible and in essence strike now while the funds are available. Estimated cost for the HCP is \$3-5 million.

Mr. Kath provided an update about some planned activities involving the **Indiana bat** and White Nose Syndrome (WNS). IDNR will be cooperating with the USFS, FWS, Unimin Minerals Corporation and other partners this winter to continue the development of some scientific and public information references that will include activities at a few select Indiana bat hibernacula owned by the Unimin Minerals Corporation in southern Illinois. The proposed project is from Dave McGowan, a Chicago-based, professional videographer with Ravenswood Media who recently filmed and produced the film "The Battle for Bats: White-Nose Syndrome" (<http://www.cavebiota.com/>). Mr. McGowan is hoping to expand upon this short film and is currently seeking additional filming opportunities to document bat swarming behavior this fall and to document remaining, WNS-free, significant/large hibernating bat populations (ideally multiple species) in the Midwest and Southeast this coming winter. In addition to the scientific value of having good video documentation at important sites, Dave plans to provide edited clips of the bats and the hibernacula on the Internet as license-free/public domain material to encourage media use and increase exposure of the crisis to a larger audience.

Mr. Kath reported that he serves on the Executive Committee of the newly formed Midwest Bat Working Group and that a website for the group is under construction (<http://www.indstate.edu/biology/centers/mbwgsite/index.html>). He also provided information about a

proposed joint venture between Bat Conservation International and IDNR for a Work Plan for Installation of Partial Beam-Break (GateKeeper) Systems at Priority Bat Hibernacula in Illinois. The beam-break or 'GateKeeper' system was developed by David Redell, Endangered Species Biologist for the Wisconsin Department of Natural Resources, as part of his Master's Thesis work in the Department of Wildlife Ecology at the University of Wisconsin (Redell 2005). This system allows the automated counting of bats within hibernacula through the use of paired infrared beams mounted on gate structures, which allow for detection of individual bats and their direction of travel and has been used for long-term monitoring and census of net movement of bats at the Neda Mine, Dodge County, Wisconsin (Redell et al. 2006). The GateKeeper system can be used to index bat activity levels without the large travel and time commitment and biases associated with the use of human observers for traditional exit counts (Redell et al. 2006). With regular maintenance, the system will function full time, year-round, and can be used to study relationships between environmental variable and bat emergence behavior, including eventual prediction of peak spring emergence (Redell 2005). Once calibrated, the GateKeeper system can be used to provide unbiased population census information with confidence intervals, something that has been sorely lacking for population estimates of many bat species that use caves and mines for hibernation.

Mr. Kath provided the following update from District Heritage Biologist, Terry Esker, about **Least Terns** on the Wabash River. Mr. Esker's current resident Mark Alessi ran the Wabash River on 07-14-2009 to look for breeding interior least terns. It appears that the ATV usage on the sandbars have impacted the recent breeding sites for these birds on the sandbars along this stretch of the Wabash. Mr. Esker later boated the river from Mt. Carmel to Grayville counting least terns and checking available sandbars for nests; counting 19 birds during the trip with 7 of the 19 being seen adjacent to the Gibson Power Plant in Indiana. Multiple birds were seen carrying fish inland. No nests were found on the sandbars (ATV tracks on every bar available probably doesn't help nesting birds). Other birds to note were 11 **Bald Eagles**- 6 Adult, 5 Immature and 8 Spotted Sandpipers; 2 Lesser Yellowlegs; 6 greater yellowlegs; and 3 juvenile wood ducks

Mr. Kath reported that since May 15, 2009, a total of six (6) formal ITAs have been completed and signed. As of 7/29/09, seven (7) projects remain to be completed. This does not include any new applications that will be received from now until the end of the 2009 calendar year.

Mr. Kath reviewed the 2009 - Traditional Section 6 grants for Illinois soon to be submitted to the USFWS. A total of eight (8) traditional Section 6 (endangered species) grants are in the process of being submitted. These projects total \$136,995.00 in Federal Funds. Each project will receive 75% federal funding and requires a 25% state/non-federal match.

1. A rearing protocol for the Illinois Cave Amphipod to support its recovery
2. Survey for new sites of the Hine's Emerald Dragonfly (HED) in Illinois
3. Implementation of recovery actions for the HED in Illinois and Wisconsin
4. Implementation of recovery actions for the eastern prairie fringed orchid in northern Illinois
5. Feasibility of reintroduction and translocation of neonate massasauga rattlesnakes (EMR) as a tool for population recovery
6. Demographic and population viability comparison of the Illinois Beach Hill's Thistle reintroduction to a seed source natural population.
7. 5 year review of research and recovery plan implementation for the HED
8. Care and propagation of EMRs captured from NE Illinois as a Service to Species Recovery Efforts.

Ms. Masi provided an update about activities of the Chicago Botanic Garden's Plants of Concern program. Plants of Concern in Northeastern Illinois has thus far reported in 2009 seven new locations or Element Occurrences of the following listed species. In McHenry County, *Lathyrus ochroleucus* (**Pale Vetchling**), 2 new locations, and *Trillium cernuum* (**Nodding Trillium**), 2 new locations; in Lake County, *Geranium bicknellii* (**Northern Cranesbill**), 1 new location; in Cook County, *Geranium bicknellii*, 1 new location and *Rubus odoratus* (**Purple Flowering Raspberry**), 1 new location in a lakefront ravine. In addition, a single pod was reported from a population of *Asclepias lanuginosa* (**Woolly Milkweed**) in McHenry County. This population has been monitored since 1983 and pods have never been observed. Many additional 2009 reports are still expected, with the possibility of other new finds.

Vice-Chair Campbell reported that populations of the **orange fringed orchid** (*Platanthera ciliaris*) at the Kankakee Sands appear to be doing well this year.

Ms. Mankowski reported that the Plant ESTAC was still not able to verify information about voucher specimens for *Penstemon brevisepalus* (**short-sepaled beard tongue**) in time for the August meeting. The species was originally brought up in the 2008 List Review for consideration for delisting, but the ESTAC was asked to verify voucher specimens prior to the Board taking any action. Listing recommendation discussion will be deferred until the November meeting.

Ms. Mankowski and Dr. Retzer reviewed Fish ESTAC comments in review of "A proposal for the reintroduction of *Alligator Gar* (*Atractosteus spatula*) in Illinois" by Trent Thomas and Rob Hilsabeck, DNR Fisheries, which was presented to the Board prior to its May 15, 2009 meeting. The ESTAC comments were generally supportive and it was noted that a public education/outreach component will be especially important for this species (and genus, in general). There was no formal action by the Board regarding the proposal because the species is no longer listed, having been deemed extirpated from Illinois and removed from the Illinois List in the 1994 revision. The Board requested of DNR that it be kept apprised of the project's progress including information about successes and failures, as well as any observed impacts to other native aquatic individuals and populations. It was noted that Mr. Thomas postponed any attempt to get alligator gar fry until next year. Mr. Thomas will continue the project, but everything will be running later than originally intended.

Ms. Mankowski reported that the necessary grant agreement amendments and work order are completed and awaiting final approvals, to transfer from Joe Kath to Ms. Mankowski, the **Barn Owl** (*Tyto alba*) recovery planning and implementation State Wildlife Grant project. The hope is to have a final contract in place by September, with the contract period running through June 2011 and including the following objectives:

1. Hire a contractor to write a formal statewide recovery plan, incorporating components of the draft recovery strategy for the barn owl previously prepared by various IDNR staff.
2. Identify and document all known nesting attempts, observations, and reports in the last 10 years.
3. Develop database that identifies large grassland complexes, counties with significant CRP, etc.
4. Implement a barn owl nest box program, concentrating on areas with known breeding pairs, areas with documented observations, and identified priority large grassland habitats.

Ms. Mankowski provided a report from Regional Wildlife Biologist, Dan Ludwig, about translocation activities for a nest of **Piping Plover** (*Charadrius melodus*) at Illinois Beach by the IDNR, USFWS and Lincoln Park. Mr. Ludwig reported nesting activity surveillance began in late May. It has been 30 years since the last known nesting pair (1979). One bird was banded. An enclosure was erected around the nest area and agency staff

coordinated with site managers and contractors to ensure the nest area was properly protected. On June 30 it appeared the nest had been abandoned (reasons unknown) and USFWS transferred all (four) eggs to the Lincoln Park Zoo. This is consistent with the Piping Plover Recovery Plan protocol (eggs are removed and incubated when birds do not incubate for 2 hours). All eggs were deemed viable, but one was lost and the remaining three were pipped and active on July 6. The three birds were then transferred to a plover rearing facility at the University of Michigan Biological Station in Pellston, Michigan. As of July 12 they were gaining weight and doing well. Mr. Kruse added that he had recently learned that the three surviving birds were later successfully released at Sleeping Bear Dunes in Michigan.

Ms. Mankowski provided a report from District Heritage Biologist, Brad Semel, about a **Least Tern (*Sterna antillarum*)** barge floating habitat project on the Mississippi River near Alton by USACE, USFWS, IDNR, and INHS. On July 7th, USACE staff reported “counting a total of 12 nests (7 nests on barge closest to Riverlands Way and 5 on the barge closest to Ellis Island). Each nest varied from 2-3 eggs for a total of 30 eggs. Of the original nest with 3 eggs (included in the total number of nests and eggs), two have hatched. This makes a potential for 32 young at this point. The young appear as though they hatched within the last day or two. There were at minimum 20 adult least terns in the air while we were viewing the barge edges”. The last report in early July indicated arrangements to band the birds probably around July 23-24.

Ms. Mankowski provided a report from District Heritage Biologist, Brad Semel, about **Common Tern (*Sterna hirundo*)** nesting at Illinois Beach. On 5/22/09, the COTE colony currently had 17 active nests, with a total of 44 eggs. When preparing the site this year Mr. Semel had left more vegetation (primarily red clover) growing within the colony in the hopes that it would provide more protective cover from avian predation on the young birds. As expected, only the small, barren patches of open sand provided suitable habitat for nest placement. The phragmites has taken over the entire island, and the core colony area remains the only portion not totally obscured in at least six feet of thick vegetation. Current water levels are the highest they have been since the colony became established. There is literally no shorebird habitat in the area except a small 15 X 15 foot sandbar spit on the NW corner near the channel. High water has proved to be a double edged sword. It is less likely that mammalian predators will cross the channel and forage on the island. Unfortunately, most of the colony site (within fence) was inundated with standing water. In addition, the leading edge of the south island has eroded. Waves have washed out a 13 foot long portion of the buried fencing. Predators could have simply entered under the fence. The fence was repaired with materials on hand. In mid-June, Mr. Semel reported that he wished they had access to a barge floating habitat for the tern colony on the Great Lakes noting that one week prior, a mink worked around the various electric fences and ended up destroying 54 eggs and young. This is the only remaining Common tern colony in the state.

Ms. Mankowski advised the Board of an inquiry by Dave Margolis, Oswegoland Park District, about translocating **Red Pine (*Pinus resinosa*)** onto Oswegoland Park District property. Mr. Margolis contacted the Board seeking permission to collect seed from a red pine population near Sheridan, propagate plants and then transplant them to Oswegoland PD property along the Fox River and might be interested in participating in development of a recovery plan for the species. Ms. Mankowski advised him of requirements under the Act for collecting plant (parts), the Board’s translocation policy, and discussed the preference for developing a recovery plan to guide such efforts. Mr. Margolis indicated that he would revisit the issue with the Board sometime in the fall.

Ms. Mankowski reported that Board staff and ESTACs reviewed 10 incidental take authorization conservation

plans during the last quarter. Conservation plan projects and subject species included: Eco-Grove, Jo Daviess County (**upland sandpiper** – *Bartramia longicauda*); Illinois 146, Alexander County (**marsh rice rat** – *Oryzomys palustris*); Anderson Hill Road, Vermilion County (**bigeye chub** – *Hybopsis amblops*; **bluebreast darter** – *Etheostoma camurum*; **wavy-rayed lampmussel** – *Lampsilis fasciola*; **purple wartyback** – *Cyclonaias tuberculata*; **river redhorse** – *Moxostoma carinatum*); Brouilletts Creek; Edgar County (**little spectaclecase** - *Villosa lienosa*); I-74 Bridge; Rock Island County (**Higgins eye pearly mussel** - *Lampsilis higginsii*; **spectacle case** - *Cumberlandia monodonta*; **butterfly mussel** - *Ellipsaria lineolata*; **black sandshell** - *Ligumia recta*; **sheepnose mussel** - *Plethobasus cyphus*); FAP 323 - ILL Route 1; Vermilion County (**wavy-rayed lampmussel** - *Lampsilis fasciola*; **purple wartyback** - *Cyclonaias tuberculata*); Kishwaukee Valley Bridge; McHenry County (**Iowa darter** - *Etheostoma exile*); Coon Creek; Whiteside County (**weed Shiner** - *Notropis texanus*; **blacknose shiner** - *Notropis heterolepis*); CH 14 FAS 496, Vermilion County (**bigeye shiner** - *Notropis boops*; **purple lilliput** - *Toxolasma lividus*; **rabbitsfoot** - *Quandrula cylindrical*; **rainbow** - *Villosa iris*; **wavy-rayed lampmussel** - *Lampsilis fasciola*; **little spectaclecase** - *Villosa lienosa*; **purple wartyback** - *Cyclonaias tuberculata*; and **slippershell mussel** - *Alasmidonta viridis*); and, T.R. 608 (Anchor Road) project on the Mackinaw River, BDE Seq. No. 15001; McLean County (**slippershell mussel** - *Alasmidonta viridis*).

Ms. Mankowski and Secretary Phillips reviewed information about the proposal for “*Headstarting Ornate Box Turtles to Establish a Viable Population on the Lost Mound Unit of the Upper Mississippi River National Wildlife and Fish Refuge, including headstarting protocol from the Milwaukee County Zoo (August 25, 2009)*” by the Niabi Zoo, Iowa State University, Illinois Department of Natural Resources, and U.S. Fish and Wildlife Service, that the Board received in May. The Board discussed some of the initial Herp ESTAC and Board comments about the proposal. Dr. Phillips and Ms. Mankowski engaged in discussion with Mr. Kath about what permits will be required by the applicant once the species is listed and a procedure for initiating and coordinating interagency review and comments, noting that since the IDNR was a partner to the project proposal, the Board would provide comments directly to the IDNR, who could then coordinate with other project partners. The Board asked Mr. Kath to initiate discussion with the USFWS and zoos to begin addressing concerns and also for information about what permits are currently in place for the work and what conditions may be placed on an E&T permit they will need to obtain upon the official listing of the species. Dr. Phillips also noted that it may be appropriate to establish a recovery group or team for the species and the project and possibly work toward developing recovery guidance and/or a recovery plan. The Board requested that Mr. Kath provide an update about the proposed project at its 144th meeting to be held November 13, 2009.

Vice-Chair Campbell asked Mr. Kath to explain what restrictions are included in a DNR Endangered Species Permit. Mr. Kath reviewed the basic information required in a DNR Endangered Species Permit and that a DNR general Scientific Collecting Permit includes a clause that notifies an applicant about the need to secure a DNR Endangered Species Permit if they will be dealing with a listed species. Vice-Chair Campbell then asked how many DNR Endangered Species Permits are issued each year and whether the Board is involved in the review of applications for those permits. Mr. Kath responded that he did not know off-hand how many permits are issued each year, explaining that there are many (perhaps 100s) permits issued for possession of species such as for rehabilitators and educational purposes, and then there are others issued for research purposes and those often accompany some type of DNR funded grant or project.

Ms. Mankowski provided the Board with information about a recent discovery of *Thalia dealbata* (**powdery thalia**) in essentially the same location as previously known. The species was removed from the Illinois list in

the 2004 revision because it was considered to be extirpated. Ms. Mankowski recommended that the Board consider re-listing the species upon this re-discovery. Ms. Masi and Dr. Taft asked for Ms. Mankowski to gather more information about the extent of the current population and including surveillance of additional local suitable habitat for possible occurrences.

143-11 ESPB Research Program

Ms. Mankowski presented her report reviewing the status of FY08 and FY09 projects and project topics for the Board's consideration for inclusion in the FY10 Request for Proposals (RFP) (see Attachment D). The Board reviewed the ESTACs recommended FY10 RFP project topics. Ms. Mankowski reviewed that the RFP allows for any individual to submit any proposal to the Board for consideration, even if it is not one of the priority research topics identified in the RFP. Chairman Gooch added that, in that manner, applicants of any previously funded projects for which the researcher was seeking multi-year funding, but for which the Board only provided a single-year commitment, could submit a proposal for another year of funding for the existing project. Ms. Mankowski confirmed that she intended to send out the RFP by the end of August, with responses due back in late October, and the Board should expect to choose projects during the November 13th meeting. Secretary Phillips made motion to include all seven projects, Dr. Retzer seconded, and it was approved unanimously. The RFP would include the following priority topics:

Fish

1. Evaluation of Distribution, Movements, and Habitat Use of **River Redhorse** (*Moxostoma carinatum*) and **Greater Redhorse** (*Moxostoma valenciennesi*) in the Upper Illinois River Basin.
2. Status of *Ammocrypta clarum* (**Western Sand Darter**) in the Middle Kaskasia River and *Fundulus catenatus* (**Northern Studfish**) in Southwestern Illinois.

Reptiles and Amphibians

3. Surveys for the **Ornate Box Turtle** in Illinois.

Plants

4. Glacial Relict Monitoring.
5. Experimental Reintroduction of Species Extirpated from Illinois.
6. *Polygala incarnata* germination ecology.
7. *Asclepias lanuginosa*: Genetic and Population Studies Leading to a Recovery Plan.

143-12 2010 Meetings Dates and Locations

Ms. Mankowski asked that the Board identify meeting dates and locations for 2010, so that the dates might be available in time for inclusion in the IDNR Outdoor Illinois Wall calendar. The Board reviewed the dates of February 19, May 14, August 13, and November 12 for the 2010 meeting schedule. Secretary Phillips moved to approve those dates, Dr. Taft seconded the motion, and it was approved unanimously.

Ms. Mankowski suggested that, in an effort to minimize travel expenses for 2010, all meetings could be held at a location that is centrally located for Board members, such as Midewin National Tallgrass Prairie (MNTP) in

Wilmington. Secretary Phillips moved to approve the location of MNTP for all 2010 meetings, Vice-Chair seconded the motion, and it was approved unanimously.

143-13 Next Meeting Information

During discussion on this item, Vice-Chair Campbell moved to change the location from the James R. Thompson Center in the Chicago Loop to the Midewin National Tallgrass Prairie in Wilmington for the 144th meeting to be held November 13, 2009. Secretary Phillips seconded the motion and it was approved unanimously. Ms. Mankowski confirmed that she would publicly notice the change as required by the Open Meetings Act.

The 144th meeting of the Illinois Endangered Species Protection Board will be at 10:00 A.M. on November 13, 2009 at Midewin National Tallgrass Prairie visitor's center.

142-14 Other Business

Chairman Gooch stated that he would, for the Board's consideration, read two resolutions of commendation for the dedicated service of two long-term DNR staff.

Resolution: Commendation of Mike Conlin's DNR Service

Whereas **Mike W. Conlin** began his career with the Illinois Department of Conservation as a District Fisheries Biologist in 1971, was promoted to the position of Fisheries Division Chief in 1975, and then to the position of Office of Resource Conservation Director in 2004 until 2009 – some 38 years total; and, Whereas he spearheaded the project funding the Illinois Natural History Survey research and production of the report, *Biologically Significant Illinois Streams: An evaluation of the streams of Illinois based on aquatic biodiversity*, which developed one of the most comprehensive biological characterizations of the state's streams' water quality, fishes, mussels, crustaceans, and plants, including endangered and threatened species, and was a guiding document used for Illinois Natural Area Inventory site designation and resource conservation and protection efforts for many years; and, Whereas he was instrumental in developing the Division of Fisheries Streams Program to survey, monitor, and guide Illinois stream resource management including coordinating statewide basin surveys with the Illinois Environmental Protection Agency; and, Whereas, as Office Director, he made valiant efforts to restore the Illinois Endangered Species Protection Board's budget and staffing. Now therefore, the Illinois Endangered Species Protection Board resolves to commend Mike Conlin and thank him for dedicated service. The Board further directs that a copy of this resolution and a certificate of recognition and appreciation be transmitted to Mike Conlin upon its passage.

Chairman Gooch moved to accept this resolution. Secretary Phillips seconded the motion and it was approved unanimously.

Resolution: Commendation of Glen Kruse's DNR Service

Whereas **Glen W. Kruse** began his career with the Illinois Department of Conservation in 1982 with the Division of Fisheries, became the Project Manager for the Illinois Endangered Species Protection Board in 1986, and then moved to the Division of Natural Heritage as the Endangered Species Project Manager in 1990, Endangered Species Program Manager in 1995, Acting Chief in 2000, and then Chief in 2006 until 2009 – some 27 years total; and, Whereas he prepared a technical report on the relationship between waterfowl hunting

and lead poisoning of bald eagles in Illinois, which served as the basis for the formulation of non-toxic shot regulations; and, Whereas he wrote legislation to revise the Illinois Endangered Species Protection Act in 2000 and Illinois Administrative Rules for Consultation Procedures for Assessing Impacts of Agency Actions on Endangered and Threatened Species and Natural Areas in 1995 and for Incidental Taking of Endangered and Threatened Species in 2001; and, Whereas he initiated the \$4.5-7 million update of the Illinois Natural Areas Inventory beginning in 2007; and, Whereas he supervised operation of the Division of Natural Heritage, including natural area protection and stewardship, endangered and threatened species management and recovery, invasive species management, and natural heritage database programs. Now therefore, the Illinois Endangered Species Protection Board resolves to commend Glen Kruse and thank him for exemplary service. The Board further directs that a copy of this resolution and a certificate of recognition and appreciation be transmitted to Glen Kruse upon its passage.

Chairman Gooch moved to accept this resolution. Vice-Chair Campbell seconded the motion and it was approved unanimously.

Ms. Mankowski explained to the Board that Dr. Dreslik is the lead author for a recovery plan for the **Eastern Massasauga Rattlesnake** and he had presented this morning for the Board's consideration, a list of proposed recovery criteria for the species. Chairman Gooch noted that because the information had not been presented to the Board in the process necessary for address as an agenda item, the Board would not be able to take formal action regarding the proposed criteria at this time. He added that when the Board does review such proposed criteria, it is important to note that the Board will consider such criteria as triggers for reconsidering the status of the species rather than as strict triggers that automatically initiate a change in status without further review. Dr. Dreslik reviewed his proposed criteria.

- 1) Move from Endangered to Threatened
 - i) Have at least one viable population in IL
 - ii) Have an initial breeding colony
- 2) Move from Threatened to Secure
 - i) Have two viable populations in each of the following Illinois Natural Divisions:
 - (a) Grand Prairie
 - (b) Southern Till Plain
 - (c) Western Forest Prairie
 - (d) Northeast Morainal
 - ii) Have two captive breeding colonies from natural stock for
 - (a) Reintroductions
 - (b) Assurance

In response to a question by Dr. Retzer, Dr. Dreslik provided a brief summary of recent recovery activities in the Chicago area. In response to a question by Vice-Chair Campbell, Dr. Dreslik explained that the average brood size is 6-10 individuals. Chairman Gooch recommended that the Board develop a protocol for reviewing and commenting on proposed recovery guidelines, criteria, and plans and suggested the topic could be discussed further at the next Board meeting.

142-15 Public Comment Period (3 minutes per person)

Dr. Mike Dreslik of the University of Illinois, Illinois Natural History Survey, addressed the Board.

“I would like to thank the Illinois Endangered Species Protection Board for this opportunity to address you. Today I would like to express my concerns with conservation of the state endangered Eastern Massasauga (*Sistrurus catenatus catenatus*). I have been working with the species for a decade now (since 1999) studying its ecology, formulating habitat restoration plans, providing input on ITAs, and finally with writing the recovery plan for the species in Illinois. I am very concerned about status of the species in the state because I feel that current regulations may not afford it enough protection.

We are now down to potentially four populations in Illinois. One in northeastern Illinois has undergone such a drastic decline that only two Massasaugas were found this spring (a male and female) and they were rescued while agencies scramble to restore the current habitat. There were no observations of Massasaugas at Allerton Park this year. We have only reports and sightings of Massasaugas from Knox County. Finally, our largest population is at Carlyle Lake and is where we hope to stave the decline of the species and form a foundation for recovery.

At Carlyle Lake the Massasauga faces many challenges, including road mortality, incidental mortality and small habitat patches in a fragmented landscape. Some of the biggest challenges come directly from one of the land management agencies at the site, the U. S. Army Corps of Engineers. Although a "management plan" is in place between the Corps and the IDNR, there are sections left open to interpretation. That interpretation has led to many disagreements about what can and cannot be done on the lands around the lake when considering the Massasauga. In addition, the site office of the Corps has continually refused to follow Illinois IT regulations citing that they are a federal agency and are thus exempt from such state regulations. When contentious issues arise they also hold firmly that they do not have to consult with the USFWS because it is only a candidate for Federal listing. They are correct on the latter point as only USFWS projects have to go through internal consultation. This establishes a dangerous viewpoint for the conservation and recovery of the Massasauga, as it states that the current regulatory mechanisms in place cannot afford it the protection it needs. In addition, the Carlyle Lake corps office has a poor track record of considering the Massasaugas needs when doing projects. Over the last decade I have numerous examples where campsites were constructed on hibernacula, inconsistent mowing practices have resulted in direct mortality, unsupervised contractors have driven tractor trailers over hibernacula, habitat has been plowed under for corn food plots, and the persistent flooding events (3 in a decade) have degraded other hibernacula and habitat.

Joe Kath and I just had a meeting with the Carlyle Lake corps office on Tuesday about some recent issues that have arisen. The Carlyle Lake office has received federal stimulus funding to conduct some 23 projects across the lake. I was brought into a meeting earlier in the spring where I identified that 3 would require ITA and the corps should pursue that with the state. Nevertheless, the Carlyle Lake office took the stance that they do not have to consult with the state. Thus, we move to Tuesday's meeting (10 August 2009) as the situation became more contentious. Joe and I discussed alternatives with the Carlyle Lake office and two of the projects will have restrictions placed on them (silt fencing, searching, working during the cooler months) to minimize incidental mortality. The project likely to have the greatest impact is a bike path whereby the Carlyle Lake office wants to place asphalt on top of one of their levees. If this bike path project goes through, it would effectively surround our best hibernacula with pavement. We discussed alternatives with the Carlyle Lake office which included, 1) keeping the top of the saddle dams with an oil and chip surface, 2) only paving a section of the saddle dam where we have no Massasauga records, and 3) finally paving the saddle dam but then decommissioning and removing a county road segment. At this time the Corps is considering the suggestions

but the real threat is they do not have to follow through with the suggestions should they choose not to. They will likely follow through with most, if not all, of the suggestions. I would ask that this body, the ESPB, send a letter to the Colonel in the St. Louis District office in favor of option 1, oil and chip. If they must go through with the paving then please support decommissioning and removing a county road segment. However, my fear is that these are the projects we know about --- what about all the ones we do not -- given their disregard for state regulations? Finally, and again, their stance is they do not have to take any of these suggestions. All I ask is that they be given a nudge and be alerted that others are now watching the situation. I thank you for your time and consideration.”

Chairman Gooch led a discussion that the comment had made a specific request of the Board and asked if there was a motion to submit such a letter. Vice-Chair Campbell so moved, Dr. Taft seconded, and it was approved unanimously. Chairman Gooch asked Ms. Mankowski to draft the letter. Chairman Gooch then thanked Dr. Dreslik for his comment.

142-16 Adjournment

Secretary Phillips moved to adjourn the 143rd meeting, Vice-chair Campbell seconded the motion, and it was approved unanimously. The meeting was adjourned at 12:22 P.M.

**Illinois Department of Natural Resources
Report to Endangered Species Protection Board
May 15, 2009**

Wildlife Preservation Fund

Receipts in 2009: approximately \$175,000

All approvals have been secured to proceed with the projects selected for funding in FY2010. Contracts and grant agreements were sent out about 10 days ago.

Personnel

Mike Conlin retired from the Department of Natural Resources on July 31, 2009. Mike had been with the agency for 38 years, starting as a fisheries biologist in western Illinois and then serving many years as Chief of the Division of Fisheries. For the last several years, Mike was Director of the Office of Resource Conservation. We all expect that Mike will be spending many hours with either a fishing rod or a golf club in his hands in his retirement.

In July, Governor Quinn appointed John Rogner to serve as Assistant Director of the Department of Natural Resources. John has worked in the Chicago Field Office of the U.S. Fish and Wildlife Service for many years, the past 11 as Supervisor of that office. John will also serve as Director of the Office of Resource Conservation. He will divide his time between the Springfield office and the Region 2 office in Bartlett.

Interviews for Natural Heritage Residents were conducted on May 13. Three residents were selected to work with District Heritage Biologists. Mark Alessi is working with Terry Esker in southeast Illinois, Duane Ambroz is assisting Brad Semel in his northeast Illinois district, and John Greisbaum will work with Eric Smith in east-central Illinois starting on September 2. A second round of interviews were conducted on August 5. As a result, residents will be hired to work with Natural Areas Preservation Specialists Kim Roman in northeast Illinois and Tom Lerczak in central Illinois. It is hoped that the students selected for these positions will start work on September 2.

Glen Kruse is retiring from the Department of Natural Resources effective August 31, 2009.

Administrative Rule for Incidental Take of Endangered and Threatened Species

Since incidental take language was added to the Illinois Endangered Species Protection Act in 2000, we have seen that certain types of projects that have the potential to affect listed species come up frequently. The best example of this is bridge repair or replacement projects that involve stream inhabited by listed mussels. The similarity of the projects and their potential effects leads to strong similarities in the conservation plans developed for the projects. After discussion within IDNR and with ESPB staff, a meeting was held with representatives of the Illinois Department of Transportation (IDOT) to talk about ways in which it may be possible to expedite the incidental take authorization process while maintaining protection for listed species.

Those discussions resulted in the development of proposed rule amendments that will allow the Department to develop “standard measures” to minimize, mitigate and/or compensate for the effects of development projects on listed species. Other changes to the rule are also being proposed. Those amendments would reduce the number of times that public notice of the availability of a conservation plan for public comment must be published and shorten the period allowed for comment from the public. Other changes are being proposed to clarify that applicants for an incidental take authorization should consider compensatory measures as well as minimization and mitigation when preparing a conservation plan.

Twelve-Mile Prairie Herbicide Spraying

On August 6, DNR received a report that portions of Twelve-Mile Prairie (along IL Rout 37 in Effingham, Clay, Fayette, and Marion counties) had apparently been sprayed with an herbicide by parties unknown. This roadside prairie includes numerous specimens of rattlesnake master, some of which serve as the food plant for the endangered rattlesnake-master borer moth. So far, it has been determined that the spraying was done by an Illinois Department of Transportation (IDOT) crew. On-site meetings of the IDNR and IDOT personnel have been held to assess the effects of the spraying on the prairie vegetation. Follow-up discussions between IDNR regional and IDOT district staff are being scheduled to develop remediation measures. Additional information will be shared with the ESPB Director as it is received from the field.

Impact Assessment Section Natural Resource Reviews May 2009 through July 2009

- 1,594 projects were submitted for information purposes only
- 1,254 projects were submitted for consultation. As of August 11:
 - 1,087 were terminated. Recommendations were made to avoid, minimize or mitigate impacts for 14 of the 162 projects that were opened for detailed review.
 - 128 projects were still in initial review
 - 43 projects had been opened—additional information had been requested and/or they were undergoing a detailed review
- 27 projects were also submitted by the USCOE for Fish and Wildlife Coordination

The large number of projects this quarter is due to ‘stimulus’ projects being submitted for IEPA and IDCEO funding.

To: Endangered Species Protection Board
From: Randy Heidorn
Date: August 13, 2009
Subject: Illinois Nature Preserves Commission Report for August 14 ESPB meeting.

The Illinois Nature Preserves Commission did not have a meeting since the ESPB last met. As a money saving actions INPC reduced its number of meetings to three annually. We now meet in January, May and September. The 203rd meeting of the INPC will be held at Illinois Beach State Park Lodge at 10 AM, September 22, 2009. As we have not had a meeting our report for this meeting will be abbreviated.

1. **Identification:** Staff has participated in several population surveys sponsored by others. One of the largest, coordinated by John Nelson, was a survey of mussels in the Kishwaukee River watershed in Boone and Winnebago Counties.
2. **Protection:** Staff has been working on protection issues throughout the State in preparation for the 203rd meeting. Deer Grove West, a Forest Preserve District of Cook County site became the 500th INPC protected area with the signature of the Governor. This site was the first land acquired by the Forest Preserve and is the INPC's contribution to the Burnham Plan Centennial Celebration. Staff has continued protection discussions several groups in preparation of future meetings including LaFarge Midwest, on a site in southern Illinois, HUM Railroad Prairie, McHenry County, IDNR and others.
3. **Stewardship:**
 - a. Staff continues to implement numerous stewardship projects at sites throughout the state. In the last 12 months, INPC has been able to implement projects at over 32 sites in INPC programs with INPC operational dollars. This does not include numerous projects that staff have been involved with that are funded by the Natural Areas Acquisition Fund Stewardship, State Wildlife Grants, Landowner Incentive Program and several other federally funded projects.
 - b. INPC staff has been very active with Natural Heritage in pursuit of federal stimulus money to pay for restoration work. In particular, INPC has helped the IDNR in the preparation of proposals and other pre-proposal initiatives for projects at Illinois Beach, Waukegan Harbor, and the Chicago Lake Plain.
4. **Defense:**
 - a. Wind Energy Development proposals continue to increase in Illinois. Several of these are located in the vicinity of sites in INPC programs. Jenny Skufca has actively pursued discussions with a couple companies. Of concern are impacts on bats and birds, shadowing of protected areas (this is likely an unapproved modification of preserve

conditions) and flicker. As the body of knowledge on this rapidly growing industry grows we will need to adjust our concerns.

- b.** INPC Staff was made aware of an ongoing project adjacent to and in Kinney Ford Seep Land and Water Reserve. As a result of an IDNR project fill material had been stockpiled adjacent to a parking lot in the LWR. Also, work outside of the reserve had impacted occupied habitat for the four-toed salamander. Assistant Director John Rogner and Mike Conlin asked that INPC use its land management expertise to review the situation both in the LWR and outside, to determine what had happened and make recommendations. This will help avoid similar situations in the future. That report was sent to Rogner on August 13, 2009. A second memo, written to the IDNR Director is in the process of being drafted to address the unapproved stockpiling of fill in the LWR. INPC will ask for the removal of the fill and restoration of the site, along with assurances from IDNR that it will adjust its processes to be sure that this does not happen again. The second memo is under review within the INPC and will be sent in the next few days.
- 5. Other:** As a celebration of the 500th protected site INPC sponsored the new Nature Preserve category for the existing Outdoor Illinois Photo Contest. The contest deadline has passed and we received over 150 photos. Judging will take place this September. In addition to the normal Outdoor Illinois prizes. Photos will be selected for special recognition in the INPC category and an exhibit will be produced to show the diversity of nature preserved in the Nature Preserve System. This will include both a electronic and mounted photos.

**Illinois Endangered Species Protection Board staff report
for the 143rd Meeting, August 14, 2009**

Submitted by Anne Mankowski, Director

The Board currently only has one staff, its Director. All activities were conducted by Ms. Mankowski, unless otherwise noted. Because the Board has reduced staff and had been without any fulltime staff from 2002-2007 and then without any staff from 2007-2008, Ms. Mankowski has not been able to complete all required work in the course of a 40-hour work week. Since the last staff report, Ms Mankowski has donated the following “volunteer hours” toward ESPB duties: May = 56.25; June = 30.50; and, July = 21.25.

1. ESPB Letter to the US Forest Service re: comments on the Proposed Decision Memo for RX burning at Atwood Research Natural Area, Ozark Hill Prairie Research Natural Area, and Opossum Trot Trail Biological Area in the Shawnee National Forest.

Ms. Mankowski reviewed the Proposed Decision Memo and sent a letter that acknowledged the long history of management coordination between the State and USFS; applauded the USFS efforts in carefully assessing and including prescribed fire as a management tool used to restore the important ecosystems of the Shawnee; and, commended the Shawnee’s consideration of a total of 55 Illinois endangered or threatened plant species and 12 Illinois endangered or threatened animal species in the viability and biological evaluation documents, noting that while some of these species are included in the Regional Forester Sensitive Species Lists, the consideration of the additional Illinois listed species underscores a commitment by the Forest Service to work cooperatively with the State of Illinois for the benefit of some of our rarest resources.

Only supportive comments were received during the comment period and the Decision to manage the three natural areas with fire and mechanical methods was signed on June 30th.

2. Barn Owl (*Tyto alba*) recovery planning and implementation State Wildlife Grant project.

Upon request from DNR, Ms. Mankowski will be replacing Joe Kath as the Project Manager for a Barn Owl Recovery Project SWIG Grant (T-35-P-1). Ms. Mankowski spent considerable time this quarter amending the USFWS Grant Agreement and project budget, rewriting the Section 7 review, and developing proposal materials for the DNR/INHS contract. Ms. Mankowski taking over this project will prevent the DNR from returning over \$23,000 previously granted federal aid funding.

3. ESPB WPF Research Program

(See “Report on the ESPB Research Program for the 143rd meeting” for details.)

4. ESPB 5-Year List Review ending in 2009

- Assisted DNR Legal Department and with the preparation of proposed amendments to IL Administrative Rules 1010 (List of IL E&T Fauna) and 1050 (List of IL E&T Flora). The proposed amendments were posted for First Notice on June 12, 2009 with the comment period ending July 27, 2009. At the time of this writing, it is not known if comments were received and when the process for Second Notice filing will begin.

5. Illinois DNR Natural Areas Evaluation Committee

Represented ESPB at DNR 52nd NAEC meeting held July 21, 2009. Business included mostly additions and boundary corrections related to recent dedication and/or registration actions taken by the INPC. Also discussed some housekeeping issues related to editorial updates to the INAI standards and guidelines document and Heritage Database.

6. Todd Fink Fund

Todd Fink, a highly regarded vertebrate zoologist and ornithologist with the Illinois Department of Natural Resources, died of complications from human monocytic ehrlichiosis in 1995 at the age of 36. Following his death, Todd's parents established the Todd Fink Memorial Fund through the Illinois Conservation Foundation (ICF). The Fund awards grants to provide financial assistance to Southern Illinois University at Carbondale (SIUC) graduate students whose research focuses on an Illinois threatened or endangered species of plants or animals. Since its inception, ten students have received small stipends of either \$250 or \$500 to help defray costs of travel associated with their field work. Species studied have included the state-threatened golden mouse, state-threatened rock chestnut oak, state threatened running buffalo clover, state- and federally-endangered pallid sturgeon, state- and federally-endangered Indiana bat, state-endangered Indiana crayfish, state-endangered climbing milkweed, and state-endangered American chestnut. The Fund was set up so that IDNR - Division of Natural Heritage, in consultation with the Executive Director of the Endangered Species Protection Board and the Illinois Conservation Foundation will review the nomination(s).

Division of Natural Heritage Regional Administrator, Jody Shimp provides coordination of the Fund with SIUC on behalf of the ICF, ESPB, and IDNR. There was only one nomination in 2009 coming from both the student's faculty advisor the Vice Chancellor for Research and Graduate Dean. SIUC nominated Mr. Ryan Boley of SIUC's Department of Fisheries and Illinois Aquaculture Center for the \$500 dollar stipend. Mr. Boley's research involves characterization of habitat use by pallid sturgeon and will help identify important habitat needed by this species during its most crucial life stages. Ms. Mankowski provided concurrence for Mr. Boley's nomination.

7. ESPB webpage on the DNR website

Continuing to make updates to the webpage. Most recently, posted the Biennial Report and a document summarizing the recovery success story of the bald eagle in Illinois (to be posted in second week of August).

8. ESPB Staff Coordination with DNR

- Fielded and referred 14 permit, data, and consultation calls and emails to respective programs at DNR; Endangered Species Program ORC; Natural Heritage Database ORC; Impact Assessment Section OREP.
- 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, Media Relations, and Illinois Nature Preserves Commission, on multiple matters, including:
 - DNR Management and Tracking System training and planning
 - Developed State Fair displays (General, Research, Bald Eagle Recovery Success Story – see attached drafts) and assisted with staffing the Natural Heritage tent.
 - Met with ORC to discuss opportunities for improved communication and coordination
 - Assisted Law Enforcement with bald eagle mount ID.
 - Assisted Law Enforcement and Natural Heritage with birder harassment of king rail and enforcement of IESPA.
 - Represented ESPB at DNR ORC meetings.
 - Reviewed and provided comments on proposed amendments to ITA Ad Rule.
 - Reviewed and provided comments on 10 ITA Conservation Plans.
 - Assisted ORC and INPC with DNR CERP process and construction specifications for project #09000968 involving Middle Fork State Fish and Wildlife Area and Kinney Ford Land and Water Reserve.
 - Assisted DNR Legal in amending IL 17 AD CODES 1010 (IL E&T Fauna) and 1050 (IL E&T Flora).

9. Coordination with other Agencies

- Facilitated a requested meeting with researchers at UIUC School of Agriculture and Conservation Economics regarding a biofuels research project evaluating potential for biofuel production and harvest programs under CRP and CREP and potential impacts upon wildlife and protected resources.
- Facilitated routing of a data request from a researcher at the University of Toronto regarding the pugnose shiner.
- Responded to an inquiry from Mr. Dave Margolis of Oswegoland Park District about red pine translocation (see species updates).

10. Field Work

Assisted Natural Heritage Biologist, Ed Anderson, with trapping surveys for the Illinois mud turtle (*Kinosternon flavescens*) at Mineral Marsh INAI site, Henry County.

Conducted surveillance for: *Nothocalais cuspidata* (prairie dandelion) at Beach Cemetery Prairie NP, Ogle County; *Castilleja sessiliflora* (downy yellow painted cup) at Indian Bluff Hill Prairie NP, Rock Island County; *Isotria medeoloides* (small whorled pogonia) at Swayne Hollow NP, Randolph County; and, *Talinum calycinum* (fameflower) at Castle Rock INAI site, Randolph County.

11. Other General Administration and Clerical Work

- Prepared and routed Board member and staff travel vouchers.
- Regularly distributed information to Board and ESTAC members via internet and hardcopy mailings.
- Posted the Biennial Report to the ESPB webpage and distributed hard copies to Governor Pat Quinn, Illinois General Assembly, Illinois State Library, Office of Management and Budget, DNR Director Marc Miller, Assistant Director John Rogner, Deputy Directors Leslie Sgro and Deb Stone, and ORC Director Mike Conlin.
- Prepared and distributed to Board members draft minutes from the 142nd meeting.
- Prepared first draft of updates to the Board's Policy Manual.
- Prepared first draft of an ESTAC Manual.
- Responded to 26 requests for information and/or ESPB reference materials.
- All aspects of preparation for the August 14, 2009 143rd ESPB meeting.

**Report on the ESPB research program to address the status, conservation,
and/or recovery of Illinois endangered or threatened species**

Submitted by Anne Mankowski, Director
for the 143rd Meeting, August 14, 2009

1) FY08 and FY09 Projects

FY08 Projects

| Contract # | Title | Researcher/ Institution | Award Amount | Status |
|------------|---|--|-----------------|-----------------|
| RC08E02W | Establishing population trends of <i>Hyla avivoca</i> in southern Illinois by duplicating the 1995 Redmer, Brown and Brandon survey | John Palis | \$ 3,402.00 | Done |
| RC08E01W | Survey of breeding colonial wading birds of conservation concern in the lower Wabash River drainage in Illinois, with special emphasis on the Little Blue Heron | Three Rivers Environmental Assessments | \$ 18,423.00 | Due 10/31/09 |
| RC08E03W | Status survey update for listed herptiles for Kidd Lake Marsh, Fults Hill Prairie N.P., and other newly dedicated lands in Monroe County | Robert Weck | \$ 4,852.20 | Done |
| RC08E04W | Genetic variation in <i>Astragalus crassicaarpus</i> var. <i>trichocalyx</i> in Illinois | SIU at Edwardsville, Dept. of Biological Sciences | \$ 2,999.70 | Done |
| RC08E05W | Spatial Ecology and Over-Winter Survival of Neonate Eastern Massasauga Rattlesnakes (<i>Sistrurus catenatus catenatus</i>) at Carlyle Lake | INRS INHS UIUC | \$ 13,191.00 | Due 06/30/10 |
| RC08E06W | Conservation genetics of the state endangered spotted turtle, <i>Clemmys guttata</i> | INRS INHS UIUC | \$ 5,000.00 | Due 12/31/09 |
| RC08E07W | Status, Distribution and Resource Requirements of the Longnose Dace in Illinois | INRS INHS UIUC | \$ 6,450.00 | Due 06/30/09 |
| RC08E08W | Status Survey of <i>Mentzelia oligosperma</i> (Stickleaf) | Michael Jones | \$ 4,986.00 | Done |
| RC08E09W | Population Size and Genetics of the Blanding's Turtle at Goose Lake State Natural Area, Grundy County, Illinois | INRS INHS UIUC | \$ 8,318.00 | Due 12/31/09 |
| RC08E10W | Status Report for Native Populations of Shortleaf Pine (<i>Pinus echinata</i>) | Michael Jones | \$ 9,632.00 | Due 06/30/10 |
| RC07E02W | Reproductive Success of Sandhill Cranes in Northeastern Illinois | Dr. David Thomas, PI; Dr. Michael Ward, INRS INHS UIUC, INHS | \$ 5,730.00 | Done |

FY09 Projects

| Contract # | Title | Researcher/ Institution | Award Amount | Status |
|------------|--|---|-----------------|-----------------|
| RC09E01W | Habitat Use, Nest Success, and Natal Philopatry of Loggerhead Shrike in Northwest Illinois. | Wenny and Elbert (INRS INHS UIUC) | \$ 6,053 | Due 05/01/10 |
| RC09E02W | Conservation Genetics of Jefferson Salamanders in Illinois: Implications for Conservation and Recovery | Kuhns (INRS INHS UIUC) | \$5,995 | Due 03/30/10 |
| RC09E03W | Status assessment survey for springtails (Collembola) in Illinois caves. | Soto-Adames and Taylor (INRS INHS UIUC) | \$4,663 | Due 03/31/10 |
| RC09E04W | Rarely Seen Illinois Native Plant Species; Their Status and Distribution. | Phillippe and Ebinger (INRS INHS UIUC) | \$6,419 | Due 12/31/09 |
| RC09E05W | Status of three freshwater snails species in the lower Ohio River basin in Illinois. | Tiemann and Cummings (INRS INHS UIUC) | \$3,993 | Due 06/30/10 |

2) Brief Summaries for Recently Received Project Reports

No reports received this quarter.

3) FY10 Cycle

- Budget:

The current balance is \$7.68 and current indications are that the Board will receive an allocation of \$25,000 from the Illinois Wildlife Preservation Fund for the FY10 cycle; bringing the **total balance to \$25,007.68.**

- ESTAC priority research topic recommendations to the Board are attached.

- RFP Proposed Timeline:

At the 143rd Board meeting on August 14, 2009, the Board will consider ESTAC research topics and vote on which projects to include in an RFP. The RFP will be distributed to the same list as was used in FY09 (82 researchers at 36 institutions or organizations) shortly after the August meeting with a deadline in late October. A package of applicant proposals and summary information (similar to the FY09 cycle) will be distributed to Board members prior to the 144th Board meeting to be held on November 13, 2009. The Board will consider which project proposals to recommend for funding, approval will be sought from DNR Director Miller, and contracts will be initiated following the November meeting.

IESPB PRIORITY RESEARCH PROJECTS FY2010

Birds

None

Mammals

None

Invertebrates

None

Fish

1) Evaluation of Distribution, Movements, and Habitat Use of River Redhorse (*Moxostoma carinatum*) and Greater Redhorse (*Moxostoma valenciennesi*) in the Upper Illinois River Basin

Background:

River redhorse (*Moxostoma carinatum*) and greater redhorse (*Moxostoma valenciennesi*) are large riverine suckers that are widely, but discontinuously, distributed across the eastern United States and southern Canada. The range and abundance of these species has declined substantially over the last century, with the river redhorse currently listed as threatened and the greater redhorse as endangered in Illinois. Both species occur in the upper Illinois River basin, including the Vermillion, Fox, and Kankakee Rivers (Retzer and Kowalik 2002). This region has been heavily impacted by pollution and habitat alteration, and is fragmented by numerous dams. River redhorse and greater redhorse make distinct seasonal migrations between spawning and overwintering areas (Hackney et al. 1969, Cooke and Bunt 1999, Reid 2006), and are therefore sensitive to barriers that may disrupt these movements. Dams also alter habitat conditions that may make some areas unsuitable for these species (Quinn and Kwak 2003).

Identifying distinct river reaches that contain river redhorse and greater redhorse, and examining their movements and habitat associations within these reaches, will aid in future efforts to conserve these species. Given this information, a study of the distribution, movements, and habitat use of this species is needed to make informed decisions concerning their conservation and listing status.

As the river redhorse and greater redhorse are state listed, threatened and endangered respectively, this study is consistent with the ESPB's goals of listing species, advising IDNR on matters related to endangered and threatened species, encouraging research, and informing the public on matters concerning endangered and threatened species.

Scope, methods & protocol:

The distribution of river redhorse and greater redhorse within Illinois has been generally delineated (Retzer and Kowalik 2002), but a more complete assessment of the range and abundance of these species among river segments separated by dams would aid in identification of subpopulations, allowing for future evaluation of population levels and identification of river segments critical to conservation efforts. Assessment of river redhorse and greater redhorse movement patterns would help biologists understand factors that have allowed these species to persist in fragmented reaches of the upper Illinois River basin. Observation of seasonal habitat use would also aid in identification of spawning, feeding, and overwintering habitats that may be important to the conservation of these species.

Assessment of the ranges and abundance of river redhorse and greater redhorse in Illinois would be achieved through development of a comprehensive database and GIS map layer of the distribution of these species using INHS and IDNR records, consultation with IDNR

biologists, and supplemental sampling where appropriate. To assess movement and habitat use patterns, 10 - 15 individuals would be collected during spring, implanted with radiotransmitters, and located on multiple occasions throughout the year. Calculation of movement rates, range size, and habitat selection during each season would provide important information on the biology of these species. The more abundant river redhorse would initially be used for telemetry observations, with greater redhorse also being tagged if sufficient population sizes are identified. The Fox River would be an ideal area for these activities, as it contains known populations of both redhorse species, has ample river access, and contains numerous low-head dams that divide the river into distinct segments that facilitate relocation of tagged fish.

We anticipate that this would be a two year study. Clear photos of individuals or animals that may die by accident will be deposited at the Illinois Natural History Survey Fish Collection in Champaign, Illinois.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Cost:

Not to exceed
Year 1: \$8,500
Year 2: \$8,000

References:

Cooke, S.J., and C.M. Bunt. 1999. Spawning and reproductive biology of the greater redhorse, *Moxostoma valenciennesi*, in the Grand River, Ontario. *The Canadian Field Naturalist* 113:497-502.

Hackney, P.A., W.M. Tatmun, and S.L. Spencer. 1969. Life history study of the river redhorse, *Moxostoma carinatum* (Cope), in the Cahaba River, Alabama, with notes on the management of the species as a sport fish. *Journal of the Alabama Academy of Science* 40:81-89.

Reid, S.M. 2006. Timing and demographic characteristics of redhorse spawning runs in three Great Lakes basin rivers. *Journal of Freshwater Ecology* 21:249-258.

Retzer, M.E., and C.R. Kowalik. 2002. Recent changes in the distribution of river redhorse (*Moxostoma carinatum*) and greater redhorse (*Moxostoma valenciennesi*) (Cypriniformes: Catostomidae) in Illinois and comments on their natural history. *Transactions of the Illinois Academy of Science* 95:327-333.

2) Status of *Ammocrypta clarum* (Western Sand Darter) in the Middle Kaskasia River and *Fundulus catenatus* (Northern Studfish) in Southwestern Illinois.

Background:

Ammocrypta clarum (Western Sand Darter, state endangered) is a small translucent darter with a historical distribution across western Illinois (Smith, 1979). The species appeared extirpated from the Illinois River Basin but populations remain in the middle Kaskaskia River and in the Mississippi River above St. Louis. Sampling of the Kaskaskia River between lakes Shelbyville and Carlyle by IDNR fish biologists suggests that the species may be increasing in population (Trent Thomas, IDNR, ESTAC). A study is needed to verify that the population is actually increasing. A robust population could change the status of the species from endangered to

threatened.

Fundulus catenatus (Northern Studfish) is a stout-bodied topminnow that was reported by Smith (1976) to occur along the Mississippi River in southwestern Illinois based single specimen. He considered it a straggler from nearby Missouri. More recently, Randy Sauer (IDNR) captured a single individual along the Mississippi River in the same area. It is possible that this new record represents another straggler, however, it is also possible that the individual represents a newly established breeding population in Illinois. A survey of areas is needed to determine if a breeding population has been established in Illinois. If a breeding population has been established, then the ESPB should consider the species for listing on the endangered or threatened species list.

As the Western Sand Darter is state listed as endangered and the Northern Studfish has an unknown status, status surveys as outlined above is consistent with the ESPB's goals of listing species, advising IDNR on matters related to endangered and threatened species, encouraging research, and informing the public on matters concerning endangered and threatened species.

Scope, methods & protocol:

A review of historical records for both species in the geographic area discussed will be made. Historic sites will be visited for sampling. Records at the Illinois Natural History Survey Fish Collection, at Southern Illinois University at Carbondale, and in IDNR stream survey reports will be consulted to determine historic sites and used to qualitatively determine changes in abundance. In addition, at least ten new sites within the area will be sampled. Methods for sampling should be appropriate for the each of the species and the habitats of the collection sties. Methods include but need not be limited to various types of seines, traps, and electroshocking devices. Specimens will be digitally photographed and vouchered at the Illinois Natural History Survey Fish Collection. Individuals that perish during capture will be preserved and deposited at the Illinois Natural History Survey Fish Collection. We anticipate that this is a one-year study.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Cost:

\$3,000 - \$4,000 for one year.

Reference

Smith, P.W. 1976. The Fishes of Illinois. University of Illinois Press. Urbana.

Reptiles and Amphibians

1) Surveys for the Ornate Box Turtle in Illinois

Background:

The Illinois Endangered Species Technical Advisory Committee for Amphibians and Reptiles (Herp ESTAC) recommended in 2008 that the Ornate Box Turtle (*Terrapene ornata*) should be added to the state's list of threatened reptiles. Although this species is historically documented from 45 Illinois counties, recent (post-1980) records are available from only eleven. While this county distribution appears relatively large, the actual distribution may be composed of numerous disjunct or isolated populations. Recent surveys at known sites in the Kankakee Sands Natural Division yielded only a few individual box turtles. Threats to this species include road mortality, collection for pets, and loss of grassland/prairie habitat.

Scope, Methods & Protocol:

The Herp ESTAC recommends funding a survey to determine the present occupancy *T. ornata* in Illinois. Surveys could take place anywhere within the species' range in Illinois, but should at least include areas within the Southern Till Plain, Rock River Hill Country, and marginal areas of the Grand Prairie Natural Divisions. These areas all have historic records, though the records indicate that this species is only sporadically encountered in each. Surveys should assess presence and absence, and (where present) begin marking and gathering morphological data (see below) on any encountered individuals. The actual number of survey locations will vary depending upon how many historic locations there are and their geographic distribution. The applicant should also include habitat assessments of the historic sites.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project. Photographs of all individuals encountered and all sites surveyed.

Spreadsheet of all historic occurrences for Illinois (historic, photo-verified, museum, and from the literature) with geographic coordinates/locality information, site name, date collected and/or observed, and name of collector/observer.

Spreadsheet of all sites surveyed, including date of new survey, effort expended (man-hours), and number of *T. ornata* encountered.

Spreadsheet of all *T. ornata* encountered during new surveys, including carapace length (CL), plastron length (PL), carapace width (CW), mass, and notch number.

Museum and catalogue number of any DORs vouchered.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Costs:

Applicants should keep their total budget to \$12,000 or less and no more than \$6,000 per year.

Plants

1) Glacial Relict Monitoring

Background and Justification

Ongoing climate changes are predicted to have a dramatic impact on the distribution of forest trees in Illinois (Prasaad et al., 2007, Iverson et al. 2008, Iverson et al. 2009), including a movement of optimal habitat for some species to the north of Illinois. Climate change likely not only effects the potential distribution of trees but also for shrubs and herbaceous species in Illinois. Numerous plant species listed as threatened or endangered by the IESPB reach their southern range limits in the Midwest in northern Illinois (e.g., *Adoxa moschatellina*, *Botrychium multifidum*, *Circaea alpina*, *Clematis occidentalis*, *Cornus canadensis*, *Corydalis aurea*, *Corydalis sempervirens*, *Cyclopteris laurentiana*, *Equisetum sylvaticum*, *Equisetum scirpoides*, *Gymnocarpium dryopteris*, *Gymnocarpium robertianum*, *Lycopodiella inundata*, *Lycopodium clavatum*, *Lycopodium dendroideum*, *Phegopteris connectilis*, *Primula mistassinica*, *Rosa acicularis*, *Thelypteris phegopteris*, *Trientalis borealis*, *Viola canadensis*, *Woodsia ilvensis*, and *Zigadenus elegans*). In some cases, these species occur in Illinois in relict populations, apparently representing remnants following late Pleistocene or early Holocene distributions. Climate change including warming could be expected to reduce habitat suitability for many of these species.

Research Questions

Is there a general pattern of decline associated with northern relict species?

Are particular plant functional groups or physiognomic groups particularly vulnerable to climate changes?

If declines are detected, can the general pattern be attributed to climate changes more so than other factors?

Potential Grant Activities

Summarize trends data from existing monitoring efforts.

Establish monitoring program for species selecting those most likely to be effected by climate warming (e.g, species from primary habitats such as cliffs; species from peatland habitats may face multiple factors in declines making more difficult discriminating among factors). Monitoring should be replicated by species and plant functional groups where possible.

Record environmental data for each population including aspect, soil depth, and associate species.

Assess reproductive condition of each species and measures of abundance including total area, stem density, and/or patch size (e.g., for mat-forming species).

Time frame:

Long-term perspective will be needed (e.g., 20 years). Costs: outset establishment of monitoring (multiple populations among species, replication among physiognomic groups, multiple groups). Proposed resampling every 3 years.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Proposed Budget:

\$5,000 for baseline establishment.

References

Prasad, A.M., L.R. Iverson, S.N. Matthews, and M.P. Peters. 2007. A climate change atlas for 134 forest tree species of the eastern United States [database]. <http://www.nrs.fs.fed.us/atlas/tree>, Northern Research Station, USDA Forest Service, Delaware, Ohio

Iverson L.R., A.M. Prasad, S.N. Matthews, and M. Peters. 2008. Estimating potential habitat for 134 eastern US tree species under six climate scenarios. *Forest Ecology and Management* 254: 390–406.

Iverson L.R., A.M. Prasad, S.N. Matthews, and M. Peters. 2009 (in press). Potential changes in tree habitat for Illinois under climate change. Pages x-xx in: Taylor, C., J. B. Taft, and C. Warwick (eds.). 2009. *Canaries in the Catbird Seat - The Past, Present, and Future of Biological Resources in a Changing Environment*.

2) Experimental Reintroduction of Species Extirpated from Illinois

Background and Justification

About 55 plant species are considered to be extirpated from Illinois (Post 1991) and more have been added to that list in recent years (e.g., *Equisetum palustre*, *Gaultheria procumbens*, *Lactuca ludoviciana*, *Lathyrus japonicus*, *Milium effusum*, *Scheuchzeria palustris*, *Pycnanthemum albescens*, *Triadenum virginicum*). One means of recovery of this loss of Illinois' botanical diversity could include experimental reintroductions. One excellent example of attempts at re-establishing an extirpated species is with *Cirsium pitcheri* (Bowles et al., 1993, Bell et al., 2002).

Illinois genotypes are probably lacking for most if not all of these species, so for experimental re-introductions it is recommended to use stock from the nearest available populations to Illinois.

Research Questions

Can cause of decline be determined for each species?
Does apparently suitable habitat remain in Illinois?
What propagation methods are viable for each species?

Potential Grant Activities

Determine locations of last known occurrence for these species.
Locate suitable receptor sites based on ecological suitability assessments.
Establish experimental populations and monitoring program.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Proposed Budget:

\$5,000.

References

Bell, T.J., M.L. Bowles, J. McBride, K. Havens, P. Vitt, and K. McEachern. 2002. Reintroducing Pitcher's thistle. *Endangered Species Bulletin* 27:14–15.

Bowles, M.L., R.F. Betz, and M.M. DeMauro. 1993. Propagation of rare plants from historic seed collections—implications for rare species restoration and herbarium management. *Restoration Ecology* 1:101–106.

Post, S. 1991. Native Illinois species and related bibliography. Pages 463-475 in: Page, L.M., and M. R. Jefferts, eds. *Our Living Heritage: The Biological Resources of Illinois*. *Illinois Natural History Survey Bulletin* 34(4): 357-477.

3) *Polygala incarnata* germination ecology

Background and Justification

Polygala incarnata is a myrmecochorous species that seems to appear most reliably following fire events. The biology of ant dispersal, which can be considered a fire escape mechanism, and interactions with fire in explaining population trends needs to be understood to better manage this species listed as endangered throughout the eastern tallgrass prairie region (considered secure to the southern portions of its range). While all *Polygala* species are considered to be myrmecochorous, it is not known what ant species are involved with *P. incarnata* or what is the effect of ant-dispersal on germination.

Research Questions

Do ants place seeds into safe sites avoiding fire-related mortality while exposing seeds to heat-stimulated germination (intermediate soil depth)?
Are seeds buried at times too deeply for heat stimulation or too shallow to survive fires?
Can recruitment be improved with manipulated seeding at particular soil depth?
Can seeds be stimulated to germinate with experimental heating (hot water treatments)?

Is recruitment in burned sites limited by competition?

Potential Grant Activities

Field observations to uncover natural history of seed dispersal and burial by ants.

Identification of ant species involved in seed dispersal.

Experimental germination tests: burial of seed at different soil depths followed by fire treatments and post-fire monitoring for germination success.

Experimental controls of heat variables related to germination success (hot water treatments varied by temperature and duration of exposure).

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Proposed Budget:

\$3,000

4) *Asclepias lanuginosa*: Genetic and Population Studies Leading to a Recovery Plan

Background and Project Justification:

As of 2002, *Asclepias lanuginosa* was extant in 5 counties of northern Illinois in only 7 populations. Most of these populations were considered vulnerable because, through monitoring efforts, they have been documented to rarely produce fruits or viable seed, even in populations where plant numbers remain substantial. This has been documented in particular at Lake in the Hills Fen where population numbers have dwindled to 162 since monitoring began there in 1983. The highest count in combined subpopulations was ~ 488 plants in 2000. No fruits have been reported (until one fruit was reported in 2009 for the first time). At Shoe Factory Road Prairie, 26 stems were observed in 2008 and 25 stems in 2009. No plants within the population produced viable fruits. It has been suggested that lack of reproductive success may be due to self-incompatibility as well as genetic incompatibility within populations. Absence of appropriate pollinators may also be a cause.

There is reason to believe that without intervention through a recovery plan, this species will plummet to extirpation in Illinois.

Research Questions:

Determine through literature search and contact with *Asclepias* researchers current genetic and life history status of extant populations, including in Wisconsin.

Determine whether additional genetic research is required to initiate a recovery program.

Determine whether pollinator absence contributes to lack of reproductive output.

Potential Grant Activities:

Conduct literature research and contact researchers.

Visit all extant Illinois populations and possibly a Wisconsin population to determine population size and collect leaf samples for genetic analysis if warranted. Contact all landowners and the Nature Preserve Commission and apply for permits to do this work.

Determine whether pollinator absence is a limiting factor.

Determine fruit set on a second visit to all populations. Determine seed viability from a sample through non-destructive means and either a) grow out the seed in a nursery setting or b) return the seed to the sites.

Conduct genetic analysis, using known primers for *Asclepias lanuginosa* or related *Asclepias* species. Analyze genetic samples for

diversity between and among populations.

Propose a recovery plan, based on the above research, to be approved by the Illinois Endangered Species Protection and participating landowners. Recovery could include several options – cross pollination in the field between populations, transplanting of individual plants between genetically different populations, or propagating cuttings from individual plants to be transplanted into other populations. Effective methods of cross pollination should be explored with researchers having experience with the very challenging cross pollinating of *Asclepias* species.

Note: active volunteers at several sites can be engaged in the monitoring process to reduce costs.

When a recovery plan is approved the next phase of the project will be considered through an additional RFP.

Deliverables:

Final report (one hard copy and one electronic copy) that includes Introduction, Materials and Methods, Results, Discussion and Summary sections.

Five to ten digital images (color slides and black and white photos will be accepted, but digital is preferred) depicting the study species, project site, project activities, or other aspects of the project.

Spreadsheet of all occurrences including geographic coordinates/locality information, site name, date collected and/or observed, name of collector/observer.

Copies of all Element Occurrence Records (EORs must also be submitted to the Illinois Natural Heritage Database as described in Attachment C to the RFP).

Budget:

\$5,000-\$7,000 to include baseline data, genetic analysis, preparation of a recovery plan, researcher remuneration, travel. Amount will depend on activities included.

Reference List (selected):

Betz R.F. and H.F. Lamp. 1992. Flower, pod, and seed production in eighteen species of milkweeds (*Asclepias*) pp. 25-30 in D.D. Smith and C.A. Jacobs, eds. Proceedings of the 12th North American Prairie Conference, University of Northern Iowa, Cedar Falls.

Bowles, M.S., J. McBride and T. Bell. 2001. Restoration of the federally threatened Mead's Milkweed (*Asclepias meadii*). Ecological Restoration 19: 235-241.

Bowles, M.L. and T. Bell. 1999. Establishing recovery targets for Mead's milkweed (*Asclepias meadii*). A report to the Illinois Endangered Species Protection Board.

Bowles, M. and The Mead's Milkweed Recovery Team, eds. 2003. Mead's Milkweed (*Asclepias meadii* Torr.) Recovery Plan.

Fell, E.W. and G.B. Fell. The gravel-hill prairies of Rock River Valley in Illinois. *Transactions of the Illinois State Academy of Science* 49: 47-62.

Winter, S.L. and R.E. Charlton. 2000. Rediscovery of Woolly Milkweed, *Asclepias lanuginosa* Nutt. (Asclepiadaceae), in Saline County, and Management Considerations. *Transactions of the Kansas Academy of Science* 103 (3-4), 2000. pp. 185-190.

Woodson, R.E. 1954. The North American species of *Asclepias*. *Annals of the Missouri Botanical Garden* 41:1:211. (Note: *Asclepias lanuginosa* is only known from Mexico in this early work.)