

TERRESTRIAL INVERTEBRATE ENDANGERED SPECIES TECHNICAL ADVISORY COMMITTEE (ESTAC)

MINUTES OF THE DECEMBER 1, 2022 MEETING

ILLINOIS NATURAL HISTORY SURVEY
1816 S. OAK STREET, CHAMPAIGN, IL 61820

COMMITTEE MEMBERS PRESENT: Dr. Tierney Brosius, Ms. Marissa Chase, Dr. Chris Dietrich, Ms. Angella Moorehouse, Dr. Laura Rericha-Anchor, Mr. Isaac Stewart, Dr. Doug Taron, Mr. Jim Wiker

COMMITTEE MEMBERS ABSENT: Dr. Sam Heads

OTHERS PRESENT: Ms. Samantha Chavez (ESPB), Dr. Joyce Hofmann (ESPB), Ms. Natalia Maas (IDNR), Ms. Tara Kieninger (IDNR)

1. Call to Order, Roll Call of ESTAC Members, and Introduction of Guests

The meeting was called to order at 10:38 A.M. Some members attended in person and others remotely via Zoom. Ms. Moorehouse called the roll of committee members and asked guests to introduce themselves.

2. Adoption of Agenda

Ms. Moorehouse suggested that the committee make its recommendations about currently listed species before discussing potential additions to the Illinois List of Endangered and Threatened Species (Illinois List). Dr. Dietrich moved that the agenda be adopted with that alteration. The motion was seconded by Mr. Wiker and passed unanimously.

3. Review of Listed Terrestrial Invertebrate Species

Ms. Moorehouse pointed out that there were only 11 listed species of terrestrial invertebrates and suggested discussing them in alphabetical order. Dr. Dietrich stated that *Athysanella incongrua* (leafhopper) hasn't been seen in a long time and he thought it should be delisted and placed on the watch list instead. Ms. Moorehouse asked about the redveined prairie leafhopper (*Aflexia rubranura*) and Dr. Dietrich said it should stay on the list. Ms. Moorehouse pointed out that the rusty-patched bumble bee (*Bombus affinis*) is federally listed and would stay on the state list. The swamp metalmark (*Calephelis muticum*) has not been seen in Illinois recently. The last record may be from 2013. Mr. Wiker said that someone may have found a specimen recently so he will check. Ms. Moorehouse pointed out that Chris Benda has been in southern Illinois and saw the striped scorpion (*Centruoides vittatus*) last year. Ms. Moorehouse thought that it was important to increase efforts to look for the cobweb skipper (*Hesperia metea*). Ms. Moorehouse probably has the last record in 2000 but isn't confident about it. Mr. Wiker stated that searches need to be conducted early in the year. April would be the best time. The Ottoe skipper (*Hesperia ottoe*) is probably gone from Illinois. It was seen at Revis Hill Prairie in 2007 and 2008. Known locations have been visited year after year, and no one has seen the species. Ms. Moorehouse suggested

delisting it and placing it on the watch list. Dr. Taron asked if the population at Rogers Prairie in Rockford has been reevaluated. Mr. Wiker said that he has been to the site several times and 2001 was the first time that he didn't see it there. There also has been a lot of construction in the area. Ms. Moorehouse said the Ottoe skipper was seen in northeastern Iowa years ago but now people in Iowa think it only occurs in the loess hills of western Iowa. Ms. Moorehouse asked Dr. Taron about the hoary elfin (*Incisalia polios*). He said it is monitored regularly, numbers going up and down from year to year. It is routinely seen at Illinois Beach. The last record is for 2016. Dr. Taron will send records to update the Natural Heritage Database. Mr. Wiker said that the species is secure where it occurs but is only known from that one location. There are no records of Karner blue butterfly (*Lycaeides melissa samuelis*) in Illinois since 2001. The species is federally listed and there was a discussion about whether its state status could be changed. Individuals might occasionally wander into Illinois even though there isn't a breeding population. Dr. Taron pointed out that the northwestern Indiana population has disappeared. He thought the chances for the species to wander into Illinois have declined substantially in the last 10 years. Mr. Wiker stated that the population of the Eryngium stem borer (*Papaipema eryngii*) has expanded. It wasn't at a location he checked in the 1980s but is there now. Ms. Moorehouse asked if it should remain as threatened and Mr. Wiker said yes. Ms. Moorehouse said that there was a record number of regal fritillaries (*Speyeria idalia*) last year. Last year was good for butterflies, but not for skippers.

Ms. Moorehouse pointed out that the regal fritillary is now considered the western regal fritillary and the scientific name has been changed to *Argynnis idalia occidentalis*. Dr. Dietrich stated that the common name of the redveined prairie leafhopper has been changed to red-tailed prairie leafhopper. Dr. Hofmann told the committee members that they could vote on name changes and present that information to the Board. It would not be necessary to fill out petition forms. Dr. Dietrich made a motion to change the name of the redveined leafhopper, and it was seconded by Mr. Stewart. Mr. Wiker moved to change the name of the regal fritillary and Dr. Dietrich seconded the motion. Both motions were passed unanimously. Dr. Dietrich offered to complete the petition form to remove *Athysanella incongrua* from the Illinois List and Ms. Moorehouse said she would write the petition to remove the Ottoe skipper.

There was a consensus that voting on changes to currently listed species be postponed until the nomination forms were filled out and justifications for the changes could be reviewed. The vote would be taken at a future meeting.

4. Discussion of Potential Additions of Terrestrial Invertebrates to the Illinois List of Endangered and Threatened Species

Ms. Moorehouse had distributed a list of bees that she and Dr. Rericha-Anchor had discussed and wanted the committee to consider as candidates for listing.

Ms. Moorehouse stated that the mining bee *Andrena cragini* is only found in Lee County and Illinois is at the eastern edge of its range. Dr. Rericha-Anchor said it was last seen in Pope County in the early 1800s; there was a specimen in the Illinois Natural History Survey (INHS) collection. She vouchered the species in Lee County this year in a high-quality prairie remnant on its hostplant, indigo bush (*Amorpha fruticosa*).

Ms. Moorehouse read the criteria for listing species in Illinois. She mentioned that *Bombus fraternus* and *B. pensylvanicus* are possible candidates for federal listing. Ms. Chavez asked Dr. Rericha-Anchor for her opinion on those species. She said *B. pensylvanicus* is uncommon in northern Illinois where it occupies high-quality remnant oak woods but more common farther south. *B. fraternus* is locally common in the Fox River Valley in high-quality prairies where it feeds mainly on *Monarda fistulosa*. She hasn't seen it disappear from populations she has monitored.

Returning to the discussion of *Andrena cragini*, Ms. Chase pointed out that it is a specialist. Ms. Moorehouse asked Dr. Rericha-Anchor if she would recommend listing the species as endangered since it is known from only one location. Dr. Rericha-Anchor said she would but has found another population of the host plant in Ogle County at Nachusa Grassland and will sample it this year. The species may occur throughout Nachusa; there are 270 species of bees there.

Dr. Dietrich asked if the petition form was also for the watch list. Ms. Moorehouse said the committee could only make recommendations for adding species to the watch list. Dr. Hofmann pointed out that the committee could make any recommendations about the watch list or survey needs and the Board would pass those to the Department of Natural Resources. The Board does not have a watch list.

Dr. Rericha-Anchor spoke about the eastern scaly miner bee (*Andrena quintilis*). It is an *Amorpha* specialist and Illinois is at the eastern edge of its range. It wasn't seen in Illinois for a very long time until she started collecting bees over the past two decades. The species is common at Nachusa in Lee County and there are historic specimens in the INHS collection from Ogle County. In addition to the plant that provides pollen, it requires sandy soil.

Dr. Rericha-Anchor then talked about Andrews' cellophane bee (*Colletes andrewsi*). It is very rare; many bee experts have never seen a live one. It is a specialist on prairie alumroot (*Heuchera richardsoni*) which only blooms for two weeks. It is found in areas of sandy soil in the Rock River Hill Country (Winnebago, Lee, and Ogle counties) as well as Lake County (Illinois Beach State Park). She pointed out that checking sites to see what plants are present and knowing when pollen sources bloom would be useful for timing monitoring efforts for bees if they are listed.

Ms. Moorehouse said she is familiar with Walsh's anthophora (*Anthophora walshii*). It has a fairly wide range in Illinois and is found in high-quality remnant prairies. She thinks it should be listed as state-threatened.

Ms. Moorehouse then mentioned Baker's nomia (*Dieunomia nevadensis bakeri*). It is found in Mason County and she has seen it at Nachusa. She has also seen it in her yard. Her hometown is across the river from high-quality sand prairies in Missouri. The species is at the very western edge of Illinois and not found very much elsewhere. Dr. Rericha-Anchor pointed out that this is a western species, another one which is at the edge of its range in Illinois. It is extremely selective. It is affiliated with areas that developed on riparian soils such as outwash plains that are sandy as well as remnant prairies.

Ms. Moorehouse pointed out that the American mourning bee (*Melecta pacifica*) is rare in Illinois, but rare everywhere. She has seen one at Garden of the Gods and assumes the species is still there. It occupies a specific habitat. Dr. Rericha-Anchor agreed that it is a very rare species. It could be just in the southern portion of the state.

Ms. Moorehouse said that Norton's nomia (*Nomia nortoni*) is more of a wetland specialist. It is found along the Mississippi River. She has only seen it once. People are seeing it a little more, but it is not common. It may be threatened, not endangered. Ms. Moorehouse then brought up the mining bee *Protandrena bancrofti*. She has seen it in Lee County near the Green River.

Dr. Dietrich asked how many of these species are data-deficient. He wouldn't object to putting all these bees on the watch list. Ms. Moorehouse said that more will be known following Dr. Rericha-Anchor's publication. She has been checking old specimens statewide. There are historic data on bees from Charles Robinson and the Decker publication looked at collections throughout the United States. Also, many people are now studying bees. Dr. Dietrich said that it would be good to go through the process of nominating a lot of these bees if Ms. Moorehouse and Dr. Rericha-Anchor feel it is justified and have data to support petitions. He is supportive of that.

Ms. Moorehouse asked if the Board would be willing to accept a large list of insects. Dr. Hofmann responded that the Board's job is to look at the evidence. If the evidence supports listing, then a species should, in fact, be listed. Ms. Moorehouse said that we should be conservative but attention to insects was overdue. Dr. Hofmann agreed that some people might wonder why the Board was listing so many insects. The focus has been primarily on charismatic species such as birds and mammals and invertebrates have been overlooked to some extent.

Dr. Brosius asked for more information about how the watch list compares to options with more action behind them. She asked if there is active surveying of species on the watch list. Ms. Moorehouse replied that the watch list contains species about which more needs to be known; it has no "teeth." It alerts researchers to species of interest but does not necessarily mean there would be any funding for research. If there is a known decline in a species the next step would be listing it as a Species in Greatest Conservation Need. The list provides direction for Department of Natural Resources (DNR) land managers and others so they can consider those species during management. Ms. Moorehouse had provided the committee members with a list of insect Species of Greatest Conservation Need. She pointed out that some insects have disappeared without ever getting on a list. She said an example was *Bombus variabilis* which was last seen in 1980. Dr. Brosius said there is probably quite a long list of insects that fall into that category. She thought several bees should be placed on the watch list so that researchers would become aware of them. That would contribute to the collection of data. She wondered why there would be a push-back against adding a lot of insects to the watch list.

Dr. Dietrich said that the bees should be placed on the watch list since an assessment of their rarity in Illinois has been done by Ms. Moorehouse and Dr. Rericha-Anchor. Then as more information is obtained, the committee can decide which ones to bump up. Ms. Moorehouse said she would like the Board to pass the committee's recommendation to the DNR. Mr. Wiker said when he goes to a site DNR staff will ask him what species on the watch list might be there. He pointed out the problem that except for butterflies people may not know what an insect on the list

looks like. Ms. Moorehouse said that there are 200 bees, 250 beetles, and almost 200 wasps. We don't know a lot about them, but we think they're rare. Some of them are habitat restricted.

Ms. Chavez asked if the two bumble bees that might be federally listed are on the watch list. Ms. Moorehouse responded that they are Species in Greatest Conservation Need. We know a lot about bumble bees because people are surveying for them everywhere and they are easy to photograph. Both potentially listed species occur in her backyard which is a reconstruction, not a habitat remnant. Ms. Chavez said that *Bombus affinis* also occurs in yards. She asked if there were data indicating that these two species are declining in Illinois. Ms. Moorehouse pointed out that listing *B. affinis* was a federal action and the species is doing fairly well in Illinois. She did not feel that the two proposed bee species should be listed as endangered or threatened in Illinois but should be Species in Greatest Conservation Need.

Ms. Moorehouse asked Dr. Rericha-Anchor for her opinion. She said that there is concern when comparing historic vouchers with contemporary information. Some species occur only in specific regions of Illinois. An example is *Nomia nortoni*. It is uncommon but she would designate it as local rather than rare. If she goes to the right type of habitat she will find it. Also, it has broad floral preferences and is active throughout the growing season. She is proposing to list species that are specialists with a very small window of opportunity to target their floral host. She believes the watch list is important for alerting people to species about which we don't know much.

Ms. Moorehouse asked if Dr. Rericha-Anchor would be able to give a presentation to the Board at one of its meetings. That could help the Board members understand why so many bees are being proposed for listing. Dr. Rericha-Anchor asked when the meeting would be. Dr. Hofmann pointed out that the list revision isn't due until 2025, but whenever petitions are finished they can be submitted to the Board and they will be considered right away. A presentation would be helpful because not all Board members are very familiar with invertebrates. Dr. Rericha-Anchor said she could present information on geographic ranges and the disjunction between vouchers from 100 years ago and the present. Dr. Brosius pointed out that a lot of attention is being paid to bees currently. She suggested taking advantage of this interest to push for listing as many species as possible.

Dr. Dietrich has considered changes of status for 14 species of leafhopper. He expressed his opinion that since *Athysanella incongrua* hasn't been seen for several years, it should be delisted. He said he would write petitions to list six additional leafhopper species (one as state-endangered, five as state-threatened). They are declining and extremely rare. They are not at the edge of their ranges but are endemic to tallgrass prairie and specialists on prairie grasses. Ms. Moorehouse brought up the planthopper *Poblicia fuliginosa*. It is found only on false boneset (*Brickellia eupatoides*) and only known from two hill prairies in Illinois - Fults and Grubb Hollow. It is more common in Oklahoma. The Illinois population is definitely disjunct, the nearest known population being at Kansas City. Ms. Moorehouse would like to write the petition for this species. Dr. Dietrich mentioned *Fitchiella robertsonii* which is found only at Fults Hill Prairie. He believes there is justification for listing both species.

Ms. Moorehouse said she hasn't heard from Catherine Dana about the prairie cicada (*Okananga balli*). She thought Dr. Dana was interested in listing two cicada species. Dr. Dietrich thought that the prairie cicada would be a candidate for listing.

Ms. Moorehouse had a call from Carl Strange in the Chicago area about orthopterans. He suspects that there are species in southern Illinois that should be listed. His research over the past few decades has suggested significant declines in some species, but Ms. Moorehouse thinks more information is needed before discussing possible listing of orthopterans. Input from experts outside Illinois may be useful.

Dr. Taron proposed listing the Aphrodite fritillary (*Argynnis aphrodite*). Two large, formerly stable populations at Ginsburg-Markham and Nachusa have disappeared and he is not aware of recent sightings. Mr. Wiker said he hadn't seen one in a while and it was never very common. Ms. Moorehouse said there are three recent records in iNaturalist so there are some individuals around. Dr. Taron said it seems to be retreating northward. In the 1970s it could be found down by Peoria. Ms. Moorehouse stated that we have a lot of historic data on the species. She pointed out that lepidopterans are impacted by climate change and pesticides more than anything.

Dr. Taron said the long dash skipper (*Polites mystic*) used to show up in a lot of little fens in McHenry County in the 1980s and 1990s. Mr. Wiker stated that he had seen a lot of them in Will County, but he didn't recall seeing any lately. There are three recent records in iNaturalist for the Chicago metro area that are not verified. Dr. Taron isn't convinced that they are correct.

Ms. Moorehouse asked about the purplish copper (*Tharsalea helloides*) which is at the edge of its range. Dr. Taron said it is also a climate change story. It has disappeared from Ohio and is in trouble in Iowa. Mr. Wiker stated that he saw it a lot in Lake County but not for years. Dr. Taron said large populations at Burlington Prairie and the Fermi Accelerator are gone. Unlike the other two species it is necessary to go farther into Wisconsin to find the purplish copper. The Aphrodite fritillary and long dash can be found just north of the state line, but the purplish copper is found only well north of Madison. Dr. Taron said he would write the petition forms for the three species. Mr. Wiker offered to provide data.

Ms. Moorehouse brought up the noctuid moth *Bagisara guinare*. She asked Mr. Wiker if he had found any information on the species. He said he only knew of one specimen in the Illinois State Museum. Ms. Moorehouse said that it was considered a species of high concern in the Midwest at the regional meeting. We don't know much about it. She suggested proposing it as a Species in Greatest Conservation Need.

Mr. Wiker thought the mottled dusky wing (*Erynnis martialis*) was doing alright. Dr. Taron said he had commonly seen it in far southern Indiana near the Ohio River, but he hasn't seen it in Illinois. Mr. Wiker said it used to be relatively common at Sand Ridge. Ms. Moorehouse said it was back at Sand Ridge and Gleason but not in great numbers. She had one in the **Macomb** area where she hadn't seen it in almost 20 years. It is at the same site.

Ms. Moorehouse next brought up the Nevada buckmoth (*Hemileuca nevadensis*) and Leonard's skipper (*Hesperia leonardus*). She said Rob Jean has seen both in Indiana. Mr. Wiker has seen

them in Ford and Iroquois counties. Ms. Moorehouse asked Mr. Wiker if he would write up the petitions for the last three species.

Ms. Moorehouse asked Dr. Brosius if she could work with Ted McRae to write petitions for two beetles that he thinks should be listed – the ant-like tiger beetle (*Cylindera cursitans*) and bumelia borer beetle (*Plinthocoelium suaveolens*). He has found frass from the bumelia borer beetle but hasn't found any adults in Illinois yet. Both are southern species. She thought the tiger beetle is extremely rare, known from only one location in southern Illinois. According to iNaturalist it is found in Kentucky, Tennessee, and Arkansas. The bumelia borer occurs in Texas and Florida, up to Missouri so Illinois is at the edge of its range. Dr. Brosius pointed out that it is a pretty beetle and would be posted on iNaturalist if anybody saw one. Ms. Moorehouse would like to talk to Dr. Heads. There are probably a couple more southern beetles that are rare.

Ms. Moorehouse pointed out that there are no flies listed as Species in Greatest Conservation Need. She would like to have flies on the watch list. She said people are looking at syrphid flies and there are a few that are rare or have records from only one location in Illinois. There's not enough data to say how rare they are. Dr. Dietrich said the problem is that no one is studying flies in Illinois.

5. Approval of Recommendations for Changes or Additions to the Terrestrial invertebrate Section of the Illinois List of Endangered and Threatened Species

The consensus was to vote on recommendations for changes or additions after viewing the nominating petitions. The committee had already voted on name changes for the regal fritillary and redveined leafhopper.

6. Assignment of ESTAC Members to Complete Petition Forms for Recommended Changes or Additions to the Illinois List of Endangered and Threatened Species

Committee members had already volunteered to write petitions (Dr. Dietrich - leafhoppers, Ms. Moorehouse - planthopper, Dr. Rericha-Anchor - bees, Dr. Taron and Mr. Wiker - lepidopterans, Dr. Brosius - beetles). A deadline for completing the petitions was discussed. Most members would like to finish them before their field season starts. The consensus was to have the petitions ready in mid-March.

7. Schedule an Additional Meeting, if Necessary, to Discuss Potential Additions of Terrestrial Invertebrate Species to the Illinois List of Endangered and Threatened Species

The consensus was to arrange a meeting to review and approve the nominations in early April.

8. Other Business

There was discussion about the process of filling out the petition forms and when to submit them. If any petitions are finished early Dr. Hofmann said the Board might be able to consider them at its February meeting. Otherwise, the next meeting would be in May.

9. Adjournment

The meeting was adjourned at 12:34 PM.

Compiled by Joyce Hofmann from a video recording

