



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL**

OFFICE OF THE
SECRETARY

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Secretary's Order No.: 2013-F-0024

**RE: Approving Final Regulations to Amend 7 DE Admin. Code 3900,
Delaware Regulations Governing Wildlife: Sections 2.0 (Method of
Take); 5.0 (Wild Turkeys); 10.0 (Nuisance Game Animals);
14.0 (Falconry); and 16.0 (Endangered Species)**

Date of Issuance: July 17, 2013

Effective Date of the Amendment: August 11, 2013

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") the following findings, reasons and conclusions are entered as an Order of the Secretary in the above-referenced rulemaking proceeding.

Background and Procedural History

This Order considers proposed regulations to amend 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*. The Department's Division of Fish and Wildlife commenced the regulatory development process with Start Action Notice 2012-19. The Department published its initial proposed regulation Amendments in the January 1, 2013 *Delaware Register of Regulations*, and held a public hearing on February 6, 2013.

Delaware's Good Nature depends on you!

The Department is proposing revisions to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, to wit: Section 2.0 (Method of Take); 5.0 (Wild Turkeys); 10.0 (Nuisance Game Animals); 14.0 (Falconry); and 16.0 (Endangered Species) to enable the Department to (1) allow trappers the option of marking their turtle traps with a tag bearing the trapper's name and address, or the current year's trapping license, under Section 3902; (2) establish the minimum age at 13 for taking the mandatory turkey hunting education class, and to clarify what constitutes written authorization from the Division of Fish & Wildlife to hunt turkeys, under Section 3905; (3) require a training and certification program for those persons/businesses that provide nuisance wildlife control services to the public under Section 3910, and to change the name of Section 3910 from "Nuisance Game Animals" to "Nuisance Wildlife"; (4) comply with the changes in federal regulation with regard to Falconry, under Section 3914; and (5) better define the phrase "seriously threatened with extinction", and provide the Division of Fish & Wildlife with the authority to remove species from the State of Delaware's endangered species list, under Section 3916.

The Department has the statutory basis and legal authority to act with regard to the proposed amendments to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, pursuant to 7 Del. C. §§102-103, 7 Del.C. §903(e)(2)(a), and 7 Del. C., Chapter 60. Comment was received by the Department regarding this proposed promulgation, and the same was thoroughly addressed and responded to by the Division of Fish & Wildlife in its final revised Technical Response Memorandum dated July 3, 2013. Proper notice of the hearing was provided as required by law.

The Department's presiding hearing officer, Lisa A. Vest, prepared a Hearing Officer's Report dated July 3, 2013 (Report). The Report recommends certain findings and the adoption of the proposed *revised* Amendments as attached to the Report as Appendix A.

Findings and Discussion

I find that the *revised* proposed Amendments are well-supported by the record developed by the Department, and I adopt the Report to the extent it is consistent with this Order. The Department's experts developed the record and drafted the proposed *revised* Amendments. Throughout the regulatory development process regarding this promulgation, the Department received public comment, as noted in the Report, and the same were fully addressed by Department staff in a thorough and balanced manner, accurately reflecting the information as contained in the public hearing record which was developed in this matter.

I find that the Department's experts in the Division of Fish and Wildlife fully developed the record to support adoption of these *revised* Amendments. With the adoption of this Order, Delaware will (1) allow trappers the option of marking their turtle traps with a tag bearing the trapper's name and address, or the current year's trapping license, under Section 3902; (2) establish the minimum age at 13 for taking the mandatory turkey hunting education class, and to clarify what constitutes written authorization from the Division of Fish & Wildlife to hunt turkeys, under Section 3905; (3) require a training and certification program for those persons/businesses that provide nuisance wildlife control services to the public under Section 3910, and to change the

name of Section 3910 from “Nuisance Game Animals” to “Nuisance Wildlife”; (4) comply with the changes in federal regulation with regard to Falconry, under Section 3914; (5) better define the phrase “seriously threatened with extinction”, and provide the Division of Fish & Wildlife with the authority to remove species from the State of Delaware’s endangered species list, under Section 3916; and (6) provide additional clarifying language to aid in the public’s overall understanding of the existing regulatory language.

In conclusion, the following findings and conclusions are entered:

1.) The Department has jurisdiction under its statutory authority to issue an Order adopting these *revised* proposed Amendments as final;

2.) The Department provided adequate public notice of the proposed Amendments, and provided the public with an adequate opportunity to comment on the same, including at the public hearing held on February 6, 2013;

3.) The Department held a public hearing on February 6, 2013 in order to consider public comment before making any final decision;

4.) The Department’s Hearing Officer’s Report, including its recommended record and the recommended *revised* Amendments as set forth in Appendix A, are adopted to provide additional reasons and findings for this Order;

5.) The recommended *revised* Amendments should be adopted as final regulation Amendments because Delaware will be able to (1) allow trappers the option of marking their turtle traps with a tag bearing the tapper’s name and address, or the current year’s trapping license, under Section 3902; (2) establish the minimum age at 13 for taking the mandatory turkey hunting education class, and to clarify what constitutes

written authorization from the Division of Fish & Wildlife to hunt turkeys, under Section 3905; (3) require a training and certification program for those persons/businesses that provide nuisance wildlife control services to the public under Section 3910, and to change the name of Section 3910 from “Nuisance Game Animals” to “Nuisance Wildlife”; (4) comply with the changes in federal regulation with regard to Falconry, under Section 3914; (5) better define the phrase “seriously threatened with extinction”, and provide the Division of Fish & Wildlife with the authority to remove species from the State of Delaware’s endangered species list, under Section 3916; and lastly, because (6) the amendments are well supported by documents in the record;

6.) The Department shall submit this Order approving the final regulation to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.



Collin P. O'Mara
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable Collin P. O'Mara
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Lisa A. Vest 
Public Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: **Proposed Regulations Amendments to 7 DE Admin. Code 3900, Delaware Regulations Governing Wildlife: Sections 2.0 (Method of Take); 5.0 (Wild Turkeys); 10.0 (Nuisance Game Animals); 14.0 (Falconry); and 16.0 (Endangered Species)**

DATE: July 3, 2013

I. BACKGROUND AND PROCEDURAL HISTORY:

A public hearing was held on Wednesday, February 6, 2013, at 6:00 p.m. at the Department of Natural Resources and Environmental Control ("DNREC", "Department"), 89 Kings Highway, Dover, Delaware to receive comment on proposed amendments ("amendments") to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, to wit: Section 2.0 (Method of Take); 5.0 (Wild Turkeys); 10.0 (Nuisance Game Animals); 14.0 (Falconry); and 16.0 (Endangered Species). The Department is proposing revisions to the current *Delaware Regulations Governing Wildlife* to (1) allow trappers the option of marking their turtle traps with a tag bearing the tapper's name and address, or the current year's trapping license, under Section 3902; (2) establish the minimum age at 13 for taking the mandatory turkey hunting education class, and to clarify what constitutes written authorization from the Division of Fish & Wildlife to hunt turkeys, under Section 3905; (3) require a training and certification program for those persons/businesses that provide nuisance wildlife control services to the public under Section 3910, and to change the name of Section 3910 from "Nuisance Game Animals" to

“Nuisance Wildlife”; (4) comply with the changes in federal regulation with regard to Falconry, under Section 3914; and (5) better define the phrase “seriously threatened with extinction”, and provide the Division of Fish & Wildlife with the authority to remove species from the State of Delaware’s endangered species list, under Section 3916.

The Department has the statutory basis and legal authority to act with regard to the proposed amendments to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, pursuant to 7 Del. C. §§102-103, 7 Del.C. §903(e)(2)(a), and 7 Del. C., Chapter 60.

Comment was received by the Department regarding this proposed promulgation, and the same will be discussed in detail below. Proper notice of the hearing was provided as required by law.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The public hearing record consists of the following documents: (1) a verbatim transcript; (2) fourteen documents introduced at the public hearing held on February 6, 2013, and marked by this Hearing Officer accordingly as Department Exhibits 1-14; (3) written comments from Brenna Goggin and Brian Winslow of the Delaware Nature Society, dated February 6, 2013, and marked accordingly as “DNS Exh. #1”; (4) written comments from Amy Roe, Ph.D., Conservation Chair, Sierra Club (Delaware Chapter) dated February 6, 2013, and marked accordingly as “Sierra Club Exh. #1”; (5) written comments from Hetti Brown, Delaware State Director, The Humane Society, dated February 6, 2013, and marked accordingly as “Humane Society Exh. #1”; and (6) additional public comments received subsequent to the public hearing of February 6, 2013, but prior to the close of the hearing record on March 6, 2013. The Department’s person primarily responsible for the drafting and overall promulgation of these

proposed amendments, Greg Moore, developed the record with the relevant documents in the Department's files.

Following the submission of the Department's exhibits into the record at the hearing held on February 6, 2013, Mr. Moore proceeded to offer a brief summary as to each of the Department's proposed actions in this matter, to provide a greater understanding of the same by those members of the public in attendance that evening.

All of the Department's proposed amendments are contained within 7 DE Admin. Code 3900. The first of these sections is Section 2.0 (Method of Take), concerning snapping turtles. The purpose of the proposed amendments to 3902 is to expand the trap tag marking options for snapping turtle traps by allowing traps to be marked with a tag bearing only the current year's trapping license number. This current regulation requires that traps be tagged with the trapper's name and address. This proposed revision would add the option of also providing, in lieu of the name and address, this year's trapping license number. For many trappers, the trapping license number is the same number each year, so this would simplify the tagging process for trappers to tag their traps and make it much more efficient.

In Section 5.0 (Wild Turkeys), the proposed amendments would change the requirements for mandatory participation in turkey hunter education class. Currently, all hunters who want to hunt turkeys in the State of Delaware have to take and pass an approved DNREC turkey hunting education class. If amended, Section 3905 would exempt hunters under the age of 13 from taking the course. Hunters under the age of 13 would still be allowed to hunt turkeys, but they would need to go with someone at least 21 years of age who has already taken and passed the approved turkey hunter education course. Additionally, this proposed revision would also clarify what constitutes written authorization from the Department's Division of Fish & Wildlife to hunt

wild turkeys in the State of Delaware. For private land, such written authorization would be proof of successful completion of the aforementioned turkey hunting safety class. For public land, authorization would include a permit issued by the aforementioned Division, as well as proof that they had taken and passed the turkey hunter education course.

With regard to Section 10.0 (Nuisance Game Animals), the Department has proposed amendments to existing regulations to require a training and certification program for those persons or businesses that provide nuisance wildlife control services to the public. Currently, the Department's Division of Fish and Wildlife issues permits to various businesses to conduct nuisance wildlife control work on behalf of the State of Delaware. As Delaware's population continues to grow and more human/wildlife interactions occur, it became essential for the Department to ensure that it is providing training for such individuals to whom DNREC is issuing permits, to make sure that said individuals are conducting their business in a professional manner, and are humanely treating the animals with which they are handling. Thus, this proposed Section revision would provide professional training to permitted nuisance wildlife control workers to ensure that the State of Delaware is receiving the best quality of professional performance in the area of nuisance wildlife control. Additionally, the proposed revisions change the title of this particular section from "Nuisance Game Animals" to "Nuisance Wildlife".

In Section 14.0 (Falconry), the Department's amendments are being proposed in order for Delaware to remain in compliance with a new Federal regulation. The major change is that the Federal Falconry permits are going to be eliminated, and only a State permit will be required to practice falconry in any specific state. Thus, this revised regulation represents a modification of the current Delaware regulations concerning the practice of falconry, to include the steps that

Delaware must take to issue permits to govern the take of species that would be allowed to practice falconry. The other proposed changes to existing regulation 3914 relate to the class of falconry, the permit reporting requirements, the transferring/disposing of the raptors, and all of the electronic reporting that will be required given the changes made to Delaware's existing regulation at this time.

The final section containing proposed revisions is 3916 (Endangered Species). In addition to the minor revisions being proposed at this time (for the purposes of clarity and wordsmithing), the major change to Section 16.0 involves providing regulatory language to allow the Department to remove species from the Endangered Species List. Currently, the regulation only allows the Department to add species to the list. With the adoption of this proposed revision, DNREC would also be permitted to remove species from this list as well. The other major action that would be accomplished by this proposed amendment is revised criteria for listing. Based upon the adoption of that revised specific criteria, the Department is also at this time offering an updated list of species that DNREC would like to remove and add to its list.

With regard to the aforementioned species list, the Department is at this time recommending ten name changes that would reflect the correct scientific and common names. Additionally, the Department is offering in this proposed promulgation to remove six (6) species that it believes are no longer in need of special protection, or, have already been afforded special protection by other regulation statutes or Federal statutes. Lastly, the Department is also proposing to add forty-three (43) species that it believes are in need of more immediate attention that could be listed on DNREC's endangered species list.

Following the Department's presentation regarding each of these affected Sections, questions and comments were received from the general public who were in attendance at the public hearing held on February 6, 2013. In each case, the Department took great care to fully respond to the questions raised by the public, providing clarity to the purpose of the amendments at issue and answering questions to further the understanding of those in attendance that evening. In response to requests from those members of the public attending the aforementioned hearing, this Hearing Officer kept the record open for a full thirty (30) days subsequent to the date of the hearing, so that additional time could be given for review of the aforementioned proposed revisions to the Department's Fish and Wildlife Regulations, thus, comments were received and incorporated into the hearing record in this matter through close of business on March 6, 2013.

Following the closing of the hearing record with regard to public comment, the Department's Division of Fish & Wildlife conducted an exhaustive review of each and every comment that had been received, and began to prepare its Technical Response Memorandum ("TRM") regarding said comments for inclusion into the record developed in this matter. In its final revised TRM, dated July 3, 2013, the comments and concerns about this proposed promulgation received by the Department were carefully addressed and grouped by general topic area, and then fully addressed by the Division of Fish & Wildlife. The following discussion will be a summary of the responses contained in the aforementioned TRM.

With regard to Sections 3902 (Method of Take), 3905 (Wild Turkeys), and 3910 (Nuisance Game Animals), the questions and comments received by the public were, in general, either of an operational and/or clarifying nature, and were fully addressed by the Department at the public hearing of February 6, 2013. Thus, the Department recommends the adoption of the proposed changes to these Sections as written.

With regard to Section 3914 (Falconry), the Department initiated its proposed revisions to comply with changes in the federal regulation. As a result, several sections of Delaware's falconry regulation were proposed to be modified to effect this change. Comments were received by the Department concerning these proposed revisions from (1) Andrew Bullen of the North American Falconry Association; and (2) Paul Burns, retired Environmental Control Officer. Mr. Bullen's comments purported that Sections 3914.2.3 and 3914.3 are in conflict, since one section indicates no additional permits are needed, and the other section states that additional permits are needed to trap raptors. Mr. Bullen also disagreed with the Division relative to the need to establish a 12 bird limit to the number of birds of prey taken annually for falconry. The Division disagrees with Mr. Bullen in this matter, noting that the first section is in regard to the authority to conduct falconry in Delaware, whereas the second section is specifically related to capturing birds of prey to practice falconry. The Division, in consultation with environmental partners and regional experts, determined the need to establish a limit on the annual number of raptors taken for falconry at 12, based upon population parameters and dynamics. Thus, the Division dismisses this suggestion and recommends the adoption of the proposed revisions to this regulation as written.

The comments from Mr. Burns offered the following suggestions: (1) revise 3914.2.5 to reflect an indefinite expiration date for a holder of a falconry permit; (2) 3914.3.1 and 3914.3.2 to eliminate the 12 bird annual limit for the capture of birds for practicing falconry and the need to add to the number as recommended by the Director through Advisory Council approval; (3) 3914.3, restricting non-residents from using a kestrel to practice falconry; (4) 3914.3.3 to eliminate the Thursday, Friday, and Saturday requirement to hunt with falcons since the 180 day

rule has been abolished; and (5) to eliminate 3914.3.7 since the use of the term “trespass” is redundant, as trespass is already covered in the statute.

The Division reviewed and considered Mr. Burns’ comments, and offered the following responses to the same at this time. With regard to revising 3914.2.5 as noted above, the Division disagrees with Mr. Burns, and considers a term requirement necessary to police the ranks of falconers and to keep them up to date on new information. Therefore, the Division recommends the adoption of this section of regulatory language as proposed. Relative to the suggested revisions of 3914.3.1, 3914.3.2, and 3914.3 as noted above, the Division again disagrees with Mr. Burns, and believes that, based upon advice received from partners, staff and regional experts, the 12 bird limit is appropriate. However, the Division does agree that 3914.3.1 and 3914.3.2 are somewhat confusing as written, and has revised the proposed language to provide further clarity and understanding of the regulation to the reader. Additionally, the Division also agrees with Mr. Burns concerning 3914.3.5, to wit: the restriction of the use of legally obtained Kestrels for apprentice falconers, and has revised the proposed language accordingly, again, to provide further clarity with regard to that specific matter. Under that same section, at 3914.3.3, the Division again concurs with Mr. Burns with regard to his objection of the requirement to cease hunting if the falconer’s bird takes a non-target species, and thus the Department will withdraw that proposed language at this time. The Division disagrees with Mr. Burns concerning the Thursday, Friday, and Saturday hunting schedule, and recommends retaining this requirement, as proposed, to reduce conflicts with other users while allowing falconers to participate in their sport. Finally, it should be noted that Mr. Burns’ last comment is a federal requirement, and the Division will assist Mr. Burns to meet the reporting requirements for this recreational activity.

The Department's proposed revisions to Section 3916 (Endangered Species) better defines the phrase "seriously threatened with extinction", and provides the Department the authority to remove species from the State of Delaware's Endangered Species list. The Division of Fish & Wildlife received three written/oral comments concerning this matter at the public hearing of February 6, 2013 (as noted previously herein, from the Delaware Nature Society, the Sierra Club, and the Humane Society of the United States), and eight (8) additional written comments subsequent to the hearing (within the 30 days during which the public hearing record remained open for receipt of additional public comment). Those providing comments on the proposed Endangered Species regulatory revisions included: Hetti Brown of the Humane Society; Brenna Goggin of the Delaware Nature Society; Amy Roe of the Sierra Club; Phyllis Rawling; Rhoda Bryan; Cathy Rash of the Delaware Action for Animals; Danielle Van Drew; Boog O'Shea; Denise Deorio; Lorraine Fleming; Christopher Heckscher of Delaware State University; and Matthew Sarver.

All of the comments received by the Department in this matter focused on four main topics: (1) the Department's proposed changes did not go far enough to protect endangered species, as they did not include prohibition of take; (2) the Department's proposed changes did not include measures to protect habitat; (3) the regulation did not include the identification nor protection of endangered plants; and (4) the regulation did not define criteria for de-listing. Other miscellaneous comments concerned the following: the lack of advertisement of advance notice of the public hearing; scientific justification to de-list species; definition of region in the listing criteria; the removal of three bird species; the addition of one reptile; a request for the establishment of a task force to evaluate and develop amendments to the endangered species statute; and, finally, a question about the penalty for violating the endangered species

regulations. Once again, the Division of Fish & Wildlife's TRM did an excellent job of organizing and responding to the comments received on this section. The following discussion will summarize those responses and note the Department's recommended action with regard to the same.

1. Take:

With regard to the public comment received on the subject of take, the Division agrees that the proposed regulatory changes do not cover take of endangered species. Take is a significant issue, and one which needs strengthening to provide adequate legal protection for our declining wildlife resources. Unfortunately, take is not an authority currently provided by Delaware's statute (7 *Del. C.* §601), and therefore cannot be addressed by the Division in a regulatory promulgation. The issue of take will have to be addressed by a future statutory change through the General Assembly.

2. Protection of Habitat:

As with the previous topic, the Division agrees with the commenters that the loss of habitat, specifically, from development, is a significant factor in the protection of endangered species. Land use regulations are under the purview of the legislature and local governments. The Division can acquire habitat, identify critical habitat, and advocate for its protection, but it does not have the authority to regulate protection of habitat as it relates to development. This issue enters the arena of private property rights, and is outside the authority of the Division of Fish & Wildlife and the scope of this present promulgation.

3. Plants:

The Division agrees with the commenters that plants should be included on the State of Delaware's Endangered Species list, and afforded all of the protection encumbered to animals. However, as with the take and habitat protection, plants are not included in our statutory authority, and thus cannot be included in the Division's endangered species regulation.

4. De-Listing Criteria:

The Division considers the process for listing and de-listing to be adequately described in the proposed regulation. The prescribed definition, "seriously threatened with extinction", sets the context from which the criteria were vetted and determined. The criteria should be viewed sequentially and are related. The Division's desire is to establish defensible criteria to allow listing of species that meet the prescribed definition. The ability for a species to colonize or recolonize a territory was deliberated in the use of specific criteria, such as in Sections 3916.2.2.3 or 3916.2.2.4. The Division is making some minor revisions to the proposed verbiage of Section 3916.2.2.4 in order to clarify the criteria. The Division will periodically review the endangered species list to keep the list current according to the expanded criteria described in the regulation. The proposed criteria are: (1) appear on the federal endangered or threatened list, or are candidate species; (2) ranked as globally rare; (3) is rare or declining within the State and rare or declining in the region; (4) is rare in Delaware, and is either disjunct from known distribution and/or near the extreme northern or southern limits of their distribution; or (5) is imminently threatened from natural or human-made factors. Additionally, the Division can take recommendations from the public or from regional experts for adding/de-listing species annually.

Those species who meet one or more of the criteria will be listed. Accordingly, those who do not meet the criteria will be de-listed. The criterion is the same for either process.

Lastly, with regard to the initial language proposed by the Department in Endangered Species section, the Division had proposed to strike the phrase “with intent to sell” from the regulation. However, after closer scrutiny of Delaware’s statute, it was determined that the same phrase was also included in 7 *Del.C.* §601. Since an agency’s regulations cannot supersede state statute, the phrase cannot be stricken from the regulation. Thus, that revision has been withdrawn from this current proposed promulgation by the Department at this time.

5. Additional Individual Concerns Voiced in Public Comment:

As noted above, there were additional concerns set forth in individual public comment received by the Department in this matter. The following is a summary of those comments, along with the Department’s response to the same.

- **Advance Notice for the Public Hearing:** Amy Roe of the Sierra Club voiced concern that the hearing was not properly noticed to allow full participation and comment from the public. As a result, the public comment period remained open for an additional 15 days (30 days in total) to allow for enhanced opportunity for the public to examine and comment (if desired).
- **Definition of “Region” in the Listing Criteria:** Dr. Christopher Heckscher of Delaware State University objected to the removal of “mid-Atlantic coastal plain” and the use of the term “region” in the listing criteria. Additionally, Dr. Heckscher requested that “region” be defined as “mid-Atlantic Coastal Plain or Appalachian mid-Atlantic Piedmont”, to include all of Delaware’s major physiographic provinces. The Division

intentionally avoided defining region so that a “region” may be assessed based on a particular species’ range. The range of some species populations may be confined to a watershed in Delaware, or broadly to states surrounding Delaware. By limiting the criteria to only Delaware’s physiographic provinces, some rare or declining species may be precluded from listing when it is otherwise warranted, based on its limited or broad distribution. The Division believes each species needs to be evaluated based on the most relevant distribution that affects its continued persistence in Delaware.

- **Removal of Brown Creeper (Breeding Population):** Dr. Heckscher opposes the removal of the Brown Creeper on the premise that it is rare and declining in both Delaware and on the Delmarva Peninsula, and that creepers nesting on the Peninsula represent a disjunct population. This species experienced a range expansion in the last century, and the best available data do not confirm that this species was ever a regular component of Delaware’s breeding avifauna. Rather, only a few scattered reports of this species nesting in Delaware have ever been documented. The Division believes that the breeding behavior of this species in the state has been and will continue to be casual. The Department has little nest record data to support a persistent population with large gaps between years when this species has been found during the breeding period. The Division believes that, in order for this species to be considered rare or declining, it must first have an established current or historical population, based on the best available data. Therefore, the Division does not believe it is at serious risk of extinction, because no established population has even been confirmed.

- **Removal of Northern Parula:** Dr. Heckscher objects to the removal of the Northern Parula, on the premise that the species is rare in Delaware and rare on the mid-Atlantic coastal plain. The Division respectfully disagrees, and believes that this species is secure in Delaware, noting an increase in the species breeding distribution within the state, including the coastal plain region. Therefore, the Division believes that this species would not fit criterion 3916.2.2. Fitting no other criteria, this species does not meet the requirements for listing and should be removed.
- **Removal of Loggerhead Shrike:** Dr. Heckscher objects to the removal of the Loggerhead Shrike, unless Delaware is prepared to declare that the species is extirpated as a breeding species by way of a public meeting or press release with associated supporting documentation. The Division uses the best available data to determine rarity, including state rank based on Natural Heritage methodology. However, the use of state rank is not explicitly identified as the only means to determine rarity. The current best available data (summarized in the attached supporting documentation contained within Appendix “A”) is sufficient to determine that this species is now casual to accidental in the state. Accordingly, the Loggerhead Shrike cannot be rare or declining where it does not occur, and would not defensibly fit any criterion for listing.
- **Addition of Eastern Scarlet Snake:** Dr. Heckscher observes that the Eastern Scarlet Snake and the Loggerhead Shrike share similar histories and, if the snake is added to the list, then the aforementioned Shrike should also be retained. Alternatively, he opposes the listing of the snake if the shrike is de-listed under the premise that listing should be consistent across taxa. The Division agrees with Dr. Heckscher that these two species do

share a similar history of observed presence in the state; however, we respectfully disagree that the species are similar in any other way. To determine presence, observations, or lack thereof, must be recorded. With regard to the Eastern Scarlet Snake, this species is fossorial and very difficult to survey, whereas the shrike is an easily detectable species if it is present. Therefore, the Division believes that the best available data for the Eastern Scarlet Snake do not adequately determine if the species no longer occurs in Delaware given its overall rarity in the region, and the species should be considered for listing.

- **Task Force:** Amy Roe of the Sierra Club requested that the Department assemble a task force to review and modify the existing endangered species statute. While the Division concurs that this is a good idea, it does not come under the scope of the proposed revisions that are the subject of this current action.
- **Penalty for Violation of the Endangered Species Regulation:** Amy Roe of the Sierra Club questioned the absence of a penalty for the endangered species regulation. Penalties are established by statute. In regard to wildlife regulations, *7 Del.C. §1304* and *7 Del.C. §103(e)* define the penalty for violation of this regulation. In this case, the penalty would be a Class D misdemeanor. Any change in the penalty class would require a statutory change, which is outside the authority and scope of this current regulatory promulgation.

For the Secretary's review, and in order for the Secretary to gain a thorough understanding of this proposed promulgation, a copy of the above-referenced proposed *revised* amendments, along with additional supporting documentation entitled *Delaware's State Endangered Species Regulation List Revisions February 2013*, are attached hereto as Appendix "A", and the same are expressly incorporated into this Hearing Officer's Report. It should be noted that the Department adhered to all appropriate Delaware statutes and the regulatory development process in this matter, and that the Department has met the required public notice obligations regarding these proposed amendments. It should also be noted that the Department has reviewed this proposed promulgation in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

Based on the record developed, I find and conclude that the Department has provided appropriate reasoning regarding the need for the proposed *revised* amendments to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, as noted above. Accordingly, I recommend promulgation of these proposed amendments in the customary manner provided by law.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. Proper notice of the hearing was provided as required by law.
2. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;
3. The Department provided adequate public notice of all proceedings in a manner required by the law and regulations;

4. The Department held its public hearing in a manner required by the law and regulations;
5. The Department considered all timely and relevant public comments in making its determination;
6. Promulgation of the proposed *revised* regulatory amendments to 7 DE Admin. Code 3900, *Delaware Regulations Governing Wildlife*, will (1) allow trappers the option of marking their turtle traps with a tag bearing the trapper's name and address, or the current year's trapping license, under Section 3902; (2) establish the minimum age at 13 for taking the mandatory turkey hunting education class, and to clarify what constitutes written authorization from the Division of Fish & Wildlife to hunt turkeys, under Section 3905; (3) require a training and certification program for those persons/businesses that provide nuisance wildlife control services to the public under Section 3910, and to change the name of Section 3910 from "Nuisance Game Animals" to "Nuisance Wildlife"; (4) comply with the changes in federal regulation with regard to Falconry, under Section 3914; and (5) better define the phrase "seriously threatened with extinction", and provide the Division of Fish & Wildlife with the authority to remove species from the State of Delaware's endangered species list, under Section 3916;
7. The Department has reviewed these proposed *revised* regulatory amendments in the light of the Regulatory Flexibility Act, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally;

8. The Department's aforementioned proposed *revised* regulatory amendments concerning *Delaware Regulations Governing Wildlife*, as published in the January 1, 2013 *Delaware Register of Regulations* and as set forth in Appendix "A" hereto, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as final regulatory amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and
9. The Department shall submit the proposed *revised* regulation amendments as final amendments to the *Delaware Register of Regulations* for publication in its next available issue, and shall provide such other notice as the law and regulations require, and as the Department determines is appropriate .



LISA A. VEST
Public Hearing Officer

APPENDIX “A”

Recommended Regulatory Changes

7 De. Admin Code 3900 Wildlife Regulations

April 30, 2013

3902.9 Snapping Turtle

3902.9.2 Each trap shall be marked with a metallic tag bearing the trapper's name and address or current year's trapping license number. The tag shall be attached to the trap in a manner that allows it to remain visible, at all times.

3905.0 Wild Turkeys

3905.2 Instruction Requirement.

3905.2.1 It shall be unlawful for any person 13 years of age or older to hunt wild turkeys in Delaware before passing a Division approved course of instruction in turkey hunting. In addition to official Delaware Division of Fish and Wildlife sponsored courses, official NRA Wild Turkey Hunting Clinics, official NWF Turkey Hunting Courses and out-of-state Turkey Hunting Courses (minimum of 4 hours) officially sponsored and sanctioned by other state or provincial Hunter Education Programs shall be recognized as being Division approved courses of instruction in turkey hunting. This includes Division approved internet courses.

3905.2.1.1 Youth hunters under the age of 13 must be accompanied by an adult 21 years of age or older who has had a Division approved course of instruction in turkey hunting. The adult must have a valid hunting license or license exempt number (LEN).

3905.4 Season and Limit.

3905.4.1 The Division may establish a season for hunting bearded wild turkeys. The Division will determine the season length and bag limit. Except for persons 12 years of age or younger, it shall be unlawful for any person to hunt wild turkey without the written authorization of the Division in their possession. Proof of course completion referenced in 5.2 of this section shall serve as written authorization for private land hunters. Public

land hunters must have both an annual permit from the Division as well as proof of course completion in their possession while turkey hunting.

3910.0 Nuisance Wildlife

(Penalty Section 7 Del.C. §103(d))

3910.1 Incorporated Cities or Towns. Within the limits of residential or commercial areas of incorporated cities or towns, or within residential or commercial structures, the following game animals may be controlled (killed) without a permit when they are causing damage: gray squirrel, raccoon and opossum. Methods used to control said animals must be consistent with the laws of this State and the regulations of the Department and only live traps may be used (without a depredation permit) outside of established trapping seasons.

3910.2 Commercial Nuisance Wildlife Control Operators. The Division may certify and permit commercial nuisance wildlife control operators resolve human/wildlife conflicts.

3910.2.1 Certification. To be permitted, all operators must complete and satisfactorily pass a nuisance wildlife control certification program designated by the Division. The certification will be for the owner/operator or proprietor of the business. Re-certification must occur every five years. Once permitted, the operator will be responsible for training all users under their permit. Operators must abide by all Division policies and notify potential clients of their fees. Failure to follow Division policies may result in the revocation of the Nuisance Wildlife Control Operator permit.

3914.0 Falconry

(Penalty Section 7 Del.C. §103(d))

3914.1 Federal Regulations Adopted.

It shall be unlawful for any person to practice the sport of falconry, except in such a manner as prescribed by regulations promulgated under provisions of 50 CFR (Code of Federal Regulations) §§ 21.29 and 21.30. The Federal regulations are hereby made part of the regulations of the Department as prescribed in § 725 of Title 7. Notwithstanding the foregoing, the federal regulations governing falconry shall be superseded by more stringent restrictions prescribed by law or regulation of the Department.

3914.2 Permits.

3914.2.1 A resident wishing to practice falconry shall apply to the Division for a falconry permit. To be issued a falconry permit, the person shall successfully pass a written test and have their facilities and equipment inspected by Division staff or an appointed Master Falconer to ensure that they meet the standards as prescribed by the federal regulations.

3914.2.2 A nonresident falconer who possesses a valid falconry permit issued by any other state listed in 50CFR21.29 may possess, import, export, or transport migratory birds of the orders Accipitriformes, Falconiformes, and/or Strigiformes held under the authority of such a permit in Delaware.

3914.2.3 No additional falconry permit shall be required for a non-resident falconry permit holder to practice falconry in Delaware.

3914.2.4 Falconers who take up residence in Delaware shall have 60 days to obtain a Delaware falconry permit. During this interim period, a current falconry permit issued by the previous state of residence shall be recognized for the purposes of legally practicing falconry in Delaware.

3914.2.5 Falconry permits shall be effective, unless revoked, for a period of up to three years and coincide with the license period for the hunting license.

3914.3 Taking of Raptors.

3914.3.1 It shall be unlawful for any person to take any birds of prey from the wild without a permit from the Division. Each capture permit will be limited to the taking of one bird of prey.

3914.3.2 In 2012, and each year thereafter until changed, the Division may allow the taking of a total of 12 birds of prey from the wild in Delaware. Upon request, the Director shall propose a revised annual limit on the number of raptors which may be taken from the wild and shall appear before the Council on Wildlife and Freshwater Fish to receive input on such limit before its revision or adoption.

3914.3.3 Falconers may possess wild caught raptors identified as state threatened or endangered under Regulation 16.0 and §602 of Title 7, provided they were acquired in Delaware prior to the species being listed, or if they were acquired from a state in which their take was legal.

3914.3.4 The taking of eyas(nestling) birds shall be limited to red-tailed hawks and great horned owls on Thursdays, Fridays and Saturdays from February 1 through July 15. No more than three (3) eyas red-tailed hawks or three (3) nestling great horned owls, or any combination thereof, may be taken during this period each year. Nonresident falconers may apply for available permits to take eyas raptors, provided the

state in which the nonresident resides allows Delaware residents the reciprocal opportunity to remove eyas raptors.

3914.3.5 Apprentices may only possess wild caught red-tailed hawks, red shouldered hawks and wild captured American kestrels legally obtained from another state. Apprentices may not possess captive reared birds or hybrids.

3914.3.6 The season for the taking of passage birds shall be from August 15 through March 31. Raptors in adult plumage must be released immediately at the site of capture. Nonresident falconers may apply to obtain any available permits to take passage raptors in Delaware, provided the state in which the nonresident resides has a reciprocal arrangement that permits Delaware residents to take passage raptors.

3914.3.57. It shall be unlawful to remove raptors from private property without the express consent of the landowner. It shall also be unlawful for any person to remove raptors from State parks, State forests, State wildlife areas, State owned wetland mitigation sites, national wildlife refuges, nature preserves, natural areas, and county or local parks without written approval of the agency administering the property. The permit to remove a raptor from the wild must be in possession of the falconer when attempting to capture a raptor. Apprentice falconers must be under the direct supervision of the Apprentice's sponsor or a Master or General class falconer when removing raptors from the wild.

3914.4 Hunting.

3914.4.1 Resident and nonresident falconers shall be properly licensed to hunt game in the State of Delaware as described under Chapter 5 of Title 7.

3914.4.2 Falconry shall be a legal method of take for all game birds and game animals in Delaware. The hunting season for resident game shall be from September 1 through February 28.

3914.4.3 A falconer whose raptor accidentally kills wildlife during a closed season for such wildlife shall leave the dead wildlife where it lies, except the raptor may feed upon the wildlife before leaving the site of the kill, provided that the wildlife shall not be reduced to possession by the falconer. The falconer shall cease hunting with the raptor that makes the accidental kill for the remainder of the day.

3914.5 Transition period. These regulations shall take effect on January 1, 2014. Until that time, falconers shall abide by regulation 3914 as it existed on January 1, 2013. On and after January 1, 2014, all permitted falconers shall comply with these new regulations as they appear here.

3 DE Reg. 289 (8/1/99)

3 DE Reg. 1738 (6/1/00)

6 DE Reg. 536 (10/1/02)

3 DE Reg. 289 (8/1/99)

3916.0 Endangered Species.

(Penalty Section 7 Del.C. §103(d))

3916.1 Importation, Transportation and Possession.

3916.1.1 Pursuant to §601 of Title 7, the importation, transportation, possession or sale of any endangered species of fish or wildlife, or hides or other parts thereof, or the sale or possession with intent to sell any article made in whole or in part from the skin, hide or other parts of endangered species of fish or wildlife is prohibited, except under license or permit from the Division.

3916.2 Designation and Removal from Designation of Species by Division.

3916.2.1 Pursuant to §601 of Title 7, the Division may designate species of fish and wildlife that are seriously threatened with extinction as endangered species. The Division may also remove the designation of endangered from species of fish and wildlife that are no longer seriously threatened with extinction, including species as suggested by the public with sufficient documentation.

3916.2.2 For the purposes of this section, the phrase "seriously threatened with extinction" shall mean that the species satisfies one or more of the following criteria:

3916.2.2.1 Appears on the federal list of endangered, threatened, or candidate species; or

3916.2.2.2 Ranked as "globally rare" (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide; or

3916.2.2.3 Is rare or declining within the State and rare or declining in the region; or

3916.2.2.4 Is rare in Delaware and is either disjunct from known distribution and/or near the extreme northern or southern limits of distribution; or

3916.2.2.5 Is imminently threatened by natural or human-made factors that are affecting continued survival of that species within the State.

3916.2.3 Based upon the criteria prescribed by subsection 16.2.2 of this section, the following species are declared endangered in this State and are afforded the protection provided by § 601 of Title 7:

Amphibians

Salamander, Eastern Mud (*Pseudotriton montanus montanus*)

Salamander, Eastern Tiger (*Ambystoma tigrinum tigrinum*)

Treefrog, Barking (*Hyla gratiosa*)

Birds

Grebe, Pied-billed^{BR} (*Podilymbus podiceps*)

Harrier, Northern^{BR} (*Circus cyaneus*)

Hawk, Broad-winged^{BR} (*Buteo platypterus*)

Heron, Black-Crowned Night- (*Nycticorax nycticorax*)

Heron, Yellow-Crowned Night- (*Nyctanassa violacea*)

Kestrel, American (*Falco sparverius*)

Knot, Red (*Calidris canutus*)

Plover, Piping (*Charadrius melodus*)

Owl, Short-eared^{BR} (*Asio flammeus*)

Oystercatcher, American (*Haematopus palliatus*)

Rail, Black (*Laterallus jamaicensis*)

Sandpiper, Upland (*Bartramia longicauda*)

Skimmer, Black (*Rynchops niger*)

Sparrow, Henslow's (*Ammodramus henslowii*)

Tern, Common^{BR} (*Sterna hirundo*)

Tern, Forster's^{BR} (*Sterna forsteri*)

Tern, Least (*Sterna antillarum*)

Warbler, Cerulean (*Setophaga cerulea*)

Warbler, Hooded ^{BR} (*Setophaga citrina*)

Warbler, Swainson's (*Limnothlypis swainsonii*)

Wren, Sedge (*Cistothorus platensis*)

^{BR} Breeding population only

Fish

Darter, Glassy (*Etheostoma vitreum*)

Sculpin, Blueridge (*Cottus caeruleomentum*)

Shiner, Bridled (*Notropis bifrenatus*)

Shiner, Ironcolor (*Notropis chalybaeus*)

Sturgeon, Atlantic (*Acipenser oxyrinchus*)

Sturgeon, Shortnose (*Acipenser brevirostrum*)

Sunfish, Blackbanded (*Enneacanthus chaetodon*)

Insects

Beetle, Little White Tiger (*Cicindela lepida*)

Beetle, White Tiger (*Cicindela dorsalis*)

Beetle, Seth Forest Scavenger (*Hydrochus sp. spangleri*)

Bluet, Burgundy (*Enallagma dubium*)

Bluet, Pale (*Enallagma pallidum*)

Checkerspot, Baltimore (*Euphydryas phaeton*)

Clubtail, Banner (*Gomphus apomyius*)

Clubtail, Laura's (*Stylurus laurae*)

Clubtail, Midland (*Gomphus fraternus*)
Clubtail, Sable (*Gomphus rogersi*)
Darner, Black-tipped (*Aeshna tuberculifera*)
Darner, Taper-tailed (*Gomphaeschna antelope*)
Dash, Black (*Euphyes conspicua*)
Elfin, Frosted (*Incisalia irus*)
Emerald, Treetop (*Somatochlora provocans*)
Firefly, Bethany Beach (*Photuris bethaniensis*)
Hairstreak, Hessel's (*Mitoura hesseli*)
Hairstreak, King's (*Satyrium kingi*)
Moth, Aralia Shoot Borer (*Papaipema araliae*)
Moth, Dark Stoneroot Borer (*Papaipema duplicatus*)
Moth, Maritime Sunflower Borer (*Papaipema maritima*)
Moth, Pitcher Plant Borer (*Papaipema appassionata*)
Moth, Yellow Stoneroot Borer (*Papaipema astuta*)
Skimmer, Elfin (*Nannothemis bella*)
Skipper, Rare (*Problema bulenta*)
Spiketail, Brown (*Cordulegaster bilineata*)
Sundragon, Sely's (*Helocordulia selysii*)
Underwing, Marbled (*Catocala marmorata*)
Underwing, Ulalume (*Catocala ulalume*)
Wing, Mulberry (*Poanes massasoit massasoit*)
Wing, Chermock's_Mulberry (*Poanes massasoit chermocki*)

Mammals

Bat, Little Brown (*Myotis lucifugus*)

Bat, Northern Long-eared (*Myotis septentrionalis*)

Squirrel, Delmarva Fox (*Sciurus niger cinereus*)

Whale, Blue (*Balaenoptera musculus*)

Whale, Fin (*Balaenoptera physalus*)

Whale, Humpback (*Megaptera novaengliae*)

Whale, North Atlantic Right (*Eubalaena glacialis*)

Whale, Sei (*Balaenoptera borealis*)

Whale, Sperm (*Physeter macrocephalus*)

Mollusks

Lampmussel, Yellow (*Lampsilis cariosa*)

Lampmussel, Eastern (*Lampsilis radiata*)

Wedgemussel, Dwarf (*Alasmidonta heterodon*)

Pondmussel, Eastern (*Ligumia nasuta*)

Floater, Brook (*Alasmidonta varicosa*)

Floater, Triangle (*Alasmidonta undulata*)

Mucket, Tidewater (*Leptodea ochracea*)

Reptiles

Turtle, Leatherback (*Dermochelys coriacea*)

Turtle, Kemp's Ridley (*Lepidochelys kempii*)

Turtle, Green (*Chelonia mydas*)

Turtle, Loggerhead (*Caretta caretta*)

Turtle, Bog (*Clemmys muhlenbergii*)

Snake, Corn (*Elaphe guttata guttata*)

Snake, Eastern Scarlet (*Cemophora coccinea*)

Watersnake, Redbelly (*Nerodia erythrog*

Delaware's State Endangered Species Regulation List Revisions February 2013

Summary: The Delaware Division of Fish and Wildlife proposes the following changes to the list of Delaware's Endangered Species. We propose to amend five (5) scientific names and five (5) common names. We propose to remove six (6) species from the list of endangered species, both birds. Lastly, we propose to add forty-three (43) species to the list of endangered species for Delaware, including eight (8) mammals, three (3) birds, two (2) reptiles, one (1) amphibian, six (6) fish, one (1) freshwater mussel, and twenty-two (22) insects.

PROPOSED SCIENTIFIC NAME CHANGE(S)

We are proposing to amend five (5) scientific names. The following scientific name changes for the warblers listed below result from published name changes for several bird species by the American Ornithologists' Union¹ and applied by NatureServe². The proposed scientific name change for the Seth Forest Scavenger Beetle updates the name following the description of the species in Steiner, et. al. (2003)³. Reptile scientific name changes follow Collin and Taggart (2009).⁴

Common Name	Current scientific name in regulation that needs to be updated:	Proposed scientific name change:
Cerulean Warbler	<i>Dendroica cerulea</i>	<i>Setophaga cerulea</i>
Hooded Warbler	<i>Wilsonia citrina</i>	<i>Setophaga citrina</i>
Seth Forest Scavenger Beetle	<i>Hydrochus sp.</i>	<i>Hydrochus spangleri</i>
Corn Snake	<i>Elaphe guttata guttata</i>	<i>Pantherophis guttatus</i>
Bog Turtle	<i>Clemmys muhlenbergii</i>	<i>Glyptemys muhlenbergii</i>

PROPOSED COMMON NAME CHANGE(S)

We are proposing to amend five (5) common names for four (4) marine turtles, one (1) snake, and one (1) globally rare beetle.

We propose to change the name of one marine turtle to reflect the current usage by National Marine Fisheries Service ("Atlantic Ridley" to "Kemp's Ridley"). The common name for one snake, following Collins and Taggart (2009) is amended to reflect current usage. In addition, we include the name of one beetle for amendment. The globally rare firefly *Photuris bethaniensis*, should have "Beach" added to its common name in the regulation to follow the original description of the species.

¹ Chesser, R. Terry, Richard C. Banks, F. Keith Barker, Carla Cicero, Jon L. Dunn, Andrew W. Kratter, Irby J. Lovette, Pamela C. Rasmussen, J. V. Remsen, James D. Rising, Douglas F. Stotz, Kevin Winker. 2011. Fifty-second supplement to the American Ornithologists' Union Check-List of North American Birds. *Auk* 128(3):600-613.

² <http://www.natureserve.org/>

³ Steiner, W. E., C. L. Stains, J. M. McCann, and J. L. Hellman. 2003. The Seth Forest water scavenger beetle, a new species of *Hydrochus* (Coleoptera: Hydrophiloidea: Hydrochidae) from the Chesapeake-Delmarva region. *Coleopterists Bulletin* 57: 433-443.

⁴ Collins J.T. and T.W. Taggart. 2009. Standard Common and Current Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians. http://www.cnah.org/pdf_files/1246.pdf

Scientific Name (no change)	Current name in regulation that needs to be updated:	Proposed name change:
<i>Lepidochelys kempii</i>	Atlantic Ridley Sea Turtle	Kemp's Ridley Turtle
<i>Pantherophis guttatus</i>	Corn Snake	Red Cornsnake
<i>Photuris bethaniensis</i>	Bethany Firefly	Bethany Beach Firefly

Further, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) have joint jurisdiction over sea turtles - NMFS when turtles are in water, USFWS when turtles are on land. The common names are listed differently by each agency (see below); however, we propose that Delaware follow the NMFS common names because the largest percentage of the turtle populations that are thought to occur in Delaware are in water with the exception of strandings and rare nesting events.

Current Regulation Common Name:	NMFS listed Common Name ***Preferred***	USFWS listed common name:
Atlantic Ridley Sea Turtle	Kemp's Ridley Turtle	Kemp's Ridley Sea Turtle
Leatherback Sea Turtle	Leatherback Turtle	Leatherback Sea Turtle
Green Sea Turtle	Green Turtle	Green Sea Turtle
Loggerhead Sea Turtle	Loggerhead Turtle	Loggerhead Sea Turtle

PROPOSED FOR DELISTING

We are proposing to delist six (6) species, all birds: Brown Creeper, Bald Eagle, Cooper's Hawk, Northern Parula, Loggerhead Shrike, and Red-headed Woodpecker.

Brown Creeper (*Certhia americana*)

The Brown Creeper is a small, migratory songbird that is relatively common during the winter months in Delaware. Although this species annually occurs in the State during winter, it is a very rare nesting species with few records of breeding and only a single confirmed nest in recent decades. This species is slowly expanding southward and nests in all surrounding states, but not on the Delmarva Peninsula. The current Delaware Breeding Bird Atlas (2008-2012), did not record a single nest, although summering birds were detected. Maryland's most recent atlas did not confirm nesting of this species any place on the Eastern Shore. A summary of the status and distribution of this species in the Delmarva region is provided in Hess, et. al. (2000) where the authors indicate that this species may have occurred here historically but there were no Delaware records to confirm that suspicion at that time. Given the data provided in the summary, the Delmarva Peninsula is on the edge of the species' breeding range and this species may become a more casual to frequent breeder in Delaware through fluctuations in the regional population.

Using the current criteria for listing, this species would fulfill the requirements to be listed as endangered. However, under the proposed criteria, this species fits a single criterion based on its breeding range. At this time, the species appears secure within its typical breeding range and may only be nesting in Delaware on a rare or casual basis. Given its historically weak breeding distribution on the Delmarva Peninsula, we propose to remove this species from the Delaware list of endangered species.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **Yes, as a breeding species.**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **NO**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO, breeds to north and south; mostly absent from the Delmarva Peninsula.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Bald Eagle (*Haliaeetus leucocephalus*)

The Bald Eagle has made a tremendous comeback since being listed as a federally and state endangered species. In the past 25 year period (1987-2012) the species has increased in distribution by 775%, going from four nesting territories in the early 1980’s to 74 in 2012. Each year, new eagle nesting territories are discovered and the species appears to be evolving a greater tolerance for landscape level changes. However, there are still threats that this species faces including habitat loss in suitable nesting areas and poisoning. Although we intend to delist the Bald Eagle from the state list of Endangered Species, these birds will still receive federal protection under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The Bald Eagle has recently been delisted in Maryland and downgraded to threatened status in New Jersey. Under Delaware’s Natural Heritage Ranking criteria, this species would be considered S3B, indicating that it may still be vulnerable, but no longer rare.

Delisting the Bald Eagle represents the success of conservation efforts for this species in Delaware during the past three decades. Under our current listing criteria, the Bald Eagle would not be considered an endangered species.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **NO**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **NO**

4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Cooper's Hawk (*Accipiter cooperii*)

Cooper's Hawks have experienced a broad increase in distribution in Delaware. During the first Breeding Bird Atlas, the species was recorded with Confirmed or Probable breeding evidence in only six atlas blocks. It was detected in a total of 13 blocks. During four years of data collection for the second atlas, the species has been confirmed nesting in 19 atlas blocks, with an additional eight blocks with Probable breeding evidence. A total of 72 blocks report evidence of nesting, indicating a great increase in the state's population. This represents a 453% increase in the species' breeding distribution in Delaware. Between 1983-1987, the state's population was estimated at 10-20 pairs. Today, the total likely exceeds 50 pairs. Under Delaware's Natural Heritage Ranking criteria, this species would be considered S3B, indicating that it may still be vulnerable, but no longer rare if only Confirmed and Probable records are considered as evidence. Under our current listing criteria, the Bald Eagle would not be considered an endangered species.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **NO**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as "globally rare" (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **NO**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Northern Parula (*Setophaga [formerly Parula] americana*)

The Northern Parula has historically had a broad but erratic distribution in Delaware, primarily found in wooded floodplains and stream valleys or wooded swamps (Hess et. al. 200). The largest portion of its breeding range in the state occurs within the Piedmont region of northern New Castle County. Current atlas data confirm breeding only within that region with other records of possible or probable breeding scattered throughout the state. Recent atlas data from Maryland also show a similar pattern with the population occurring most strongly in the northern and western part of the state with scattered records on the Eastern Shore. In comparison to previous atlas data from both states, the distribution of this species has changed little over the past 25 years indicating its occurrence on the Delmarva Peninsula is on the eastern edge of its breeding range. In Delaware, occurrences of this

species detected during the second breeding bird atlas suggest it has increased its range by a small amount.

Utilizing the current criteria, the Northern Parula would fit only a single criterion – rare on the Mid-Atlantic Coastal Plain. Examining this species under the proposed criteria, it is near the eastern edge of its breeding range, but is secure to the west where this species is more expected. This species does not fit any other criterion in the proposed changes and its scattered distribution across the state appears secure. Therefore, we propose to remove this species from the state list of endangered species.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **YES, as a breeding species.**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **NO**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO, breeds to north and south; mostly absent from the Delmarva Peninsula.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Loggerhead Shrike (*Lanius ludovicianus*)

This species has historically been very rare in Delaware, with less than 10 historical breeding records. This species likely expanded north and east from its historical breeding range with the clearing of forestlands. However, today this species is nearly extirpated from the Northeast and has contracted its range. More frequently observed during winter months, even those records have become quite scarce and this species is not expected to occur in Delaware on an annual basis. At best, the Loggerhead Shrike is now an accidental or casual visitor to the state. The nearest breeding records for this species have occurred in extreme western Maryland near the Pennsylvania border and Delaware is now well outside its expected breeding range.

Under the current listing criteria, this species would only fit the third criterion as a species that is rare on the Mid-Atlantic Coastal Plain. Under the proposed criteria, the Loggerhead Shrike would fulfill the third and fourth criterion. However, we need to consider that this species should now be considered accidental, much like other bird species which occur here infrequently and not on an annual basis. These other species are not considered endangered because their occurrence is random and does not indicate that Delaware supports the species at a population level in the region (such as Painted Bunting or Mississippi Kite). Given the infrequency of occurrence for this species at any time of year, we

propose to remove it from the state list of endangered species. If, in the future, the Loggerhead Shrike begins to occur in Delaware more regularly, we may consider it again for listing.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **YES**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **YES, probably extirpated.**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES, but unlikely to occur in Delaware with regularity**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Red-headed Woodpecker (*Melanerpes erythrocephalus*)

Historically, the Red-headed Woodpecker has never been a very common bird in Delaware. During the first Delaware Breeding Bird Atlas (1983-1987), the species was confirmed in seven atlas blocks with 12 additional blocks that had some evidence of nesting, but no confirmed nests. At that time, the population was concentrated around Milton and Georgetown. Since that time, the population has grown considerably. This species still occupies some of the same area, but has also expanded westward and southward, occupying most of the State Forest lands in Sussex County all the way to the DE/MD border in the Great Cypress Swamp. The species has also taken up residence across the entire western edge of the Inland Bays, benefitting from snags along the intergrade zone between the marsh and uplands. Following the five year period for the second atlas, there are approximately twenty confirmed breeding occurrences in addition fourteen additional sites with some nesting evidence. Although the Natural Heritage rank for this species has not yet been updated, under those criteria, the species would most likely be upgraded from an S1 rank (extremely rare) to an S3 rank.

Current forestry practices are very beneficial to this species. Snags and potential nest trees are often left standing, providing ample breeding sites for this woodpecker. The habitat in many of these areas remains suitable for several years following a harvest. Continued timber harvest in Sussex County will likely continue to benefit this species for the next several decades. Under the current and proposed criteria for listing, this species would not be acceptable as an endangered species at this time. However, given that the population is not widespread, a future assessment may determine a trend reversal and Red-headed Woodpeckers may be considered for relisting at that time.

Current regulation listing criteria:

1. Is it federally threatened or endangered? **NO**
2. Is it globally rare (G1, G2, or G3)? **NO**
3. Is it rare in the Mid-Atlantic Coastal Plain? **NO, >21 occurrences in the State.**

Proposed regulation listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **NO, species population has increased.**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO, currently benefitting in several locations due to human made factors (forestry).**

PROPOSED FOR LISTING

We are proposing to list 42 species including eight (8) mammals, three (3) birds, two (2) reptiles, one (1) amphibian, six (6) fish, one (1) freshwater mussel, and twenty-one (21) insects:

Mammals:

North Atlantic Right Whale
Fin Whale
Humpback Whale
Sei Whale
Blue Whale
Sperm Whale
Northern Long-eared Bat
Little Brown Bat

Birds:

American Kestrel
Broad-winged Hawk
Red Knot

Reptiles:

Eastern Scarlet Snake
Redbelly Watersnake

Amphibian:

Eastern Mud Salamander

Fish:

Shortnose Sturgeon
Glassy Darter
Blueridge Sculpin
Blackbanded Sunfish
Bridle Shiner

Ironcolor Shiner

Freshwater mussel:

Triangle Floater

Insects:

Burgundy Bluet
Pale Bluet
Banner Clubtail
Laura's Clubtail
Midland Clubtail
Sable Clubtail
Black-tipped Darner
Taper-tailed Darner
Black Dash
Treetop Emerald
Elfin Skimmer
Brown Spiketail
Sely's Sundragon
Baltimore Checkerspot
Mulberry Wing
Aralia Shoot Borer Moth
Dark Stoneroot Borer Moth
Maritime Sunflower Borer Moth
Pitcher Plant Borer Moth
Yellow Stoneroot Borer Moth
Marbled Underwing
Ulalume Underwing

Mammals (8 species)

Whales (6 species)

The 6 federally listed whale species described below occur along the Atlantic Coast of the US and are all state listed in surrounding states (NY, NJ, MD, VA). NJ applied the 'Delphi Process' to assess and determine the status of the state's marine mammals in 2007 by soliciting expert input from government employees and others in the scientific community. Some of the information below was derived from that process. Threats to large whale species include: vessel strikes, oil spills, entanglement in fishing gear, offshore oil and gas exploration, naval exercises, contaminants, industrial noise, and wind energy development.

1) North Atlantic Right Whale (*Eubalaena glacialis*)

This species is the most critically endangered marine mammal in the North Atlantic. They migrate within coastal waters between calving grounds in the southeast to feeding grounds off of New England. Spring migrants include mother-calf pairs which are the most vulnerable component of the population. There is evidence that North Atlantic Right Whales historically occurred in Delaware waters prior to population declines caused by exploitation. Although occurrence in Delaware waters is quite rare, occasional sightings along the Atlantic coast do occur, most recently a mother-calf pair was sighted off the coast of Bethany Beach in 2007. In 1994 a juvenile swam several miles up the Delaware River reaching Philadelphia before turning around and leaving the river system. "Due to a lack of sightings, current distribution and migration patterns of the eastern North Atlantic right whale population are unknown" (from

http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_northatlantic.htm).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as "globally rare" (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G1**
3. Is rare or declining within the State and rare and declining in the region– **Yes for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES**

2) Fin Whale (*Balaenoptera physalus*)

This species occurs in Delaware waters as evidenced by documented sightings and anecdotal information. Most recently (last few years) several fin whales were sighted in the Indian River Inlet and along the coast just off Rehoboth. Additionally, although not well documented, mid-Atlantic waters may be a critical migration and/or feeding habitat.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as "globally rare" (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3/G4**

3. Is rare or declining within the State and rare and declining in the region– **Yes for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Unknown-not enough state data**

3) Humpback Whale (*Megaptera novaengliae*)

This species migrates between high latitude feeding areas (summer) and low latitude calving areas (winter) and passes through Delaware’s coastal waters during this migratory period. The presence of this species in Delaware coastal waters is well documented with occurrence on a nearly annual basis. Sightings have also occurred within the mouth of Delaware Bay. According to NMFS, although this species appears to be increasing in abundance, its overall population numbers remain below the threshold for recovery.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3**
3. Is rare or declining within the State and rare and declining in the region– **Yes for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Unknown-not enough state data**

4) Sei Whale (*Balaenoptera borealis*)

This species is generally pelagic but occurs off the coast of Delaware and therefore could occur within state waters. Anecdotal sightings (not confirmed) have been reported in both Delaware and New Jersey state waters. Distribution and migratory patterns are not well known for this species. Current status of the population is unknown and there is not enough information to estimate a time line for recovery.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3/G4**
3. Is rare or declining within the State and rare and declining in the region– **largely unknown for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Unknown-not enough state data**

5) Blue Whale (*Balaenoptera musculus*)

This species begins migrating towards high latitudes in the spring to feed on the abundance of zooplankton that occurs in the summer. Return migration to subtropical areas begins in the fall. This

species is often found in coastal waters, but generally thought to be pelagic. Given their coastal migratory behavior, occurrence in Delaware state waters is possible. Very little is currently known about the occurrence and distribution of this species in the Atlantic. There have been dead strandings along the US Coast including New Jersey. According to the most recent NMFS stock assessment, there is insufficient data to determine population trends for this species.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3/G4**
3. Is rare or declining within the State and rare and declining in the region– **largely unknown for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Unknown-not enough state data**

6) Sperm Whale (*Physeter macrocephalus*)

Historically this species was the target of a Delaware commercial whaling industry. While it is unlikely a Sperm whale would occur in state waters as they are highly pelagic, in the spring the center of distribution for this species is in the region east of Delaware and Virginia (NMFS). The last known reported stranding of a sperm whale (dead) in Delaware was in 1978 and necropsy results revealed a distended uterus, indicating the whale had recently given birth. The population levels throughout the range of this species are largely unknown.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3/G4**
3. Is rare or declining within the State and rare and declining in the region– **largely unknown for the region, Unknown for the state-not enough state data**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Unknown-not enough state data**

Bats (2 species)

The two bat species below being proposed for state listing (the little brown bat and northern long-eared bat) are becoming increasingly rare in the mid-Atlantic coastal plain and beyond. Although some states have acted quickly and updated the species status and/or have enacted laws to protect the remaining populations, many states have not changed statuses or laws yet.

Vermont listed both species in 2011, Pennsylvania is currently in the process of listing *Myotis lucifugus* (little brown bats), *Myotis septentrionalis* (northern long-eared) and *Perimyotis subflavus* (tri-colored bats). New York is planning on listing all cave bats except *Eptesicus fuscus* (big brown bats). Although Heritage statuses have not been updated in most cases, data collected by mid-Atlantic states and beyond show a very clear trend of rapid decline for both little brown bats and northern long-eared

bats. Examples of latest data (presented at the Northeast Bat Working Group Meeting in January 2012; <http://www.nebwg.org/AnnualMeetings/2012/PDF/Day1/StateReportsMASTER.pdf>) include:

- NJ summer bat counts (emergence count surveys) at little brown bat sites showed 86% decline from baseline counts in 2009.
- NY hibernacula counts demonstrated a 91% decline in little brown bats and a 97% decline in northern long-eared bats (from pre-WNS to 2012).
- Similar numbers were documented in PA. At one site in western PA, they counted 2079 little brown bats and 2 long-eared bats in 2010 and only 35 little brown bats and 0 long-eared bats in 2011.
- Maryland started seeing WNS-impacted bats in 2010 and has counted less live bats and more dead bats each year. Five of the 6 mines they visited in 2011 had bats with visible fungus.
- In VA, little brown bats have decreased by almost 70%. The trend for northern long-eared bats in VA is less clear.

Bat populations in the northeastern United States have been heavily impacted by a disease known as White Nose Syndrome (WNS), a fungal disease that infects bats during the winter in caves and mines. The current estimate of bat mortality in the US and Canada due to WNS ranges from 5.7 to 6.7 million bats. The species most heavily impacted by the disease appear to be little brown bats (*Myotis lucifugus*) but all the other cave-dwelling species in the northeast are also declining. Here in Delaware, where there are no caves or mines adequate for large colonies of overwintering bats, we only see some of the cave bat species in the summer when they use human structures such as barns, old buildings and attics for raising their young. Other cave bat species found in Delaware are more likely to summer in woodlands or on rocky terrain.

¹Over the past couple years (since monitoring began in Delaware in 2009) precipitous declines in summer colonies of little brown bats have been documented. Despite a concerted effort to locate colonies via public reporting, acoustic surveys, working with the rabies lab, SPCA and nuisance wildlife control companies, only two structures have been found in Delaware that have supported little brown bats. Declines in number of bats present were documented at both sites from 2009-2011. One site had a high count of 289 in 2009 and a high count of only 33 in 2012 (87.5% decline). The other site was an old building that was demolished a year after it was discovered. The high early season count (before pups are able to fly) in 2010 was 65 and in 2011, before the house came down, the high count was 28 bats.

7) Northern Long-eared Bat (*Myotis septentrionalis*)

Federal Status: Have been determined as “warranted for listing” under the federal ESA and are currently undergoing a status review.

DE = Listed as SU (status unknown). Prior to targeted surveys in 2012, there was only one record from Delaware (from 1970s on White Clay Creek) and 3 males captured just over the state line in PA on White Clay Creek in 2010. In 2012 at least two northern long-eared bats were found hibernating in Fort Delaware. One of them was dead and tested positive for WNS using histopathology. One hibernating bat was found in 2012 at Fort DuPont and it was in the vicinity of a dead little brown that tested positive for WNS using histopathology. Netting surveys at nine sites from northern New Castle County and Sussex County in spring/summer 2012 documented small numbers of northern long-eared bats at only two locations in the state (both in northern New Castle County).

NJ = Plan to list as endangered; process underway but will take a few months

VA = They are concerned but do not plan to list

MD = Discussing listing but will collect more data first

PA = Heritage Rank of S1. Have proposed for listing.

NY = Plan to list as state endangered. Are updating their ES list for first time in 10 years and expect the process to take a while (at least a couple years).

NOTE: Vermont and Wisconsin have already listed as endangered due to declines resulting from WNS (in Vermont's case) and expected declines (in Wisconsin's case).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO but has been determined as “warranted for listing” under the federal ESA and is currently undergoing a status review.**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare or declining in the region– **YES, due to WNS**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES; WNS**

8) Little Brown Bat (*Myotis lucifugus*)

Federal Status: The USFWS is conducting a status review.

Heritage Status: Listed as S5 in all states (except PA; which updated to S1) but all the northeastern and mid-Atlantic states will change this status soon.

DE = See ¹ in paragraphs above. One little brown bat was found in bunker at Fort DuPont in March 2012. It was dead and depredated. It tested positive for WNS using histopathology.

PA = listed as S1 to reflect status since WNS. Other states still list as S5 but have not updated their heritage status.

NJ = Plan to list as endangered; process underway but will take a few months.

VA = They are concerned but do not plan to list at this time.

MD = Discussing listing but will collect more data first.

PA = Heritage Rank of S1. Have proposed for listing.

NY = Plan to list as state endangered. Are updating their list for first time in 10 years and expect the process to take a while (at least a couple years).

VT = Recently added to their state endangered species list.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**

3. Is rare or declining within the State and rare or declining in the region– **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES**

Birds (3 species)

1) American Kestrel (*Falco sparverius*)

Following the first Delaware Breeding Bird Atlas, the state-wide population of American Kestrels (AMKE) was estimated at 200-500 pair. The species was detected with some breeding evidence in 156 atlas blocks (70% of all blocks surveyed). It was a confirmed breeding species in 42 blocks. The current atlas effort is in its fifth year. To date AMKE have been detected with some breeding evidence in only 42 blocks, the same number of blocks in which the species was confirmed in the first atlas. This species has been confirmed in only 8 blocks. Current data suggest that this species now occupies less than 25% of its former distribution in Delaware. We do not anticipate any significant increase in detections during the fifth atlas year. Once a relatively common nesting bird in Delaware, at the current rate of decline this species will be in danger of extirpation.

In the Northeast and Mid-Atlantic, Breeding Bird Survey data indicate that this species is declining at a rate of 4% annually in the last 10-year period, nearly 5% annually over the past 50 years. Farmer and Smith (2009)⁵ examined multiple data sources including hawk watch data and BBS route data, and found that the species is rapidly declining in the Northeast. However, there are currently no supported hypotheses that identify the cause or causes of this decline.

The species has been listed as Threatened in New Jersey. In other surrounding states, the species is not being considered for listing at this time. However, most of these states have larger populations of this species. Here in Delaware, despite installation of nest boxes in suitable habitat, the species does not appear to be exhibiting a positive response. Highly detectable because of its foraging preferences along roadsides and open country, we do not believe that birds are being missed during BBA survey work.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **YES, nearly rare with steep declines.**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES, but threat unknown.**

⁵ Farmer, C.J. and J.P. Smith. 2009. Migration Monitoring Indicates Widespread Declines of American Kestrels (*Falco sparverius*) in North America. *Journal of Raptor Research* 43(4): 263-273.

2) Broad-winged Hawk (*Buteo platypterus*)

Never a common species in Delaware, Broad-winged hawks have become very rare. Once found within the Piedmont Region of Delaware, the current Breeding Bird Atlas has produced very few records of this species during the nesting season. Comparatively, during the first atlas (1983-1987) this species was found in 16 atlas blocks and, of them, confirmed in only six blocks. After four years of data collection since 2008, this species has yet to be confirmed as a nesting species in Delaware during the current Breeding Bird Atlas. Only a single block has any evidence of nesting, represented by a pair of adults discovered in 2011. If no other observations are made in 2012, this species will have reduced its distribution in Delaware by 94%.

A species of mature hardwood forests or mature mixed hardwood-coniferous forests, habitat loss and competition with other conspecific birds may be leading up to the extirpation of these birds as part of our nesting avifauna. During fall migration, thousands of Broad-winged Hawks pass through Delaware from the North, studies conducted at Hawk Mountain Sanctuary in Pennsylvania suggest that the eastern population has been declining in recent years.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare and declining in the region– **YES on Delmarva Coastal Plain.**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES, DCP/Piedmont are edges of range on Delmarva**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **UNKNOWN, but probably habitat loss.**

3) Red Knot (*Calidris canutus*)

- Substantial decline in population of approximately 80% since mid-1990's
- Candidate Species under USFWS ESA
- Listed as Endangered in Canada
- Listed as threatened in NJ
- Lack of recovery despite improving conditions in DE Bay. Substantial threats elsewhere including Arctic conditions, red tide in S. America, hunting, and lack of knowledge of juvenile survival and little recruitment.
- Meets new criteria: “1 or more” – Yes; “2 or more” – Yes

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **YES**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES**
3. Is rare or declining within the State and rare or declining in the region – **Yes**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **NO**

5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Reptiles (2 Species)

1) Eastern Scarlet Snake (*Cemophora coccinea*)

According to Reptiles and Amphibians of Delmarva (White and White 2002⁶), this species is extremely rare on Delmarva; only 6 confirmed records.

NJ = Not ranked

DE and DC = SH (possibly extirpated); only one record in DE from 1963

VA = S4 (apparently secure)

MD = S3 (vulnerable)

PA = not present

Northeast Partners in Amphibian and Reptile Conservation (NEPARC) lists as a species of regional conservation responsibility at a high level with greater than 75% of the NE states listing them in their WAP (but with less than 50% of the range in the NE US).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare or declining in the region– **YES; it is rare in Delaware (only 1 record and that was from 1963). Also rare in the region; Jim White’s book says only 6 confirmed records on Delmarva.**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

2) Redbelly Watersnake (*Nerodia erythrogaster erthrogaster*)

- According to White and White 2006: rare on coastal plain, absent from Piedmont. Needs more survey work. Via email, Jim White agreed that this species should be added to Delaware’s endangered species list.
- Not rated in Natureserve but is an S2S3 in Maryland (found only in lower 2 counties and on the state’s “watch list”). Snakes of the US and Canada⁷ lists their populations as severely reduced.
- **NEPARC:** Didn’t rank high because it only occurs in 2 northeastern states; Delaware is northern reaches of its range.

⁶ White, J. and A. White. 2002. Amphibians and Reptiles of Delmarva. Tidewater Publishers. ISBN: 087033543X. 288 pgs.

⁷ Ernst, C.H. and E.M. Ernst. 2003. Snakes of the United States and Canada. Smithsonian Books. Washington and London. ISBN 1-58834-019-8. 668 pgs.

- **Snakes of the US and Canada** (Carl Ernst ⁷): The Delmarva Peninsula is northern most reach of range. White's book has Sussex County as most northern location.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare or declining in the region: **YES** but not much regional information available; it is rare in Delaware (Only two Delaware records; one of which is from 1953). Jim White's book lists as *rare on Coastal Plain and absent from Piedmont* but needs more survey work. Not rated in Natureserve but is an S2S3 in Maryland (found only in lower 2 counties and on the state's “watch list”). Snakes of the US and Canada (Carl Ernst ⁷) lists their populations as severely reduced.
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES. The two DE records make up the northernmost extent of its range.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Amphibians (1 species)

1) Eastern Mud Salamander (*Pseudotriton montanus montanus*)

- NJ = Listed as threatened (only two sightings of the species in the state despite targeted surveys in southern NJ where the most recent sighting occurred).
- DE = S1 (critically imperiled). Only six Delaware records; four of which were prior to 1956.
- VA = S5 (secure)
- MD = S2 (imperiled but being considered for state listing). In Maryland study in 2006, *P. m. montanus* was only documented at 2 of 46 sites surveyed with only 1 extant location on the eastern shore. It is currently “under review” for possible listing in Maryland.
- PA = S1 (critically imperiled)
- According to White and White (2002); extremely rare on Delmarva. Most records in the last 45 years come from Potomac and Nanticoke Watersheds.
- Nathan Nazdrowicz conducted a limited study in 2007 to determine current distribution but did not find any salamanders during this effort (pers. comm.). However, Nathan documented a new location in Sussex County and confirmed an older record from Phillips Landing.
- **NEPARC** lists as a species of severe concern in the northeast with greater than 75% of the NE states listing them in their Wildlife Action Plans (but with less than 50% of the range in the NE US).

- **COMMENTS:** Mud salamanders are secretive. They spend most of their time burrowed in mud or under natural or human-made objects, making surveys difficult. However, the lack of records for this species even when targeted surveys are conducted (as has been the case in both Maryland and, to a more limited extent, in Delaware) along with the status in nearby states and their vulnerability to both water pollution and development pressures, make this an at-risk species.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare or declining in the region– **YES; it is rare in Delaware (Only six Delaware records; four of which were prior to 1956). Also rare in the region; New Jersey lists as threatened despite targeted surveys, Pennsylvania lists as S1, it is an S2 in Maryland where it is being considered for addition to the endangered species list. Maryland study in 2006, *P. m. montanus* was only documented at two of 46 sites surveyed with only 1 extant location on the eastern shore. White⁶ lists as *extremely rare on Delmarva*. Most records in the last 45 years come from Potomac and Nanticoke Watersheds**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

Fish (6 species)

1) Shortnose Sturgeon (*Acipenser brevirostrum*)

This species was federally listed as endangered throughout its range on March 11, 1967 due initially to commercial exploitation of Atlantic sturgeon and resulting incidental capture of shortnose. In addition, dam construction in the past resulted in a substantial loss of habitat. It is also state listed by all states along the US east coast where it occurs. Threats to this species continue from fisheries by-catch, water pollution, discharge, dredging, development of shoreline wetlands, mudflats and marshes and vessel strikes. Although spawning sites are believed to be upriver of Delaware, research from gill-net sampling and telemetry data in the late 1990s indicated that juveniles occur in the Wilmington to Marcus Hook reach of the lower tidal river year-round and may expand their range both up and down the river in winter. The region of the lower tidal river that can be utilized by juveniles in summer may be bounded by higher salinities below Wilmington and lower dissolved oxygen concentrations in the Philadelphia. Specific areas within Delaware that support juveniles—such as foraging, summering, wintering areas—are currently being investigated by a 3 year multi-state project titled “Sturgeons in the mid-Atlantic region: a multi-state collaboration of research and conservation. The DFW research objectives focus on early stage juvenile habitat and movements in the Delaware Estuary. Partner objectives also include a hydroacoustic assessment of Atlantic and shortnose sturgeon habitat requirements in the Delaware River Estuary and development of remote sensed spatial models for

sturgeon in the mid-Atlantic region. This occurrence information are being combined with additional environmental and GIS data to map to predict critical habitat both spatially and temporally.

Proposed listing criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **Yes-Endangered**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **Yes-G3**
3. Is rare or declining within the State and rare and declining in the region– **Yes**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES**

2) Glassy Darter (*Etheostoma vitreum*):

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
 3. Is rare or declining within the State and rare or declining in the region– **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- Only one occurrence in DE
 - S1 in MD and S4 in VA
 - Meets new criteria: “1 or more” – Yes; “2 or more” – Yes

3) Blueridge Sculpin (*Cottus caeruleomentum*)

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **G4**
 3. Is rare or declining within the State and rare or declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- Only one occurrence in DE
 - Limited habitat availability in DE – Cold, spring-fed, coastal plain streams with cobble/pebble substrate.
 - Meets new criteria: “1 or more” – Yes; “2 or more” – Yes

4) Blackbanded Sunfish (*Enneacanthus chaetodon*)

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
 3. Is rare or declining within the State and rare or declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **YES (collecting pressure)**
- Substantial loss of occurrence in DE and MD. No populations left in MD.
 - S1 in MD and VA, SX in PA, S3 in NJ (stronghold in the pinelands).
 - Substantial regional declines
 - Substantial threats including collection and decline in water quality.
 - Meets new criteria: “1 or more” – Yes; “2 or more” – Yes

5) Bridle Shiner (*Notropis bifrenatus*)

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES**
 3. Is rare or declining within the State and rare or declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- Not detected in any of the known locations where it occurred 20 years ago. Possibly extirpated.
 - SH in MD, S1 in PA, S2 in VA, S3 in NJ.
 - Substantial regional declines
 - AFS watchlist
 - Meets new criteria: “1 or more” – Yes; “2 or more” - Yes

6) Ironcolor Shiner (*Notropis chalybaeus*)

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
3. Is rare or declining within the State and rare or declining in the region – **YES**

4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- Not detected in recent surveys. Possibly extirpated.
 - S1 in NJ, PA, and MD. S3 in VA.
 - AFS watchlist
 - Meets new criteria: “1 or more” – Yes; “2 or more” - Yes

Freshwater Mussels (1 species)

1) Triangle Floater (*Alasimdongta undulata*)

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO**
 3. Is rare or declining within the State and rare or declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution - **NO**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- Considered SH until a cast shell was discovered.
 - S1 in MD, S2 in NJ, S3 in PA and VA
 - Meets new criteria: “1 or more” – Yes; “2 or more” - Yes

Insects (22 Species)

To examine insects for proposed listing, we first identified all state rare insect species currently ranked S1 (fewer than five known occurrences – very rare) and S2 (fewer than 20 known occurrences – rare). This list was provided to subject matter experts for opinions on the status of each of these species. Following their suggestions, species recommended for listing then had the proposed criteria applied to determine if listing is warranted. Only those species that met the proposed listing criteria are considered here.

1) Burgundy Bluet (*Enallagama dubium*)

This damsel species is a pond-breeding odonate. This species is rare in Delaware with five or fewer known occurrences in state (ranked S1), and also rare in Maryland as an S1 species. This species does not occur in Pennsylvania or New Jersey and reaches its northern limit of its distribution in Delaware.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G5)**
 3. Is rare or declining within the State and rare and declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S1, VA – S3, PA – SNR, NJ – SNR**
 - Endangered Status in adjacent states: **NONE**

2) Pale Bluet (*Enallagma pallidum*)

This damselfly species is a pond-breeding odonate. Much like the Burgundy Bluet, it also reaches the northern limit of its distribution in Delaware and Maryland. This species is considered very rare (State Rank S1) in Delaware, Maryland, and Virginia and is not known to occur in Pennsylvania or New Jersey.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
 3. Is rare or declining within the State and rare and declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES (southern limit)**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S1, VA – S1, PA – SNR, NJ – SNR**
 - Endangered Status in adjacent states: **NONE**

3) Banner Clubtail (*Gomphus apomyius*)

This dragonfly species utilizes riverine habitats, breeding in creeks and medium rivers. Currently state-listed as THREATENED in New Jersey, it is ranked as very rare in Delaware (S1). There are little data from Maryland and the species is believed to be extirpated from Virginia. It is not known to occur in Pennsylvania. This species reaches its northern limit in New Jersey and Delaware. In addition, given its status in Virginia, any populations of this species in Delaware and New Jersey would be disjunct from the remainder of its population which extends from the Carolinas, Tennessee, and Georgia. This species is also considered globally vulnerable to apparently secure (G3G4).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES (disjunct, northern limit)**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: MD – SNR, VA – SH, PA – SNR, NJ – S3
- Endangered Status in adjacent states: **Threatened in NJ**

4) **Laura’s Clubtail (*Stylurus laurae*)**

This dragonfly species inhabits riverine systems, particularly creeks with sand-mud bottoms. Despite that Delaware supports suitable habitat for this species, its current status is unknown. Populations in Maryland and Virginia are small and the species is considered rare in those states (S2). This species would reach its northern limit in Delaware and Maryland.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES (northern limit)**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- DE State Rank: SNR
- Ranks in adjacent states: MD – S2, VA – S2, PA – SNR, NJ – SNR
- Endangered Status in adjacent states: NONE

5) **Midland Clubtail (*Gomphus fraternus*)**

This dragonfly species is a riverine inhabitant and is very rare in Delaware (S1). In addition, this species is considered rare (S2) in Maryland, Virginia, and Pennsylvania and vulnerable (S3) in New Jersey. Given its rarity in adjacent states and in Delaware, this species is vulnerable to extirpation from Delaware and the region.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G5)**
3. Is rare or declining within the State and rare and declining in the region – **YES**

4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO, but at eastern limit.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
 - **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S2, VA – S2, PA – S2S3, NJ – S3**
 - Endangered Status in adjacent states: NONE

6) Sable Clubtail (*Gomphus rogersi*)

This dragonfly species is a river-breeding odonate. This species very rare (S1) in Delaware, Maryland and Pennsylvania and is considered vulnerable (S3) in Virginia and Pennsylvania. In Delaware, it is only known from New Castle County. Extirpation of this species in Delaware, Maryland, and Pennsylvania would create a disjunct population in New Jersey.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO, but extirpation would create a regionally disjunct population.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
 - **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S1, VA – S3, PA – S1, NJ – S3**
 - Endangered Status in adjacent states: NONE

7) Black-tipped Darner (*Aeshna tuberculifera*)

This dragonfly species is a pond-breeding odonate. In Delaware, it is known only from New Castle County, where it reaches its southern limit of distribution on the Delmarva Peninsula, and is considered very rare (S1). Maryland, Pennsylvania, and Virginia consider this species to be rare (S2) to vulnerable (S3) and its status is unknown in New Jersey.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES, on Delmarva Peninsula**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: **MD – S2, VA – S2S3, PA – S2S3, NJ – SNR**
- Endangered Status in adjacent states: NONE

8) Taper-tailed Darner (*Gomphaeshna antilope*)

This dragonfly species is a pond-breeding odonate. It is considered very rare in Delaware (S1) and rare in Maryland (S2). In Virginia, this species is considered vulnerable (S3). Historical data indicate that this species once occurred in Pennsylvania and its status is unknown in New Jersey. It reaches the northern limit of its distribution in Delaware and Maryland.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- DE State Rank: S1
- Ranks in adjacent states: MD – S2, VA – S3, PA – SH, NJ – SNR
- Endangered Status in adjacent states: NONE

9) Treetop Emerald (*Somatochlora provocans*)

This pond-breeding dragonfly species utilizes forested ponds and boggy seepages. It is considered very rare (S1) in Delaware and Maryland and rare (S2) in Virginia. Delaware and Maryland represent the northern most reaches of its distribution and it is not known to occur in Pennsylvania or New Jersey. This species is listed as ENDANGERED in Maryland.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- DE State Rank: S1
- Ranks in adjacent states: MD – S1, VA – S2, PA – SNR, NJ – SNR
- Endangered Status in adjacent states: Endangered in MD

10) Elfin Skimmer (*Nannothemis bella*)

This small dragonfly utilizes pond habitats for breeding. Unlike the distribution of other odonates, this species is very rare (S1) in the center of its known distribution including Maryland, Virginia, Delaware and Pennsylvania. Its status is unknown in New Jersey. Based on its rarity in the Mid-Atlantic region, this species occupies both a northern and southern limit to its distribution, dividing what may become two separate regional populations. Throughout its entire range, it is only considered apparently secure (S4) in Ontario and New Brunswick, Canada and Maine in the United States. This species is listed as ENDANGERED in Maryland.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
 - **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S1, VA – S1, PA – S1, NJ – SNR**
 - Endangered Status in adjacent states: **Endangered in MD**

11) Brown Spiketail (*Cordulegaster bilineata*)

This pond-breeding odonate reaches its northern distribution limit in New Castle County, Delaware which also represents the only county in Delaware in which it occurs in a single watershed. This species is ranked as very rare (S1) in Delaware and Maryland and very rare to rare (S1S2) in Pennsylvania.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G5)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
 - **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S2, VA – S4, PA – S1S2, NJ – SNR**
 - Endangered Status in adjacent states: **NONE**

12) **Sely's Sundragon (*Helocordulia selysii*)**

This species may already be extirpated from Delaware although suitable habitat (sandy streams) do exist within the state. Last recorded from Kent County, this species is also considered rare (S2) in Maryland, occurring in only three counties in that state. It is also ranked as S2 in Virginia (rare). If this species is still present in Delaware, its population would represent to extreme northern most limit of its distribution.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
 3. Is rare or declining within the State and rare and declining in the region – **YES**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- **DE State Rank: SH**
 - Ranks in adjacent states: **MD – S2, VA – S2S3, PA – SNR, NJ – SNR**
 - Endangered Status in adjacent states: NONE

13) **Baltimore Checkerspot (*Euphydryas phaeton*)**

This very rare butterfly is ranked S1 in Delaware. Regional data suggest that this species is experiencing marked declines over the past 15 years, along with the Mulberry Wing and Black Dash. The Baltimore Checkerspot, once a common element of wet meadows in Maryland in June from the Piedmont west, is down to only 8 existing colonies or metapopulations statewide now, and is in low numbers in all but one of these.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
 2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
 3. Is rare or declining within the State and rare and declining in the region – **YES, populations in MD declining.**
 4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
 5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**
- **DE State Rank: S1**
 - Ranks in adjacent states: **MD – S3, VA – S4, PA – S3, NJ – S4**
 - Endangered Status in adjacent states: NONE

14) **Black Dash (*Euphyes conspicua*)**

This species of skipper is only known from New Castle County, Delaware. It primarily occurs in palustrine habitats such as bogs/fens, forested, shrub-scrub and herbaceous wetlands and riparian areas. It prefers almost any open kind of, shrubby or partially wooded (red maple) wetland or part thereof at least co-dominated by the sedges *Carex stricta*, but does not occur in deep shade. Although apparently secure in Maryland, this species is ranked S1S3 in Virginia indicating it is very rare to vulnerable there. It is also considered vulnerable in Pennsylvania. This species reaches its southern limit of its distribution on the Delmarva Peninsula in New Castle County. This species was not located in any of its multiple historical MD Piedmont locations in the past two years (although it still survives well in one MD county - Garrett, at the mountainous west end of the state).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **Yes, on Delmarva.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: MD – S4, VA – **S1S3**, PA – S3, NJ – S4
- Endangered Status in adjacent states: NONE

15) **Mulberry Wing (*Poanes massasoit massasoit*)**

A species of skipper, the Mulberry Wing occupies habitats similar to the Black Dash. This species is very rare (S1) in Delaware and is confined to New Castle County. Not to be confused with the Chermock’s Mulberry Wing (a globally rare subspecies), the nominate subspecies identified here is also considered rare (S2) in Pennsylvania. New Castle County represents the southern-most limit to its distribution on the Delmarva Peninsula. The Mulberry Wing (nominate subspecies), which only occurs in the Piedmont in Maryland, is down to sparse numbers in the few existing colonies there.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES, on Delmarva.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: MD – S4, VA – SNR, PA – **S2**, NJ – S4
- Endangered Status in adjacent states: NONE

16) Aralia Shoot Borer Moth (*Papaipema araliae*)

This small moth historically occurred in Delaware and adequate habitat and host plant availability suggest that it may still be present. Its global range is represented by “apparently two disjunct, limited areas: the Delmarva Peninsula and south through coastal Virginia to eastern North Carolina; also central Tennessee, western Kentucky and southern Illinois⁷.” In Virginia, this species is considered rare (S2), but no information is available from Maryland. This species is globally-ranked as G3, indicating that its global status is vulnerable.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: SH**
- Ranks in adjacent states: MD – SNR, VA – S2, PA – SNR, NJ – SNR
- Endangered Status in adjacent states: NONE

17) Dark Stoneroot Borer Moth (*Papaipema duplicatus*)

Much like the Aralia Shoot Borer Moth, this moth may already be extirpated from Delaware. According to NatureServe (2013), it is “known from the vicinity of New York City across northern New Jersey through eastern Pennsylvania and northern Delaware to Kentucky, and in the mountains of Virginia and North Carolina. There have been few or no records north of Virginia since 1971 except for Quinter's 1980 site which was since destroyed by deer. There may be a gap in the range between northern Delaware and the mountains. The stronghold of this species seems to be the Appalachians, an area quite undercollected for moths until about the 1990s.” Also possibly extirpated from New Jersey, this species is considered rare in Virginia. Further, it is ranked as G3, indicating that its global population is vulnerable.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**

⁷NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: February 04, 2013).

5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: SH**
- Ranks in adjacent states: MD – SNR, VA – S2, PA – SNR, NJ – SH
- Endangered Status in adjacent states: NONE

18) Maritime Sunflower Borer Moth (*Papaipema maritima*)

This borer moth is also very rare in Delaware (S1) and is ranked very rare in New Jersey. Data from NatureServe (2013)⁸ indicate that its “core range was the prairie region of the central US from Ohio to Wisconsin and south to Mississippi. It is not known from all states within this range, and the current range may be smaller. There was also a disjunct distribution along the Atlantic seaboard from Guilford, Connecticut to Cape May, New Jersey, including Delaware Bay, when the foodplant was much more common.” The status of this disjunct population in Maryland and Virginia are unknown. This species is also ranked as G3, indicating that its global population is vulnerable.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: MD – SNR, VA – SNR, PA – SNR, NJ – S1
- Endangered Status in adjacent states: NONE

19) Pitcher Plant Borer Moth (*Papaipema appassionata*)

As with other borer moths, this species may already be extirpated from Delaware, although habitat containing the preferred host plants (pitcher plants) do exist within the state. Nature Serve (2013) indicates that “this moth can turn up in almost any habitat with a lot of pitcher plant that is not subject to complete burns. Habitats northward are typically true bogs or fens, but can be openings in or edges of cedar swamps etc. South of New Jersey, moist pine savannas become the main habitats. In southern New Jersey, both habitats types are used.” In Delaware, bogs containing the host plants are also quite rare, but present. In New Jersey, this species is considered rare to vulnerable (S2S3).

⁸NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: February 04, 2013).

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: SH**
- Ranks in adjacent states: MD – SNR, VA – SNR, PA – SNR, NJ – **S2S3**
- Endangered Status in adjacent states: NONE

20) Yellow Stoneroot Borer Moth (*Papaipema astuta*)

This borer moth is also possibly extirpated from Delaware. Globally vulnerable (G3), the necessary habitat and host plants for this species are present in northern Delaware. This species is considered very rare - vulnerable in Virginia (S1S3), and Nature Serve (2013)⁹ indicates that This species was formerly found from Connecticut, southeastern New York, and northern New Jersey westward through Pennsylvania, northern Delaware, and Ohio to southern Michigan, the Virginias, western North Carolina, and northeastern Kentucky. This species has the same foodplant as *Papaipema duplicata*, and their ranges overlapped broadly, but *P. astuta* seems to be more of a Northeastern and Midwestern species and less of an Appalachian species although more thorough collecting in the mountains might show otherwise.”

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **NO**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **Possibly deer browse and exotic earthworms.**

- **DE State Rank: SH**
- Ranks in adjacent states: MD – SNR, **VA – S1S3**, PA – SNR, NJ – SU
- Endangered Status in adjacent states: NONE

21) Marbled Underwing (*Catocala marmorata*)

⁹NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: February 04, 2013).

This large noctuid moth is considered globally vulnerable (G3). Inhabiting hardwood forests and forested wetlands, this species likely reaches its northern most limit of its distribution in Delaware, but has historically occurred well into the Northeast (Connecticut and Vermont). In the Mid-Atlantic region, this species is very rare in Delaware (S1) and rare in in Virginia (S2) and possibly extirpated from Maryland. Known only from New Castle County, Delaware, it is presumed to be mostly absent on the Coastal Plain of Delmarva. If this species is truly extirpated from Maryland, Delaware's population would be disjunct from other regional occurrences of this species.

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **YES (G3)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **Possibly disjunct.**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: **MD – SH, VA – S2, PA – SNR, NJ – SNR**
- Endangered Status in adjacent states: **NONE**

22) Ulalume Underwing (*Catocala ulalume*)

In Delaware, this species has been observed in Sussex County. Utilizing sand hickory and possibly other hickories as larval hosts, the Delaware population is disjunct from other populations in the East. There is no information on its occurrence in Maryland, Pennsylvania, or New Jersey, but it is considered very rare to vulnerable in Virginia (S1S3). Overall, the population in Delaware is restricted to areas containing sand hickories, and it is unlikely to expand in the near future.

Status info, state rank, ranks in adjacent states, other comments

Proposed Listing Criteria:

1. Appears on the federal list of endangered, threatened, or candidate species – **NO**
2. Ranked as “globally rare” (G1, G2, G3, T1, T2, or T3), which means 100 or fewer populations worldwide – **NO (G4)**
3. Is rare or declining within the State and rare and declining in the region – **YES**
4. Is rare in Delaware and disjunct from known distribution and/or near the extreme northern or southern limits of distribution – **YES**
5. Is imminently threatened by natural or human made factors that are affecting continued survival of that species within the state – **NO**

- **DE State Rank: S1**
- Ranks in adjacent states: **MD – SNR, VA – S1S3, PA – SNR, NJ – SNR**
- Endangered Status in adjacent states: **NONE**