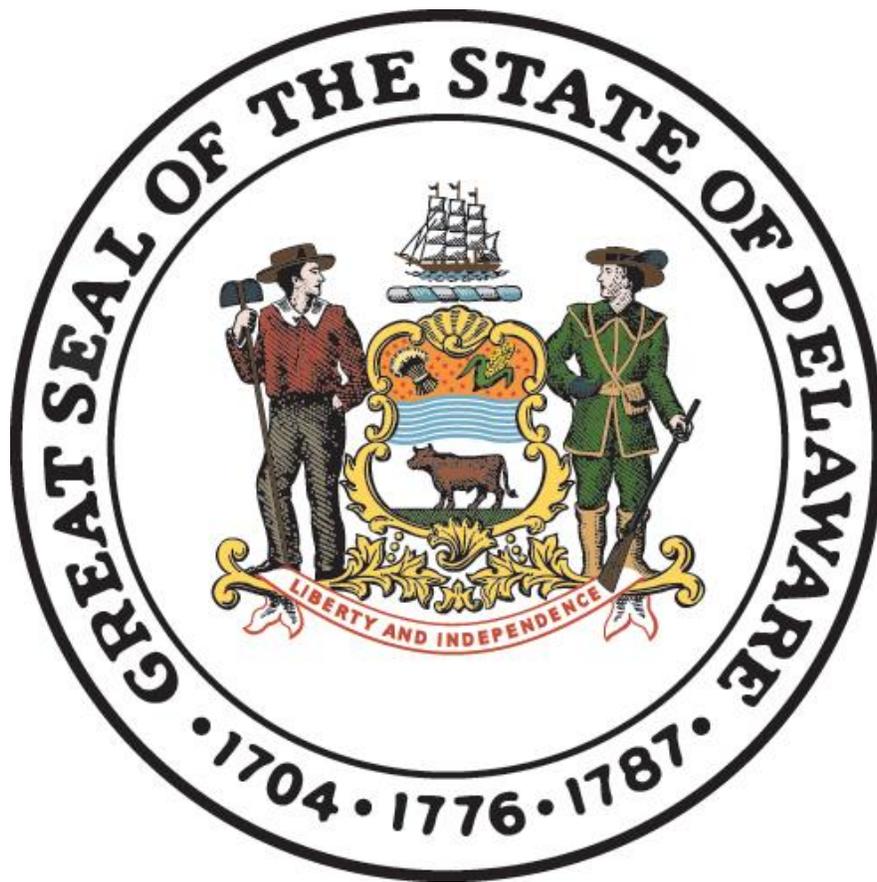


**FINAL REPORT OF THE  
STATEWIDE ECOLOGICAL EXTINCTION  
TASK FORCE**

**ESTABLISHED UNDER THE PROVISIONS OF SENATE CONCURRENT  
RESOLUTION NO. 20 OF THE 149<sup>TH</sup> GENERAL ASSEMBLY**



**RESPECTFULLY SUBMITTED TO THE GOVERNOR, PRESIDENT PRO  
TEMPORE OF THE SENATE, AND SPEAKER OF THE HOUSE**

**DECEMBER 1<sup>ST</sup>, 2017**

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## Members of the Task Force

	Member	Organization
1	Stephanie Hansen	State Senator (Majority Party), District 10; Ecological Extinction Task Force Chair
2	Bryant Richardson	State Senator (Minority Party), District 21
3	Debra Heffernan	State Representative (Majority Party), District 6
4	Ronald Gray	State Representative (Minority Party), District 38
5	Michael Costello	Sussex County, County Administrator Appointee
6	Tracy Surles	New Castle County, County Executive Appointee
7	Michael Petit de Mange	Kent County, County Administrator Appointee
8	Joseph Rogerson	Department of Natural Resources and Environmental Control
9	Faith Kuehn	Department of Agriculture's Plant Industries
10	Chris Bason	Delaware Center for the Inland Bays
11	Maria Evans	Delaware Association of Realtors
12	Susan Barton	Delaware Landscape and Nursery Association
13	Katherine Holtz	Delaware Farm Bureau
14	Douglas Tallamy	University of Delaware Department of Entomology and Wildlife Ecology
15	Robert Thornton	Home Builders Association
16	James White	Delaware Nature Society
17	Sarah Cooksey	Delaware Nature Conservancy
18	Matthew Sarver	Delmarva Ornithological Society
19	Kathy Stiller	Delaware State Chamber of Commerce



## **Preface**

### **State Senator Stephanie Hansen – Chair, Ecological Extinction Task Force**

At a public meeting held by the Delaware Department of Natural Resources and Environmental Control a few years ago, a powerful presentation by University of Delaware professor, Dr. Douglas Tallamy, on the precipitous decline of our native species in Delaware struck me as alarming. As an environmental attorney in Delaware for more than fifteen years, I was shocked by the number of species that we have lost across a large portion of our food web from plants, insects, birds, amphibians/reptiles, to freshwater/marine life. Dr. Tallamy's research here in Delaware over the past decade, illustrating the connection between our loss of species and our actions in our own backyards, brought this issue home to me.

Shortly after being elected into the Senate, I contacted Dr. Tallamy and asked if he would serve on a task force to further investigate this issue, bringing various interest groups and stakeholders to the table, and providing recommendations going forward. Fortunately for all of us in Delaware, he agreed. The task force was large (19 members) and balanced with members representing not only government, academia, and environmental organizations, but also stakeholders representing the nursery industry, the Farm Bureau, our state chamber of commerce, realtors, and the development community. Political balance from both chambers in the General Assembly and representation from both ends of our state was also very important. The object behind the composition of the task force was to encourage discussion and debate among a diverse group of interests with the ultimate goal of putting forth recommendations that would have widespread support and the best chance of implementation. I believe we have done just that.

I would like to thank the members of the task force for the many hours they have spent taking in the material from the numerous presentations, presenting their own ideas and draft recommendations for implementation, and then working through the sometimes difficult process of discussion and compromise. The creation of the Delaware Native Species Commission to implement recommendations of the task force will have a lasting effect on our environment here in Delaware and will begin the coordinated process of turning this ship around.

However, one of the most striking conclusions of this work has been the realization that each of us has an important role to play in not only conserving, but in bringing back our native species, and it starts with what we plant in our own backyard. Do not buy or plant invasive species and, when possible, remove them. Give preference to native plant species. Recognize that most of the plants being sold are non-native, and non-native plants do not fully contribute to our ecosystem here in Delaware. The difference between planting an oak tree (native) or a ginkgo tree (non-native) is the difference between a healthy, home-cooked meal and a candy bar to our native species of insects, birds, and other fauna. Yes, the difference is that stark and it is having a devastating effect when all of our individual actions are taken together. This is an important conclusion of the work of the task force and we must all take this to heart. Now we know that the keys are in our hands.

## **Introduction**

### **Douglas Tallamy – Professor, University of Delaware Department of Entomology and Wildlife Ecology**

Recent research has shown:

#### **Not enough nature**

There are few wild places left and what is left is too small and too fragmented to sustain biodiversity into the future. The average woodlot size in Delaware is only 10 acres (Brown 2006). About 93% of Delaware, including 77% of our forests, is privately owned, and how it is landscaped is under the control of the landowner (Lister & Pugh 2014). Farmland and woodlots are rapidly being developed. Approximately one-half of developed land in Delaware, or 121,300 acres, was newly developed between 1982 and 2007, bringing the total to 255,900 acres (USDA NRCS 2007). Therefore, urban, suburban, exurban, residential, corporate and public landscapes must be redesigned to enhance local ecosystem function rather than degrade it.

#### **Biodiversity matters**

It is the plants and animals in local ecosystems that run those ecosystems and it is ecosystem function that sustains humans. Every time a species is lost, fewer ecosystem services are produced. That is, in species-poor ecosystems, there is less watershed management (water purification and flood control), fewer pollinators, less carbon sequestration, less weather moderation, less natural pest control, less soil enrichment, etc. The Millennium Ecosystem assessment concluded that we have already degraded the earth's ability to support humans by 60% (Millennium Ecosystem Assessment 2005). Major causes and drivers of extinction include habitat loss and fragmentation, climate change, and displacement of native species by non-native and invasive species.

#### **We landscape for aesthetics, but not for ecological function**

In Delaware suburbs, 92% of the area that could be landscaped (not hardscape) is lawn, 79% of the plants are introduced species, and only 10% of the tree biomass that could be in our developments is actually there (Tallamy et al., in prep). Lawns do not support pollinators, do not support natural enemies of pest species, do not sequester much carbon, do not support the food webs that support animals, and they degrade our watersheds.

#### **Natural areas are choked with invasive plants**

Invasive plants alter soil conditions and nutrient cycling, change habitat structure, and compete with native plants for natural resources. 85% of our woody invasive plants are escaped Asian ornamental species, several of which we continue to sell in our nurseries (Kaufman and Kaufman 2007). There are over 3,300 species of invasive plants in North America and we are introducing more every year (Qian and Ricklefs 2006).

#### **Plant choice matters**

Non-native plants do not contribute the same high level of ecosystem services that native plants provide. They are unable to support the specialized relationships between animals and plants that comprise much of nature. 90% of the insects that develop on plants are host plant specialists that can only develop on the few plant lineages with which they share an evolutionary history (Forister et al. 2015). When native plants are replaced by Asian ornamentals, we lose the insects that support food webs. Native plants support, on average, 22 times more insects than non-native plants (Richard et al. in prep).

### Built landscapes are taking their toll

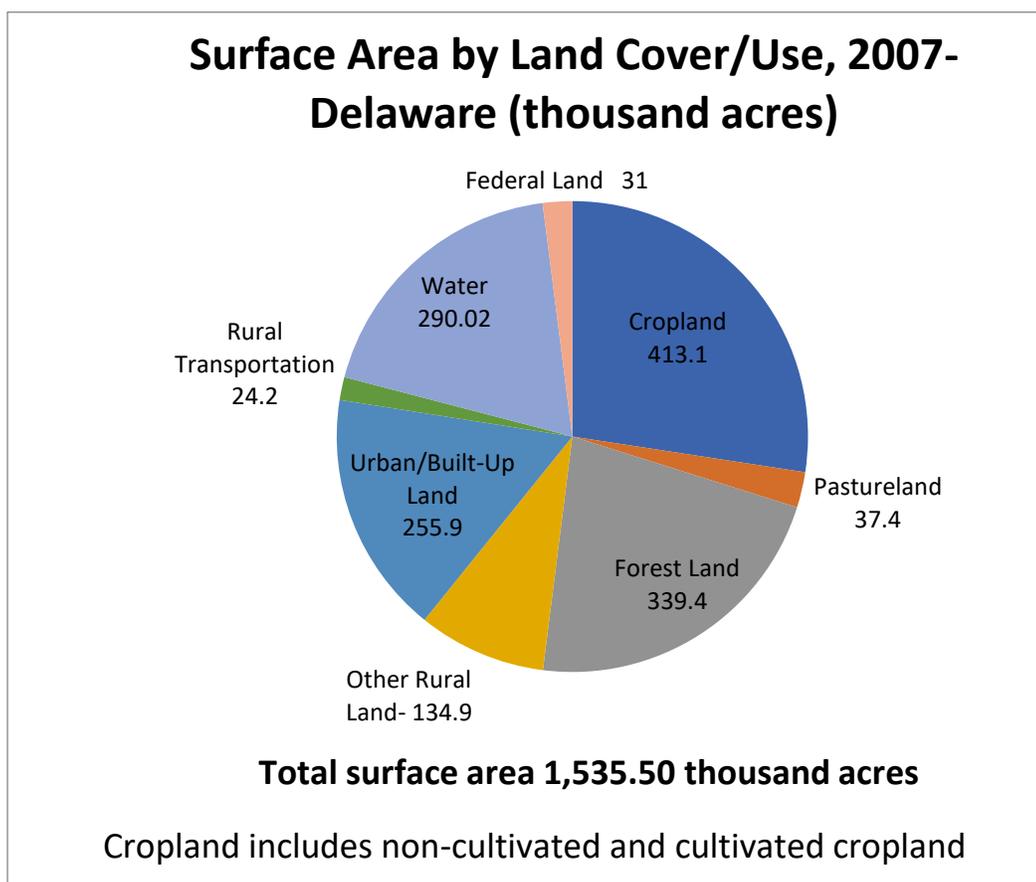
Birds are ecological indicators of healthy ecosystems. There are now 432 species of North American birds at risk of extinction (more than a third of all species; State of the Birds Report 2016). 96% of North American terrestrial birds rear their young on insects (Peterson 1980) and most of those insects are caterpillars. It takes 6,000-9,000 caterpillars to rear one clutch of Carolina chickadees to fledging (Brewer 1961) and many more to bring chicks to independence. So, to have birds, we need to plant the species that make caterpillars (bird food). Essential land stewardship entails reducing lawn area and transitioning from alien ornamental plants to native ornamental plants.

### A few plants produce most of the caterpillars

Native oaks, cherries, willows, birches, maples, elms, blueberries, alders, and pines produce about 75% of the insect food that drives food webs in Delaware (Narango et al., in prep.).

### Conclusion

Although we need to continue to protect existing wildlands, we also need to promote policies that encourage the ecological restoration of built landscapes throughout Delaware if we are to stem the loss of species for our state.



Reproduced from USDA/NRCS National Resource Inventory, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/de/technical/dma/nri/>

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[http://www.nrcs.usda.gov/technical/NRI/2007/2007\\_NRI\\_Summary.pdf](http://www.nrcs.usda.gov/technical/NRI/2007/2007_NRI_Summary.pdf)

## **Executive Summary**

### **Background of the Task Force**

Senate Concurrent Resolution 20, passed by the 149<sup>th</sup> General Assembly in May 2017, created a Statewide Ecological Extinction Task Force to study the extinction of plant and animal species in Delaware, identify causes and drivers of local extinction, and recommend solutions to reverse the present course. Senator Stephanie Hansen was the primary sponsor of the bill, with Representative Debra Heffernan serving as an additional sponsor and Senators Bryan Townsend and Ernesto Lopez and Representatives Paul Baumbach, Sean Lynn, and Jeff Spiegelman as co-sponsors. It was introduced and passed in the Senate on April 26, 2017. On May 4, 2017, it was introduced in the House with House Amendment 1 and passed the same day by voice vote. House Amendment 1 added representatives from various organizations to the Task Force membership. On May 9, 2017, SCR 20 passed in the Senate with 20 “yes” votes and 1 absent.

The Task Force was charged with holding a first meeting no later than August 1, 2017 and reporting its findings and recommendations for action to the President Pro Tempore of the Senate and the Speaker of the House of Representatives by December 1, 2017 for distribution to all members of the General Assembly, with copies to the Governor, the Director and the Legislative Librarian of the Division of Research of Legislative Council, and the Delaware Public Archives. The Task Force comprised nineteen members, with the Chair, Senator Stephanie Hansen, appointed by the President Pro Tempore of the Senate.

The inaugural meeting of the Task Force took place on July 25, 2017. The first meeting and all eight subsequent meetings were held at the Senate Hearing Room at Legislative Hall in Dover. Dover’s central location in Delaware made it accessible to Task Force members, and meeting times and days were varied to best accommodate members’ schedules. An option to attend meetings via conference call was enabled, and absentee voting and proxy voting were instituted to accommodate members who could not make it to each meeting. All meetings were open to the public and minutes from each meeting were made publicly available online along with audio recordings, notices, and agendas for each meeting. Official decisions were reached by consensus (at least 10 members) as per the majority requirement stipulated in SCR 20.

## Overview of Meetings

**July 25, 2017**

*1<sup>st</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At this meeting, members introduced themselves and their agencies/organizations.
- Senator Hansen outlined the purpose and goals of the Task Force.
- A presentation by Douglas Tallamy (University of Delaware) outlined the problem of declining biodiversity in Delaware and possible solutions (chiefly, the importance of planting native plant species, connecting natural areas, and reducing lawn area).
- As a body, the Task Force decided to hold meetings approximately biweekly, varying the day of week and time of day of meetings to best accommodate all members' schedules.
- Senator Hansen encouraged Task Force members to complete a questionnaire which was circulated prior to the meeting to assess if members' agencies/organizations had completed research on the subject of local species decline & extinction.

**August 7, 2017**

*2<sup>nd</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At this meeting, Senator Hansen reported that she had received feedback from the questionnaire regarding member organizations' research on extinction and reduction of local species, and encouraged further communication on this topic.
- Joseph Rogerson (DNREC) gave a presentation on the Delaware Wildlife Action Plan (DEWAP), a blueprint for conserving biodiversity at the state, local, and regional levels. The DEWAP includes a list of Species of Greatest Conservation Need (SGCN) and their associated habitats, prioritized conservation issues, and conservation action items that can be taken at multiple scales.
- Senator Hansen asked Task Force members to consider potential action items and come to subsequent meetings with specific recommendations.

**August 23, 2017**

*3<sup>rd</sup> Meeting of the Statewide Ecological Extinction Task Force*

- Robert Thornton (Home Builders Association of Delaware) gave a presentation on successes and failures using native plants in residential development, including an overview of a Native Plants Manual he provides to homebuyers.
- Sarah Cooksey (Nature Conservancy) presented an overview of the Nature Conservancy and its assessment of how well Delaware is meeting conservation goals. She highlighted the importance of native species, buffers, prescribed fire as a management tool, and seeking science-based solutions.
- Susan Barton (Delaware Landscape and Nursery Association) gave a presentation on designing sustainable landscapes that provide more ecosystem services than lawns do. She demonstrated that using meadows, forest, and landscape beds in place of lawn can be attractive in addition to being interesting and purposeful.
- Senator Hansen asked Task Force members to identify and prioritize recommendations from the compiled lists generated from members' suggestions.

**September 12, 2017**

*4<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- Jim McCulley (Home Builders Association) gave a presentation on the “Natural Resource Preservation Incentive Concept” (i.e., how to make natural resources more valuable to landowners so they have incentive to protect them), and discussed the benefits of higher-density development.
- Amy Highland (Mount Cuba Center) offered to provide information from a recent study by Mount Cuba researchers on the sale of native and invasive plants in the Mid-Atlantic region.

**October 5, 2017**

*5<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- Chris Klarich (Delaware Nature Society) gave a presentation on the Recovering America’s Wildlife Act, which, if passed, would provide Delaware with about \$12 million to implement conservation initiatives as outlined by the Delaware Wildlife Action Plan.
- George Coombs (Mount Cuba Center) presented the results of Mount Cuba’s study on the sale of native and invasive plants at nurseries in the Mid-Atlantic region, sharing that only 24% of plants being sold are native (4% are invasive and 72% are non-native). He recommended focusing future legislation on the invasive species.
- Senator Hansen announced that voting on the compiled recommendations would begin at the next meeting.

**October 19<sup>th</sup>, 2017**

*6<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At the sixth meeting, Senator Hansen reported that a majority of Task Force members had voted in favor of both absentee and proxy voting, and the Task Force set absentee voting procedures.
- Task Force members voted on overarching statements and recommendations in the “Education” category.
- Senator Hansen noted that the Task Force should consider how the recommendations of the Task Force will be implemented after the Task Force has formally ended; i.e., whether a committee or working group should be established to facilitate this process.

**November 2, 2017**

*7<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At this meeting, Task Force members voted on overarching statements and recommendations in the “Incentivizing Private Landowners” category.

**November 16, 2017**

*8<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At this meeting, Jennifer Parrish (Legislative Assistant) gave a presentation on research conducted by Task Force interns on the sale of native, non-native, and invasive plants in Delaware. Similar to the study conducted by Mount Cuba, this study indicated that both the percentage of non-native plant species and the volume of non-native plants being sold in Delaware are much higher than for native plants.

- Task Force members voted on overarching statements and recommendations in the “Government Leads by Example” and “Legislation Affecting Development” categories.

**November 28, 2017**

*9<sup>th</sup> Meeting of the Statewide Ecological Extinction Task Force*

- At the final meeting, Task Force members voted on overarching statements and recommendations in the “Fund Open Space Program at Statutory Level”, “Legislation to Prohibit the Sale of Invasive Species”, “Deer Management”, and “Recovering America’s Wildlife Act” categories, as well as several recommendations from other categories that had been placed on hold pending this meeting.
- Task Force members voted to approve a recommendation to form a Delaware Native Species Commission to work towards implementing the other Task Force recommendations.
- Senator Hansen announced that a press conference about the Task Force will take place on Tuesday, December 5<sup>th</sup>, 11:30 a.m., at the Ashland Nature Center in Hockessin.

## **Task Force Findings**

### *Education*

1. The concept that the public, through the collective action of private landowners, has an important role to play in the prevention of extinction of local species, and also in the resurgence of local species, is a relatively new concept.
2. Education is the key to understanding. A comprehensive, educational effort will be required in order to change the way we, as individual property owners, view our effect on the decline of local species. When we understand the way that our choices drive the decline of local species, we will make different choices in how we manage our property.
3. Of critical importance is the education of property owners, our children, and those who play a role in the development of property including state and local land use officials, engineers, landscape design professionals, professional builders, and landscape contractors, as well as those who have responsibility to manage private property including homeowner associations and property management companies.

### *Incentivize Private Landowners*

1. Incentives should be created to encourage the planting, restoration, and management of native species and their habitat.
  - A) Incentives should be created to encourage the removal of invasive species and their replacement with native species.
  - (B) Incentives should be created to replace non-native species with native species.
2. Incentivizing can take many forms and may include such things as monetary incentives, public recognition, and ease of permitting or other governmental approvals.

### *Government Leads by Example*

1. A critical part of demonstrating to the public the importance of native species to our local ecosystems is by our government taking the lead and providing native species landscape and management on our public property.

### *Legislation Affecting Development*

1. In order to improve and protect our ecosystems, policy changes at the state and/or local levels may be necessary. Policy changes may include such things as a bill or resolution passed by the General Assembly, an ordinance or resolution passed by a local government, a change in the regulations administered by the state or local government, or a change in state or local government policy.

### *Funding Open Space Program at Statutory Level*

1. Utilization of the Open Space Program is an effective tool in stemming the loss of our native species.

### *Legislation to Prohibit the Sale of Invasive Species*

1. The sale of invasive plant species is an important factor contributing to the loss of native species in Delaware.

## *Deer Management*

1. The proliferation of deer is an important factor contributing to the loss of native species in Delaware.

## **Task Force Recommendations**

The Task Force identified a series of recommendations to be considered for further action. These recommendations include action items that can be implemented at multiple scales, by governmental bodies, private landowners, and other agencies/organizations. In compiling these recommendations, the Task Force took into account such factors as cost, public acceptability, ease of implementation, and efficacy towards the goal of reducing decline and extinction. These recommendations span nine categories: 1) Education, 2) Incentivizing Private Landowners, 3) Government Leads by Example, 4) Legislation Affecting Development, 5) Funding Open Space Program at Statutory Level, 6) Legislation to Prohibit the Sale of Invasive Species, 7) Deer Management, 8) Recovering America's Wildlife Act, and 9) Formation of the Delaware Native Species Commission. The Task Force compiled the following recommendations based on the research presented, educational materials exchanged, and discussions held during Task Force activities. These recommendations represent the majority view of the Task Force.

### *Education*

1. Educational material should be developed, tailored to the specific target audience, which will explain the benefit of native species as well as the effect of non-native and invasive species proliferation, and their contribution to the decline of our local species.
2. Educational material should be developed, tailored to the specific audience, on the preservation and management of open spaces within communities, on private property, and on public property.
3. Educational material should be developed to specifically guide property owners on the identification of non-native and invasive species, the native species alternatives, and proper management of property landscaping.
4. A curriculum should be developed to bring the educational material into our children's classrooms and various outreach programs.
5. The educational material should be distributed to professional organizations having responsibility in property development such as engineers, landscape design professionals, landscape contractors, and professional builders.
6. Encourage incorporating the educational material in obtaining or maintaining professional licensing.
7. The educational material should be distributed to homeowner associations and property management associations. This will not only inform those organizations, but this should be encouraged as one method of subsequent distribution to the individual homeowners.
8. (A) The educational material should be available to individual property owners through home and garden centers, state and local government, and other organizations as available.  
(B) Recommend to the Delaware Real Estate Commission to add a line on the Sellers Disclosure forms directing homeowners to a webpage of educational material.
9. The educational material should form the basis of training seminars and trade symposiums geared toward local government officials involved in land use planning.
10. Education through media outlets should be investigated and implemented. Examples include advertising and discussion on social media, radio and television (including local cable television and New Castle County's television station).

11. Education through demonstration projects by local government, business owners, non-profits and others should be encouraged and properly recognized. Signage associated with the project is critical and should be encouraged.
12. Education through public presentations to interested groups and organizations should be encouraged.
13. Methods of funding centered on implementing the educational initiatives recommended by the Task Force should be explored, including public/private arrangements.
14. Educational campaigns centered around informing the public on the value of wildlife and how wildlife and their native habitats benefit humans including how all three are interconnected should be encouraged.
15. A program to either educate landowners on living/green shoreline options and their benefits and/or a program to train engineers in living/green shoreline construction including the pros and cons of various options to minimize shoreline erosion should be encouraged.
16. Encourage landscape contractors to remove, manage, and control invasive plants and replant with native species.
17. Promote/follow Delaware Livable Lawns practices on lawns in Delaware. (<https://www.delawarelivablelawns.org/>).
18. Recommend that education and incentives be used to encourage property owners to plant and or convert to native plants and trees on their properties.
19. Recommend the Task force promote the distribution of a list of native plants and trees that are easy to grow in our area.
20. Prepare several examples of single family home landscape plans that use native trees and plants (+ or - 75% of those chosen) to show how native plants and trees may provide an aesthetically pleasing yard and one that is easy to maintain.
21. Encourage the development of a training course and/or seminar that developers, landscape professionals, and others may attend to provide education and a forum for collaboration of ideas to promote the planting of native trees and plants.
22. Governmental, educational, and environmental organizations should work together to develop a comprehensive, environmental education program regarding using native species versus non-native and invasive species.

### *Incentivizing Private Landowners*

1. Method of Incentivizing: Establish incentives such as expedited permitting and density bonuses for environmentally sensitive landscape design practices such as those included in Sustainable Sites, the National Green Building Standard, Energy Star, Leadership in Energy and Environmental Design (LEED) certification, or green technology best management practices.
2. Incentivize land development applicants to incorporate DNREC's PLUS recommendations regarding specific potential impacts to state rare and federally listed species and their habitats into their development plans.
3. Create incentives for reducing lawn area and replacing it with native plants.
4. Encourage the incorporation of pollinator and other insect habitat into incentive programs.
5. Provide incentives for home buyers with native landscaping such as the Green4Green program.
6. Seek funding to cost share native habitat improvements on private lands.
7. Incentivize homeowners and developers to retain tree species of high wildlife value (e.g. oaks, hickories).
8. Encourage the funding of the Forestland Preservation easement program.

9. Explore opportunities to provide state-level add-on incentives and best management practices to targeted species via NRCS and FSA programs.
10. Explore opportunities to provide state income tax exemptions for state or federal conservation incentive payments.
11. Encourage tax ditch associations to implement BMPs that minimize impacts to key habitats.
12. Encourage the development of and/or marketing of biodiversity certification programs for private forestland and farmland.
13. Encourage enrollment in the Backyard Wildlife Habitat Certification Program.
14. Increase access to prescribed fire as a management tool.
15. Encourage support of the Landowner Incentives Program.
16. Encourage the preservation of the remaining intact forest habitat (largest tracts should receive highest priority).
17. Preserve or otherwise conserve and manage as much of the remaining freshwater wetlands as possible – e.g. Delmarva Bays (Coastal Plain Ponds).

#### *Government Leads by Example*

1. All Delaware state facilities and departments should set the example, reducing lawn and replacing with native plants or pollinator gardens, and revising land management practices to be more pollinator friendly.
2. Create incentives for using native plants on public property.
3. Provide funding/incentives for the removal of invasive plants on public property and, where appropriate, replant with native species.
4. Provide incentives/requirements for reduced lawn areas in passive open space public landscapes.
5. Provide funding/incentives for demonstration landscapes on public land to demonstrate sustainable landscape practices including reduced lawn, use of native plants, reduced mulch, etc.
6. Encourage municipalities to adopt native landscaping in their codes.
7. Encourage new public facilities to use native plants in landscaping.
8. On all highway medians, mow a strip of grass adjacent to the roadway (beauty strip) and allow the rest of the vegetation to grow. Mow median once or twice a year in late fall or early spring.\*
9. On all highway roadsides, mow one mower pass above the ditch line to allow for designed drainage function. Mow the rest of the right of way once or twice a year in early Spring or late Fall as needed to control invasive species. Woody vegetation may be allowed to grow on some rights of way if invasives are controlled.\*
10. On highway cloverleaves created by on/off ramps, mow one mower pass adjacent to the ramp/roadway. Mow the rest of the cloverleaf one or two times a year as needed to control height, visibility and invasive species. Woody vegetation may be allowed to grow on some rights of way if invasive species are controlled.
11. On secondary roads, apply reduced mowing standards whenever feasible.
12. Encourage the removal and stump treatment of woody invasive plants on DelDOT rights of way.
13. On new highway projects that involve landscaping, plant predominantly native species.
14. Develop model legislation or policy to make it easier for state or local government to make changes, such as adopting legislation or policy requiring native species of new government buildings and parks.

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\* Ideally, if mowing once per year, mowing should take place in early spring, with late fall being a less desirable alternative. The second mowing, if desired, should occur in late June. (Technical clarification provided by Susan Barton, Delaware Landscape and Nursery Association)

15. Encourage state and local governments to make better use of existing land by creating better habitats on available land. Examples could include creating native meadows, creation of wetlands, reforestation, etc.
16. Review DeIDOT's policies and work collaboratively to enhance the role of DeIDOT in species conservation, without reducing highway safety, by:
  - (A) designating reduced salt use in environmentally sensitive areas
  - (B) native plantings
  - (C) increased collaborative management of ROWs and water control structures
  - (D) Coordinate timing of mowing and construction to minimize impacts
  - (E) Integrate key habitat and Species of Greatest Conservation Need (SGCN) conservation into long-range transportation planning.
17. Given the State of Delaware owns a large percentage of land in the state, we recommend increasing funding, staffing, and better management practices of state owned lands.
18. Work with DNREC and the individual Tax Ditch Organizations to explore the feasibility of establishing landscape buffers along tax ditches in order to reduce erosion along ditch banks, reduce maintenance requirements, and improve water quality.

#### *Legislation Affecting Development*

1. Review existing regulations to determine their effectiveness in protecting state-endangered species.
2. Encourage protection of Delaware's rarest plant communities such as Atlantic White Cedar Swamps, Coastal Plain Ponds, Interdunal Swales, Sea-level Fens, Piedmont Streamside Seepage Wetland, and Piedmont Tuliptree Rich Woods.
3. Look for linkages and connectivity between native habitats in existing and new development to connect native habitat in subdivision site plans.
4. Encourage drafting of legislation for use by local governments that would provide exemptions for common areas, buffer zones, and open space areas from tall weeds/grass property code violations, when maintained in accordance with an approved plan.
5. Encourage Kent and Sussex Counties to adopt overlay zoning ordinances incorporating sensitive natural resources.
6. Encourage the revisitation of wetlands regulations to ensure protection of freshwater non-tidal wetlands via regulation and incentives.
7. Encourage all counties to adopt environmental design standards for development projects in order to protect key wildlife habitats and species of greatest conservation need (SGCN).
8. Ensure that all State, County, and local codes allow for managed meadow areas as defined by neatly mowed edges, mowed paths, and management plans.

#### *Funding Open Space Program at Statutory Level*

1. Fund the Delaware Open Space Program at the level required by statute.
2. Open Space Program funds should be used for purchasing high-quality habitats with native plants and trees, especially those habitats required for species of special concern and those that connect existing protected lands.
3. Continue dedicating funds toward the Agricultural Land Preservation Program as finances permit.

#### *Legislation to Prohibit the Sale of Invasive Species*

1. Make the sale of invasive plants illegal in Delaware, allowing an appropriate phase-out period after legislation passes.

(A) Invasive species are those on the Delaware Invasive Species Council plant list, as periodically amended.

(B) The Delaware Invasive Species Council plant list must be reviewed and amended if necessary on a regular basis.

#### *Deer Management*

1. Encourage the review of county code or local ordinances that may be inhibiting adequate deer harvest.
2. Encourage land owners and land managers to increase deer harvest as necessary to reduce impacts to key habitats.
3. Promote the availability of deer damage permits to non-agricultural land owners.
4. Encourage farmers to utilize their crop damage tags by allowing hunting on their property.
5. The sign-up process for the DE Severe Damage Program should be streamlined and more user-friendly.

#### *Recovering America's Wildlife Act*

1. By offering support of the Recovering America's Wildlife Act, the Delaware Ecological Extinction Task Force supports the efforts of the Blue Ribbon Panel to identify an adequate and sustainable source of money dedicated to the conservation of species in greatest conservation need in an effort to prevent further population declines in some species of wildlife thus reducing the risk of more species becoming endangered.
2. The Delaware Ecological Extinction Task Force supports the efforts of the Blue Ribbon Panel to identify an adequate and sustainable source of money dedicated to the conservation of species in greatest conservation need and offers support of this effort by joining the Recovering America's Wildlife Sign-On Letter which can be found here:  
[https://docs.google.com/forms/d/e/1FAIpQLScvMgnygWgk\\_nLeygYJ4tTVpX4bCDpFG\\_cbbZ\\_tOPA\\_JRwUlg/viewform](https://docs.google.com/forms/d/e/1FAIpQLScvMgnygWgk_nLeygYJ4tTVpX4bCDpFG_cbbZ_tOPA_JRwUlg/viewform)
3. Following the introduction of the Recovering America's Wildlife Act a letter on behalf of the Delaware Ecological Extinction Task Force shall be sent to Representative Lisa Blunt-Rochester and Senators Thomas R. Carper and Christopher A. Coons requesting their support for the legislation.

#### *Formation of the Delaware Native Species Commission*

1. The Delaware Native Species Commission should be formed by an action of the General Assembly to implement the recommendations of the Task Force and report back to the General Assembly on a yearly basis. Its membership should reflect a balance of interests between environmental professionals, government, and other stakeholders, and meet on a regular basis to be determined by the Commission. The Commission will sunset ten (10) years after enactment unless reauthorized by the General Assembly.

# Appendix A: Senate Concurrent Resolution 20



SPONSOR: Sen. Hansen & Rep. Heffernan  
Sens. Lopez, Townsend; Reps. Baumbach, Lynn,  
Spiegelman

## DELAWARE STATE SENATE 149th GENERAL ASSEMBLY

### SENATE CONCURRENT RESOLUTION NO. 20

#### ESTABLISHING THE STATEWIDE ECOLOGICAL EXTINCTION TASK FORCE.

1           WHEREAS, the sustainability of Delaware’s local ecology is important to the quality of life of all Delawareans;  
2    and  
3           WHEREAS, Delaware’s colleges and universities are home to preeminent research in ecology; and  
4           WHEREAS, research specific to the ecology of Delaware by the University of Delaware has revealed an alarming  
5    occurrence of extinction and extirpation of local plants and animals, including Delaware’s loss of 78% of its freshwater  
6    mussel species, 34% of its dragonflies, 20% of its fish species, and 31% of its reptiles and amphibians; and  
7           WHEREAS, 40% of all native plant species are threatened or already extirpated from the State; and  
8           WHEREAS, 41% of Delaware’s bird species that depend on forest cover are now rare or absent from the State;  
9    and  
10          WHEREAS, research has revealed a nearly 50% reduction in population sizes for many of our bird species within  
11   the span of 50 years; and  
12          WHEREAS, the causes for our loss of local species are varied, including habitat loss, habitat fragmentation, and  
13   the proliferation of non-native and invasive species; and  
14          WHEREAS, the General Assembly desires to look closely into these issues and set forth solutions for changing the  
15   present course of local extinction.  
16          NOW, THEREFORE:  
17          BE IT RESOLVED by the Senate of the 149th General Assembly of the State of Delaware, the House of  
18   Representatives concurring therein, that the Statewide Ecological Extinction Task Force (“Task Force”) is established to  
19   study the extinction of local plant and animal species and report its findings and recommendations for action.  
20          BE IT FURTHER RESOLVED that the Task Force be composed of the following members:  
21               (1) Two members of the Senate, one from each caucus, appointed by the President Pro Tempore of the Senate.

22 (2) Two members of the House of Representatives, one from each caucus, appointed by the Speaker of the  
23 House of Representatives.

24 (3) The Secretary of the Department of Natural Resources and Environmental Control, or the Secretary's  
25 designee who must be familiar with Delaware's ecological systems.

26 (4) One member representing the Department of Agriculture's Forest Service Section or Plant Industries  
27 Section who has knowledge of Delaware's ecological systems, appointed by the Secretary of the Department.

28 (5) The County Executive for New Castle County, the County Administrator for Kent County, and the County  
29 Administrator for Sussex County, or such individual's designee.

30 (6) One member representing the University of Delaware's Department of Entomology and Wildlife Ecology,  
31 appointed by the Chair of the Department.

32 (7) One member representing the Delaware Nursery and Landscape Association, appointed by the President of  
33 the Association.

34 (8) One member representing the Delaware Nature Society, appointed by the President of the Society.

35 (9) One member representing the homebuilding industry in Delaware, appointed by the President of the Home  
36 Builders Association of Delaware.

37 BE IT FURTHER RESOLVED that the Task Force may request the participation of guests and speakers  
38 knowledgeable in the issues under study.

39 BE IT FURTHER RESOLVED that all meetings of the Task Force, unless otherwise prohibited by existing law,  
40 must be open to the public with notice of the meetings posted in advance and communicated to the media.

41 BE IT FURTHER RESOLVED that the Task Force shall hold its first meeting no later than August 1, 2017.

42 BE IT FURTHER RESOLVED that the Task Force shall develop a report encapsulating its findings and  
43 recommendations for action and deliver the report to the President Pro Tempore of the Senate and the Speaker of the House  
44 of Representatives for distribution to all members of the General Assembly, with a copy to the Governor, the Director and  
45 the Legislative Librarian of the Division of Research of Legislative Council, and the Delaware Public Archives, no later  
46 than December 1, 2017.

47 BE IT FURTHER RESOLVED that the Senate is responsible for providing reasonable and necessary support staff  
48 and materials for the Task Force.

49 BE IT FURTHER RESOLVED that the President Pro Tempore of the Senate appoint the Chair of the Task Force.

50 BE IT FURTHER RESOLVED that the Chair of the Task Force is responsible for guiding the administration of  
51 the Task Force by doing at least all of the following:

- 52 (1) Setting a date, time, and place for the initial organizational meeting.
- 53 (2) Supervising the preparation and distribution of meeting notices, agendas, minutes, correspondence, and  
54 reports of the Task Force.
- 55 (3) Sending, after the first meeting of the Task Force, a list of the members of the Task Force and the person  
56 who appointed them to the President Pro Tempore of the Senate, the Speaker of the House of  
Representatives, and the  
57 Director of the Division of Research of Legislative Council.
- 58 (4) Providing meeting notices, agendas, and minutes to the Director of the Division of Research of Legislative  
59 Council.
- 60 (5) Ensuring that the final report of the Task Force is submitted to the President Pro Tempore of the Senate  
61 and the Speaker of the House of Representatives for distribution to the members of the General  
Assembly, with a copy  
62 to the Governor, the Director and the Legislative Librarian of the Division of Research of Legislative  
Council, and the  
63 Delaware Public Archives.
- 64 BE IT FURTHER RESOLVED that:
- 65 (1) Official action by the Task Force, including making findings and recommendations, requires the approval  
66 of a majority of the members of the Task Force.
- 67 (2) The Task Force may adopt rules necessary for its operation.

#### SYNOPSIS

This Concurrent Resolution establishes a task force to study the issue of the local extinction of species in Delaware and recommend solutions to reverse the present course. The task force is required to deliver its report no later than December 1, 2017.

Author: Senator Hansen

LC: MJC : RAY  
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# Appendix B: Composition of Task Force and Member Biographies

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## INTEROFFICE MEMORANDUM

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**TO:** SENATOR STEPAHANIE HANSEN  
**FROM:** JENNIFER PARRISH – LEGISLATIVE ASSISTANT  
**SUBJECT:** ECOLOGICAL EXTINCTION TASK FORCE APPOINTEES  
**DATE:** JULY 25, 2017

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Senate Concurrent Resolution 20 as amended by House Amendment 1, sponsored by Senator Stephanie Hansen and Representative Debra Heffernan (“SCR 20”), was passed by the 149<sup>th</sup> General Assembly in May of 2017. SCR 20 established the Statewide Ecological Extinction Task Force (“Task Force”) to study the extinction of local plant and animal species.

The Task Force is required to develop a report encapsulating its findings and recommendations for action and to deliver the report to the President Pro Tempore of the Senate and the Speaker of the House of Representatives for distribution to all members of the General Assembly, with a copy to the Governor, the Director and the legislative Librarian of the Division of Research of Legislative Council, and the Delaware Public Archives, no later than December 1, 2017. The first meeting of the Task Force is to take place prior to August 1, 2017.

The Task Force is composed of nineteen (19) members with the Chair being appointed by the President Pro Tempore of the Senate. The meetings of the Task Force are open to the public with notice of the meetings posted in advance and communicated to the media. Lastly, official action by the Task Force, including making findings and recommendations, requires the approval of a majority of the members of the Task Force. A listing the Task Force appointees received to date follows.

### Part I Non-Government Appointees

- I. Chris Bason- Delaware Center for the Inland Bays
  - A. Organization Summary

The Delaware Center for the Inland Bays was established as a nonprofit organization in 1994 under the auspices of the [Inland Bays Watershed Enhancement Act \(Title 7, Chapter 76\)](#). Its creation was the culmination of more than 20 years of active public participation and investigation into the decline of the Inland Bays and the remedies for the restoration and preservation of the watershed.

Delaware’s Inland Bays were designated an estuary of national significance in 1988 by the U.S. Congress, and as such, the Center for the Inland Bays is one of the [28 National Estuary Programs \(NEP’s\)](#).

The Center oversees the implementation of the [Comprehensive Conservation and Management Plan for Delaware’s Inland Bays \(CCMP\) and 2012 Addendum](#) and

promotes the wise use and enhancement of the Inland Bays watershed by conducting public outreach and education, developing and implementing restoration projects, encouraging scientific inquiry, sponsoring needed research, and establishing a long-term process for the protection and preservation of the watershed.

#### B. Organization Mission Statement

To preserve, protect and restore Delaware's Inland Bays, the water that flows into them, and the watershed around them. The Center for the Inland Bays achieves this through: Education, Outreach, Science & Research, Restoration, and Public Policy.

#### C. Appointee Biography

Chris Bason is the Executive Director for the Center for the Inland Bays. Chris started with the Center in 2004 as the lead for a research project assessing the condition of the watershed's wetlands. In 2005, he became the Science Coordinator and later the Center's Deputy Director in 2010.

Chris is from New Castle, Delaware and has lived in Ocean View since 2004. He has a bachelor's degree from the University of Delaware and master's degree from East Carolina University. Chris spent the first part of his career involved in the research and management of wetlands while working for organizations like The Nature Conservancy, the US Army Corps of Engineers, and East Carolina University. With the Center, Chris has been responsible for assessing the health of the Bays and synthesizing environmental research to educate the public and decision makers. He also conducts and coordinates research and water quality improvement demonstration projects.

Chris has a life-long passion for the environment of Delaware, and enjoys spending time outdoors surfing, fishing, kayaking, and hiking.

### II. Maria Evans- Delaware Association of Realtors

#### A. Organization Summary

As the Voice for Real Estate in Delaware, the Delaware Association of Realtors (DAR) is the leading advocate for the industry & property owners. The organization provides the essential link for its members to the National Association of Realtors – the largest trade association in North America.

DAR provides services to Realtors – member agents and brokers – including education, market indicators, and government affairs engagement and advocacy.

#### B. Mission Statement

The Delaware Association of Realtors (DAR), in conjunction with member boards/associations and the National Association of Realtors (NAR), serves and supports its membership by recognizing and addressing their needs and concerns, and

by developing, providing and promoting programs/services that serve members and protect the public.

The DAR promotes to the public the value of working with a Realtor. The association is proactive in government affairs at the local, state and national levels, seeking to protect an individual's right to own, use and transfer property. The NAR ensures that its membership is able to practice real estate brokerage without the burden of unfair and counter-productive government regulations.

### C. Appointee Biography

Maria Evans is a Wilmington native and has been an involved contributor to our communities throughout her career. She worked in local radio as a reporter, blog editor, and talk show host and as the Strategic Communications Coordinator for the Delaware Economic Development Office. Maria was a staff member on the 2010 Castle for Senate Campaign prior to her current position as Government Affairs Director for the Delaware Association of Realtors®. Maria is a graduate of Concord High School and the University of Delaware, and currently resides in Lewes.

## III. Susan Barton- Delaware Landscape and Nursery Association

### A. Organization Summary

The Delaware Nursery & Landscape Association, DNLA, is a leader in Delaware's \$745 million Green industry. DNLA is a non-profit trade organization that serves Delaware's horticultural related businesses and the companies that supply them. The Association also works in cooperation with the Delaware Department of Agriculture and Delaware Cooperative Extension to shape legislative and administrative policies and procedures on matters which are of interest to Delaware's green industry.

First known as the Delaware Association of Nurserymen, the association was formed on February 23, 1973 by a group of growers, retailers, and landscape contractors. These 28 charter members were dedicated to the betterment and promotion of the green industry in the State of Delaware. Over the years, the organization's membership has expanded to include more aspects of the green industry. Members of the association voted in 2000 to change the name to the Delaware Nursery & Landscape Association, so it could better reflect its membership base. As the DNLA continues to grow, it remains focused on the goals and mission set by its founding members.

The DNLA and the University of Delaware have had a long-standing relationship. When the DNLA was founded, the Extension Specialist for Ornamental Horticulture, Dr. Charlie Dunham, was the secretary of the DNLA. The Extension Specialist for Ornamental Horticulture now functions as an educational advisor to the DNLA; other Extension personnel also serve as advisors.

The University of Delaware and the DNLA work collaboratively on a number of programs and events for the green industry:

- Educational meetings throughout the year
- University educational efforts for the Nursery and Landscape Industry, such as the Horticulture Short Course Series
- Programming to meet the needs of the nursery and landscape industry, created by the University of Delaware Ornamentals Task Force
- The DNLA News, written and published by the Extension Specialist for Ornamental Horticulture
- The DNLA Certified Nursery Professional Program, developed through collaboration with DNLA industry leaders and extension professionals at the University of Delaware

#### B. Organization Mission Statement

To promote and protect the nursery and landscape industry and enhance the quality of its products and services.

#### C. Appointee Biography

Susan Barton is professor at the University of Delaware, College of Agriculture and Natural Resources, Plant and Soil Sciences department. She has a Ph.D. in Plant Protection, a M.S. in Ornamental Horticulture, and a B.S. in Plant Science.

Dr. Barton has supported the Board of the Delaware Nursery and Landscape Association as an Extension Specialist since 1985.

### IV. Katherine Holtz- Delaware Farm Bureau

#### A. Organization Summary

Since it was established in 1944, the Delaware Farm Bureau has become one of the strongest farm organizations in the First State. DFB is a non-profit and nongovernmental organization that serves as a unified voice for farmers in the State of Delaware.

Controlled by its members through the democratic process and financed through membership dues, this group of over 8,400 farm families and associate members help form a national organization that is over six million strong. These families are united for the purpose of preserving agriculture as an industry and way of life; Farm Bureau is their vehicle to accomplish this.

Delaware Farm Bureau is politically active, but nonpartisan. On both the local and national front, Farm Bureau has defended agriculture against unreasonable taxes and regulations, threats to property rights and damaging misconceptions about farming.

Delaware Farm Bureau consists of its three counties:

- Kent County Farm Bureau
- New Castle County Farm Bureau
- Sussex County Farm Bureau

#### B. Organization Mission Statement

To promote and protect Delaware Agriculture through education and advocacy to ensure a quality of life for farmers and their consumers.

#### C. Appointee Biography

Kitty and her husband, Dave Holtz, have owned and operated Holtz Farms since 1969 and recently expanded the operation to include their youngest son, Brent, in 2013 as Holtz Farms, LLC. Dave and Kitty have three children and two grandchildren. Their home farm of 250 acres is located near Clayton and Kenton Delaware. They grow corn, soybeans and wheat. Holtz Farms, LLC farm approximately 1,800 acres within Kent County.

Kitty also worked for the State of Delaware for twenty years and was active with 4-H for ten years. She has been a member of Delaware Farm Bureau since 1976, and took a more active role within the organization in 2003, serving on the state and county boards for eleven years. She was president of Kent County Farm Bureau for two years before being elected the State Farm Bureau President in 2014.

Kitty enjoys spending time with her grandchildren sharing in their many sport activities and other school events, and enjoys traveling as time permits.

### V. Douglas Tallamy- University of Delaware's Department of Entomology and Wildlife Ecology

#### A. Organization Summary

The faculty is national and internationally recognized for their research and teaching programs. Research and teaching in the department encompasses the study of invertebrate and vertebrate animals at the organismic level with topics including but not limited to: insect and wildlife ecology, patterns in animal diversity and abundance, population processes and demographics, interactions with plants, the environment and humans, and long-term management and conservation.

The department also addresses ways to mitigate negative impacts of insects and wildlife and on humans, while maintaining or restoring biodiversity and ecosystem integrity, particularly in ecosystems heavily managed for the human enterprise. The department's extension mission is to educate the public about the importance of coexisting with insects and wildlife, and to help the public apply research results through extension programs in integrated pest management including the safe and effective use of pesticides and other pest management techniques. They have 14 faculty and 3 extension professionals. They currently have 147 undergraduate and 31 graduate students.

## B. Organization Mission Statement

This department offers outstanding academic programs for undergraduate and graduate students preparing for research, teaching, and Extension careers in entomology, ecology and wildlife conservation. Our teaching, research, and extension efforts emphasize whole-organism biology, conservation biology, and the interactions between humans and other species.

## C. Appointee Biography

Douglas Tallamy is a professor in the Department of Entomology and Wildlife Ecology at the University of Delaware, where he has authored 88 research publications and has taught Insect Taxonomy, Behavioral Ecology, Humans and Nature, Insect Ecology, and other courses for 36 years. Chief among his research goals is to better understand the many ways insects interact with plants and how such interactions determine the diversity of animal communities. His book *Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens* was published by Timber Press in 2007 and was awarded the 2008 Silver Medal by the Garden Writers' Association. *The Living Landscape*, co-authored with Rick Darke, was published in 2014. Doug is also a regular columnist for garden Design magazine. Among his awards are the Garden Club of America Margaret Douglas Medal for Conservation and the Tom Dodd, Jr. Award of Excellence.

## VI. Robert Thornton- Home Builders Association

### A. Organization Summary

The Home Builders Association of Delaware strives to protect and preserve housing as a symbol of America. It has been an integral part of the growth and economic development of the State since 1947. Founded as a non-profit state affiliate of the National Association of Home Builders, our organization advocates for Delaware Home Builders, Remodelers, and Associates (supporting businesses in the building industry). Comprising over 6,000 employees in the housing, development, and real estate communities, our membership makes up a substantial portion of the workforce and touches virtually every aspect of the Delaware economy.

### B. Organization Mission Statement

We are a professional association of industry leaders who are committed to excellence through our support of legislative, educational and economic initiatives to promote Delaware's economic wellbeing and quality of life.

### C. Appointee Biography

Thornton serves on the Board of Directors for the National Association of Home Builders and is the State Director for the Home Builders Association of Delaware. He also serves on the Board of Directors of Home Innovation Research Labs, which wrote and developed the National Green Building Standard (NGBS). He has the first certified Green Home in the nation under the NGBS in 2009, and in 2010 was the state of Delaware's "Builder of the Year." Thornton is frequently a guest speaker at the International Builders Show (IBS) in Las Vegas and Orlando on the topic of green sustainable building.

## VII. James White- Delaware Nature Society

### A. Organization Summary

Founded in 1964, Delaware Nature Society works to improve the environment through conservation, advocacy, and education. Delaware Nature Society is the state affiliate for the National Wildlife Federation and is renowned for its educational programming and advocacy that provides the tools for communities to take action and protect the environment through land preservation and watershed stewardship.

Delaware Nature Society manages over 2,000 acres of land, including four nature preserves, and operates three educational nature centers: Ashland Nature Center, Abbott's Mill Nature Center and DuPont Environmental Education Center at the Russell W. Peterson Urban Wildlife Refuge. Programs are also held at our Coverdale Farm Preserve.

Currently, thousands of members support this important work and over 1,000 volunteers assist the 32-member core staff and interns so that the year-round programs continue to improve and grow.

### B. Organization Mission Statement

Delaware Nature Society connects people with the natural world to improve our environment through education, advocacy and conservation.

### C. Appointee Biography

Jim White has worked at Delaware Nature Society since 1982. In his role, he oversees Delaware Nature Society's land. A native Delawarean, he graduated from the Salesianum High School and the University of Delaware. Jim's natural history interests include birds, insects, amphibians and reptiles. He teaches herpetology at University of Delaware and with his wife has published a field guide to the amphibians and reptiles of the Delmarva Peninsula. Jim also leads natural history trips to many natural areas in the US and in Central and South America.

## VIII. Sarah Cooksey - Delaware Nature Conservancy

### A. Organization Summary

The conservancy works with government agencies, private corporations, conservation organizations, members and other conservancy chapters to conserve the places – oceans

& coasts, forests & wetlands, and farmlands. This has resulted in the conservation of more than 30,000 acres across Delaware since 1990.

#### B. Organization Mission Statement

The Nature Conservancy's mission is to conserve the lands and waters on which all life depends. [Our Vision for Delaware](#): We serve our mission in Delaware by focusing on four major initiatives:

- Protecting and restoring critical landscapes
- Securing freshwater resources
- Improving the resilience of our natural systems to climate change
- Inspiring a broader base of support for conservation

#### C. Appointee Biography

Sarah W. Cooksey is currently the Director of Conservation for the Delaware Chapter of The Nature Conservancy, where she defines and oversees the implementation of the strategic priorities and strategies for the Chapter's conservation work, providing leadership and oversight of land, water oceans and climate initiatives. Ms. Cooksey is past Administrator of the Delaware Coastal Programs where she was responsible for both the coastal zone management program and the Delaware National Estuarine Research Reserve. She coordinated with federal, state and local governments on coastal resource issues such as tidal and freshwater wetlands, energy policy, non-point source pollution, coastal hazards, essential fish habitat, ocean planning, biodiversity, sustainable development, and dredging issues. She is past President of the Coastal States Stewardship Foundation, a 501(3) (c) formed to assist state governments with pressing coastal management issues and past Chair of MARCO – the Mid-Atlantic Regional Council of the Ocean – a five state initiative to focus on offshore issues related to renewable energy, water quality, habitat protection and climate change adaptation. Prior to her work in The Nature Conservancy and the State of Delaware she spent several years in EPA's Office of Water in Washington DC working with states on water issues. Sarah has a Master of Science degree in Biology and enjoys spending time at the beach with her husband and two sons, bird watching and gardening.

### IX. Matthew Sarver- Delmarva Ornithological Society

#### A. Organization Summary

The Delmarva Ornithological Society is an all-volunteer nonprofit organization that offers field trips and programs to educate the public about birds and bird conservation. DOS also maintains the official bird list for Delaware, and is involved in numerous collaborative conservation projects statewide.

#### B. Organization Mission Statement

The object and purpose of the Society shall be the promotion of the study of birds, the advancement and diffusion of ornithological knowledge, and the conservation of birds and their environment.

### C. Appointee Biography

Matthew Sarver is an ecologist, consultant, and writer, and a principal of Sarver Ecological, LLC. He holds a Bachelor's degree in Biological Sciences, cum laude, from Cornell University with a concentration in Neurobiology and Animal Behavior.

Matt has been an avid birder for nearly 20 years. He is currently Conservation Chair of the Delmarva Ornithological Society. Matt is also the Delaware representative on the boards of the Mid-Atlantic Invasive Plant Council and the Society for Ecological Restoration Mid-Atlantic and serves on the Delaware Nature Society's Land and Biodiversity Management Committee. Matt is also a board member of the Christina Conservancy and serves on the Green Infrastructure and Ecorevitalization Subcommittee of DNREC's HSCA Advisory Committee. Matt is an Ecological Society of America Certified Ecologist.

## X. Kathy Stiller - Delaware State Chamber of Commerce

### A. Organization Summary

The Delaware State Chamber of Commerce is dedicated to promoting an economic climate that strengthens the competitiveness of Delaware businesses and benefits citizens of the state. Founded in 1837 as the Wilmington Board of Trade, the Delaware State Chamber of Commerce has a long history as the largest, most influential business organization in the state.

### B. Organization Mission Statement

The mission of the Delaware State Chamber of Commerce is to promote an economic climate that enables businesses to become more competitive. The Chamber's Environmental Committee works closely with the Department of Natural Resources and Environmental Control (DNREC) and is involved in the review and shaping of environmental legislation and regulation.

### C. Appointee Biography

Ms. Stiller is a Senior Program Manager for Brightfields Inc., and was a former Director of Water for DNREC and an Environmental Program Manager II for DNREC.

## Part II Government Appointees

### I. Stephanie Hansen- Ecological Extinction Task Force Chair, State Senator District 10 (D)

#### A. Appointee Information

Senator Hansen has an extensive environmental background. Hansen's environmental background includes work as an environmental scientist and hydrologist. Currently, Senator Hansen is an environmental attorney. Hansen is Chair of the Senate Transportation Committee and a member of the Senate [Environmental, Natural](#)

[Resources & Energy](#) Committee, Joint Legislative Oversight and Sunset, Sunset, and Agriculture Committees.

II. Bryant Richardson- State Senator, District 21 (R)

A. Appointee Information

Senator Richardson is a president of Morningstar Publications, Inc. and he is a member of the Senate Agriculture, Joint Legislative Oversight and Sunset, Elections and Government Affairs, and Veterans Affairs Committees.

III. Debra Heffernan- State Representative, District 6 (D)

A. Appointee Information

Representative Heffernan is an environmental toxicologist and the Chair of the House Natural Resource Committee. She is the Vice-Chair of the House Health and Human Development Committee and a member of the Appropriations, Energy, Education, Joint Finance, and Veterans Affairs Committees. Rep. Heffernan also serves on the state's Hazardous Substance Advisory Committee.

IV. Ronald Gray- State Representative, District 38 (R)

A. Appointee Information

Representative Gray is the owner of R.E. Gray & Associates Engineering Company and part owner and operator with family of Shady Park, Inc., West Fenwick Car Wash, Mason Dixon Car Wash, and West Fenwick Self Storage. Rep. Gray is a member of the House Natural Resources, Economic Development/Banking/Insurance/Commerce, Housing and Community Affairs, Labor, Revenue & Finance, and Veterans Affairs Committees.

V. Michael Costello- Sussex County, County Administrator Appointee

A. Entity Description

The Sussex County, County Council comprises 5 members. Todd Lawson is the county's appointed County Administrator. Lawson oversees 11 departments including the Planning Department and Code Enforcement. The mission of the Planning Department is to provide assistance and advice to the County Council, the Planning & Zoning Commission, the Board of Adjustment, residents and business communities, and the general public on the current Comprehensive Land Use Plan, zoning ordinances, subdivision ordinances, zoning maps, flood maps, and the necessary steps to go through the many public hearings processes and permit processes.

B. Appointee Information

Mr. Costello worked at the Delaware Department of Natural Resources and Environmental Control as a police officer and currently serves as the Chief Code Enforcement Officer for Sussex County.

VI. Tracy Surles- New Castle County, County Executive Appointee

A. Entity Description

New Castle County government consists of an elected Council of 13 members and an elected County Executive. Matthew Meyer is the current County Executive. As is the case with all three County governments, the County government has primary jurisdiction over matters of land use, development, and code enforcement outside of municipalities.

B. Appointee Information

Tracy Surles is New Castle County's Special Services General Manager. As the General Manager, Ms. Surles oversees county park maintenance, sewers, county construction, and building maintenance.

VII. Michael Petit de Mange - Kent County Administrator Appointee

A. Entity Description

The Kent County Department of Administration consists of the County Administrator's Office, Economic Development Office, Information Technology Office, and Personnel Office. These offices support the seven elected Levy Court Commissioners as well as other County departments and elected County offices by administering all County functions relating to employees and infrastructure. The Department of Administration is headed by the County Administrator, Michael Petit de Mange, who is the chief appointed officer of the County.

B. Appointee Biography

Michael J. Petit de Mange, AICP, became the County Administrator for Kent County, Delaware on April 8, 2007 after serving as the County's Planning Director for nearly 5 years. Prior to joining Kent County, he served as Director of Planning & Inspections for the City of Dover, Delaware and as an Associate/Branch Manager for Landmark Engineering, Incorporated. While with the City of Dover, Mr. Petit de Mange also served a four (4) year term on the Kent County Regional Planning Commission. He has over 29 years of experience in municipal management and regional planning.

VIII. Joseph Rogerson- Department of Natural Resources and Environmental Control

A. Entity Description/Mission Statement

The mission of the Delaware Department of Natural Resources and Environmental Control (DNREC) is to protect and manage the state's vital natural resources, protect public health and safety, provide quality outdoor recreation and to serve and educate the citizens of the First State about the wise use, conservation and enhancement of Delaware's Environment. DNREC manages and conserves Delaware's natural resources through programs, divisions, and law enforcement.

## B. Appointee Information

Joseph Rogerson is a Certified Wildlife Biologist and has worked for the Delaware Division of Fish & Wildlife for nearly 12 years. Currently, he is the Program Manager for Species Conservation and Research where he oversees the conservation and management of the state's game and nongame wildlife and plant communities. Before being promoted to his current position, Joe spent the previous 9 years as Delaware's Deer and Furbearer Biologist. Prior to working for the Division, he worked for nearly a year with the USDA APHIS Wildlife Services as a Wildlife Specialist and before that he received his B.S. degree in wildlife and fisheries resources from West Virginia University in 2003 and a M.S. degree in wildlife ecology from the University of Delaware in 2005. In his free time, Joe enjoys doing anything outdoors including hunting, hiking, fishing and spending time with his wife, Alison, and their two daughters.

## IX. Dr. Faith Kuehn- Department of Agriculture's Plant Industries

### A. Entity Description/Mission Statement

The mission of the Delaware Department of Agriculture (DDA) Plant Industries Section is to prevent the introduction, establishment, or spread of plant and honeybee pests, and suppress, control, abate, or eradicate those pests that are dangerously injurious to the agricultural, horticultural, and forestry interests of the state; enforce the Plant Pests Law, the Nurseries and Nursery Stock Law, the Noxious Weeds Law and DDA Rules & Regulations for Noxious Weed Control, the Beekeeping Law, the Seed Law, and Grain Testing Devices Law; regulate, in cooperation with the United States Department of Agriculture (USDA), agricultural biotechnology research; provide export certification and inspection services for exporters of Delaware agricultural plants and plant products; and provide seed certification, seed testing services, and inspection services for harvested grains.

### B. Appointee Biography

Since October 2001, Faith B. Kuehn has served as Environmental Program Administrator for the Delaware Department of Agriculture's Plant Industries. Specific program responsibilities include nursery, apiary, noxious weeds, and invasive species. In 2006, the Department received a Sustainable Agriculture Research and Education (SARE) grant to catalog native bees in Delaware's vegetable production areas, and work with farmers to establish bee conservation practices on their farms. In 2010, Faith began a project to develop community and therapeutic gardens at the State's Holloway Campus, and Delaware Psychiatric Center. This project has grown to become Planting Hope Urban Farm, with a Campus Market, CSA, Planting Hope Apiary and a program with and Terry Children's Psychiatric Center. In 2015, she received a grant from the USDA to develop and implement Delaware's Pollinator Protection Plan. In 2017, together with a Delaware farm family, she received a SARE grant to establish pollinator buffers on their poultry farm. Faith represents Delaware on the National Plant Board.

Faith earned a Ph.D. in Entomology from the University of Arizona in 1984, and an M.B.A from the University of Delaware in 1994. Before coming to the Delaware Department of Agriculture, Faith worked as Museum Director for the Insectarium in

Philadelphia; and in Research, Development, Marketing, and Technical Support positions within E.I. DuPont de Nemours & Co.'s Crop Protection Division.

One of Faith's consuming interests is exploring connections between art and the science of insect life. This involves investigating art that reflects the structure, function and cultural connections of insects, with a special emphasis on insect jewelry.

## **Appendix C: Minutes from Task Force Meetings**

### **Statewide Ecological Extinction Task Force**

**Tuesday, July 25<sup>th</sup>, 2017**

**7:00 pm – 9:00 pm**

**Senate Hearing Room, Legislative Hall**

#### **Meeting Attendance**

##### **Task Force Members:**

##### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Doug Tallamy  
Faith Kuehn  
Sarah Cooksey  
Chris Bason  
James White  
Kathy Stiller  
Katherine Holtz  
Maria Evans  
Susan Barton  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Tracy Surlles  
Michael Petit De Mange

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##### **Absent:**

Representative Heffernan  
Michael Costello

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Michael.Costello@sussexcountyde.gov

##### **Staff:**

Jennifer Parrish, Legislative Assistant  
Ashley Kennedy, Task Force Assistant

Jennifer.Parrish@state.de.us  
Kennedy@udel.edu

##### **Attendees:**

Glen Mellin  
Lenny Truitt  
Verity Watson  
Jim McCulley

##### **Organization:**

N/A- Member of the public  
N/A- Member of the public  
Home Builders Association  
N/A- Member of the public

**The Task Force meeting was brought to order at 7:04 pm.**

## **Statement of Purpose and Overview of Senate Concurrent Resolution 20**

Senator Hansen, Chair, introduced herself to those present and thanked everyone for attending the meeting. She explained that the idea for the resolution, Senate Concurrent Resolution 20, under the provisions of which the task force was established, stemmed from a presentation by UD Professor Doug Tallamy which she had heard while serving as a member of DNREC's HSCA Advisory Committee. The presentation focused on the extinction of local species in Delaware. Senator Hansen went on to say that she recently resigned from the advisory committee to prevent a possible conflict of interest while serving in elective office.

Senator Hansen stated that during the HSCA Advisory Committee meeting, Professor Tallamy informed the attendees that the information contained in his presentation could be found in his book, *Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens*.

The Senator said she was alarmed by the percentage that local species have decreased.

- 40% of all native plant species are threatened or have already left the State
- 41% of our bird species that depend on forest cover are rare or absent
- 50% reduction in population size of many of our bird species over 50 years
- 78% loss of our freshwater mussel species
- 34% loss of dragonfly species
- 31% loss of our reptile and amphibian species
- 20% loss of our fish species

Senator Hansen was so alarmed by the decrease of local species that she asked Dr. Tallamy to present at the yearly symposium of the Environmental Law Section of the Delaware State Bar Association, of which she is vice-chair.

The Senator outlined the purpose of the Task Force:

- To study the extinction of local plant and animal species,
- To identify causes and drivers of local extinction, and
- To make specific recommendations for action.

Senator Hansen pointed out that the lifetime of the Task Force is short. It is being called on to develop a report encapsulating its findings and recommendations and deliver the report to the General Assembly by no later than December 1, 2017. There are approximately 18.5 weeks between the date of the first meeting & the date the final report is due. The Senator explained that the reason for this short timetable is to make it possible for any legislation that comes from task force recommendations can be drafted by January, 2018, to give it as much chance as

possible to be brought before the General Assembly for its consideration during the 2018 legislative session.

Senator Hansen expressed the hope that the final task force report can be similar in structure to a final report issued by the Wilmington Public Safety Strategies Commission. The commission's report contains a list of specific recommendations together with an assessment of the ease or difficulty of their implementation, the public as well as private cost, and public acceptability. The Senator listed the possible requirements to carry out the recommendations of the final report:

- Legislation
- Memorandum of Understanding between the State and the County
- Policy shift by the State
- Other actions

### **Introduction of Task Force Members**

Senator Hansen invited the Task Force members to introduce themselves.

The following members introduced themselves and the organization they represent:

- Susan Barton - Delaware Nursery & Landscape Association
- Christopher Bason - Delaware Center for Inland Bays
- Maria Evans - Delaware Association of Realtors
- Ronald Gray - State Representative
- Katherine Holtz - Delaware Farm Bureau
- Dr. Faith Kuhen - Department of Agriculture, Plant Industries
- Senator Richardson - State Senator
- Joseph Rogerson - Delaware Department of Natural Resources and Environmental Control
- Matthew Sarver - Delmarva Ornithological Society
- Michael Petit De Mange - Kent County
- Tracy Surlles - New Castle County
- Douglas Tallamy - University of Delaware Department of Entomology
- James White - Delaware Nature Society
- Kathy Stiller - Delaware State Chamber of Commerce
- Sarah Cooksey - Nature Conservancy in Delaware
- Robert Thornton - Home Builders Association of Delaware

## **Presentation by Professor Douglas Tallamy**

Professor Tallamy gave a presentation on “Restoring Nature’s Relationships.” He presented examples of the specialized relationships between species, with emphasis on food specialization (i.e., there are species whose diets are restricted to only one or a few species of plants or animals, and this is not the exception, but the rule). He explained that even species that are not widely considered specialists often do have specialized relationships upon closer scrutiny; for example, the Carolina Chickadee is generally considered a seed-eater, but during the breeding season it feeds its young almost exclusively on caterpillars.

Professor Tallamy continued by explaining that caterpillars are ideal bird food because they are soft, large, full of protein and fats, and rich in carotenoids, which have numerous physiological benefits. Birds and other vertebrates cannot synthesize carotenoids themselves, so they must obtain carotenoids from their diet, either by eating plants, or by eating insects that eat plants. He emphasized that the importance of caterpillars to birds cannot be overstated: a single pair of chickadees requires more than 6,000 caterpillars to rear one clutch of chicks, and chickadees are only one of hundreds of North American bird species that rely on caterpillars. In addition to birds, examples of other local wildlife that eat insects include spiders, reptiles, amphibians, bats, mice, skunks, opossums, raccoons, red foxes, and other mammals. The professor warned that if we eliminate insects, we eliminate the animals that eat insects.

The presentation showed that plants have evolved defensive chemistry that renders them toxic or unpalatable to herbivores. As a result, herbivorous insects have evolved into the most specialized group of animals on earth; 90% of insects that eat plants can develop and reproduce only on the plants with which they share an evolutionary history. The professor presented an example that most people are familiar with: the monarch butterfly, a specialist on milkweed. Milkweed is toxic to most herbivores because it is loaded with cardiac glycosides, and additionally protected by a sticky latex sap that can glue insects’ mouths shut, but monarchs have evolved adaptations to overcome these defenses. The downside of specialization is that milkweeds are now the only plant monarchs can eat. Due to this tight-knit association between these two species, monarchs have declined 96.4% since 1976, largely because of the reduced availability of their milkweed host plant. Professor Tallamy reminded us that the monarch-milkweed association is just one of countless examples of insect-plant specialization, but we can use it as an index to assess how other insect specialists are doing.

Professor Tallamy continued by saying that our protected natural areas (e.g., parks, preserves) are not large enough to sustain nature. Natural areas have been fragmented into smaller areas supporting smaller populations, rendering species more vulnerable to extinction. Natural areas have also been invaded by 3,300 species of introduced plants, which do not support the same high level of insect diversity and abundance that native plants do. The professor demonstrated this by sharing results from a simple experiment he did in his neighborhood. He measured caterpillar diversity and abundance on several tree species: a single white oak (native) had 410 caterpillars representing 19 species, a single black cherry (also native) had 239 caterpillars representing 14 species, but a Bradford/Callery pear (non-native) only had 1 caterpillar, and a

burning bush (also non-native) had only 2 caterpillars representing one species. He obtained similar results when the experiment was repeated.

Professor Tallamy said that, globally, invertebrate abundance has declined 45% since 1974. He added that the good news is that if we can understand what food webs comprise, we can rebuild them and reverse the declining population trend, putting species back in the landscape by purposely rebuilding their food webs. He mentioned that the National Wildlife Federation has a “Native Plant Finder” to help people identify which species would be best to plant in their region. He drew attention to “foraging hubs,” or plants that are particularly productive hosts for insects, and said that only 5% of the native plant genera support 73% of the available caterpillar species. According to Professor Tallamy, some of the most important “foraging hubs” in our region are *Quercus* (oak), *Prunus* (cherries), *Salix* (willows), *Betula* (birch), *Populus* (poplars), and *Acer* (maples). He described a project completed by his student, Desiree Narango, in the Washington, D.C. area. Narango followed nesting birds to see where they foraged, and found that they foraged on preferred tree species that are known to be most effective in producing caterpillars.

Professor Tallamy gave a reminder that biodiversity provides ecosystem services such as sequestering carbon, supporting life, cleaning and managing water, enriching the soil, and supporting pollinators, which pollinate 80% of our plants. Past criteria for choosing plants for our landscapes tended to focus more heavily on their decorative value, but responsible land stewardship dictates that in the future we need to choose plants based on their food web value. He emphasized that in order to share our neighborhoods with wildlife, we need to create corridors to connect natural areas, reduce the area now devoted to lawn, and begin a transition from alien ornamentals to native ornamentals. Dr. Tallamy concluded by saying that residential landscapes should be recognized as a powerful conservation tool, and while nature can be resilient and forgiving, she is not endlessly forgiving.

### **Discussion of Next Steps**

Senator Hansen opened the floor to questions (there were none) and moved the discussion to next steps. She reminded members to complete the questionnaire that was distributed and to provide electronic copies of any pertinent research that their organizations have completed on the topic of extinction of local species. She suggested that the format of beginning meetings with a presentation to educate Task Force members could be continued, and encouraged members to reach out if they would like to give a presentation at a future meeting. Senator Hansen proposed that the Delaware Wildlife Action Plan could be the topic of the next meeting. It was decided that Task Force meetings will be held every two weeks until further notice, alternating between evening and daytime meeting times, which will allow for a total of nine meetings.

Turning to the topic of potential task force recommendations to include in the report, Senator Hansen suggested that the task force could advocate for planting only native plants on state government-owned property, and introduce no-mow zones along certain roads.

Robert Thornton brought up the importance of providing incentives to protect endangered species rather than adopting a punitive approach, which would generate pushback from the

public. He referred to the “Shoot, Shovel, and Shut Up” policy that some people adopt towards unwelcome endangered species on their land. He expressed the view that it would be unwise to control land use to save plants and animals without providing adequate compensation for land owners. He suggested that we should educate people (specifically, home buyers) to explain to them why they can’t plant certain species.

Douglas Tallamy agreed that an incentive approach rather than a punitive approach would be most effective. He said that the economy of scale favors non-native plants because historically there has not been a market for native plants. He noted that supply chains respond to markets and there are signs that this is changing.

Matthew Sarver noted that Delaware does not have any native-only nurseries.

Susan Barton noted that many people within the landscape and nursery sector would be supportive of laws restricting the sale of non-native plants, whereas it is unlikely that nursery owners would voluntarily stop the sale of non-native plants on an individual basis.

Senator Richardson noted that he had voted against SCR 20 but that if it were to come up again he would vote for it. Senator Hansen thanked him for that endorsement.

Chris Bason said that it’s a fallacy that people are trying to stop development, and those who have tried have failed. He noted the large amount of development, particularly in Sussex County, and said that the important thing is changing the way sites are designed. He commented on the importance of preserving nature that is in place (e.g., saving older, larger oak trees) has more conservation value than planting new, smaller ones somewhere else.

Senator Hansen guided the discussion to the next meeting, which was set for Monday, August 7, at 6:30 p.m., in the Senate Hearing Room at Legislative Hall, Dover. The option of having a call-in number to include members who can’t make it to future meetings in person was discussed.

**The meeting was adjourned at about 9:00 p.m.**

# **Statewide Ecological Extinction Task Force**

**Monday, August 7<sup>th</sup>, 2017**

**6:30 pm – 8:00 pm**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Douglas Tallamy  
Sarah Cooksey  
Chris Bason  
James White  
Katherine Holtz  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Michael Costello

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Matt@matthewsarver.com  
Silverstok@aol.com  
Joseph.Rogerson@state.de.us  
Michael.Costello@sussexcountyde.gov

#### **Present (Conference Call):**

Representative Heffernan  
Michael Petit De Mange  
Faith Kuehn  
Kathy Stiller

Debra.Heffernan@state.de.us  
Michael.Petitdemange@co.kent.de.us  
Faith.Kuehn@state.de.us  
Kstiller@brightfieldsinc.com

#### **Absent:**

Susan Barton  
Tracy Surles

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Tnsurles@nccde.org

#### **Staff:**

Jennifer Parrish, Legislative Assistant  
Ashley Kennedy, Task Force Assistant

Jennifer.Parrish@state.de.us  
Kennedy@udel.edu

#### **Attendees:**

Jim McCulley  
Greg DeCowsky  
Verity Watson  
Ronald Hill  
Laura \_\_\_\_\_

#### **Organization:**

Home Builders Association  
N/A- Member of the public  
Home Builders Association  
Delaware Farm Bureau  
Delaware Farm Bureau

David Carey  
Ellison Carey  
Howard Fortunato

N/A- Member of the public  
N/A- Member of the public  
Home Builders Association

**The Task Force meeting was brought to order at 6:32 pm.**

**Introduction**

Senator Hansen introduced herself as the chair of the Task Force, Senator for District 10, and invited all other attendees to introduce themselves. The Task Force approved the minutes from the July 25<sup>th</sup> meeting. Senator Hansen said that she had received feedback from members about their organizations' research on extinction and reduction of local species, specifically from the Delaware Nursery and Landscape Association, the Homebuilders Association of Delaware, and the Delaware Center for the Inland Bays.

Douglas Tallamy, University of Delaware Department of Entomology and Wildlife Ecology, noted that he brought materials from Sue Barton (Delaware Landscape and Nursery Association) to distribute at this meeting.

Senator Hansen introduced Joseph Rogerson, Program Manager for Wildlife Species Conservation and Research for Delaware Division of Fish and Wildlife, as this meeting's speaker.

**Presentation by Joseph Rogerson**

Mr. Rogerson began his presentation by noting that although Delaware is the second smallest state, it contains a great diversity of wildlife because it is on the northern range of many southern species and the southern range of many northern species. He said that there are more than 2,800 known wildlife species in the state, including amphibians, birds, mammals, fish, mollusks, insects, and reptiles.

Mr. Rogerson noted that DNREC's Wildlife Action Plan Coordinator position is vacant, but would be filled soon.

Mr. Rogerson continued with an overview of the Delaware Wildlife Action Plan (DEWAP). The DEWAP is a ten-year plan and blueprint for conserving biodiversity at the state, local, and regional levels. All 50 states and the District of Columbia are required to have a wildlife action plan in order to receive federal assistance for conservation of wildlife. The DEWAP can be used by landowners, municipalities, and government agencies, or at the regional level; it is available to everyone and applicable at multiple scales, from local to national. It was written over a two-year period with multiple stakeholders and many people and organizations contributing to its content. Mr. Rogerson noted that among those present, Matthew Sarver (Delmarva Ornithological Society) and James White (Delaware Nature Society) contributed to the DEWAP.

Mr. Rogerson next addressed the topic of why Delaware needs such a plan. He said that every state is required to have one to be eligible to receive funding through the State Wildlife Grants

Program, a program which receives annual appropriations from Congress and is coordinated through the U.S. Fish and Wildlife Service. The plan requires that states assess species of greatest conservation need (SGCN). These SGCN are not necessarily rare species, but may include species that are important to ecosystem function or are locally rare.

Mr. Rogerson explained that the State Wildlife Grants Program provides federal grant funds to state wildlife agencies to develop and implement Wildlife Action Plans. These benefit wildlife as well as their habitats and communities that they live in. States can use funds for research, conducting surveys/species inventories, species restoration, habitat management, and monitoring. For Fiscal Year 2017, Delaware was eligible to receive \$498,594 in federal funds. Federal apportionments are based on a formula that considers the land area and the population of each state, along with a stipulation that no state shall receive less than 1% or more than 5% of the total funds available. Given these parameters, Mr. Rogerson said, Delaware receives more funding than would be predicted based on its area and population alone.

Mr. Rogerson noted that in order to match federal funds from the State Wildlife Grants Program, each state is required to have a non-federal funding source at a 65:35 match ratio. Volunteer time can be used towards the matching of state funds. Based on the federal funding figure for Fiscal Year 2017, Delaware needed a total of \$268,474 in non-federal matching funds, bringing the total annual budget to implement the DEWAP up to \$767,068. Mr. Rogerson noted that this is not nearly enough funding to do the necessary conservation work for the more than 2,800 species in the state. He mentioned that a major initiative is underway to provide additional funding from existing federal royalties on energy and mineral development (Recovering America's Wildlife Act), which would provide Delaware with about \$12 million annually to implement DEWAP.

Mr. Rogerson noted that the DEWAP benefits wildlife, but it also benefits people through initiatives that promote clean air and clean water. He explained that State Wildlife Grant money cannot be used for the conservation of individual plant species, so the state aims to manage habitats that benefit rare plant communities rather than focusing on particular plant species.

Mr. Rogerson next provided an overview of the structure of the DEWAP, beginning with the required elements: list of Species of Greatest Conservation Need (SGCN), their associated habitats, prioritized conservation issues, at least one conservation action that could be implemented to help resolve each issue, description of monitoring and measuring effectiveness of the plan, plans for future review and revision of the plan, and coordination with partners. Mr. Rogerson emphasized that the plan is not a static document but should be constantly updated (e.g., to reflect new species or to include new conservation issues as they arise).

Mr. Rogerson summarized the DEWAP chapter by chapter. Chapter 1 pertains to Species of Greatest Conservation Need. Of the 2,800+ species listed in the state, 688 were identified as SGCN; 86 are state endangered and 16 are federally endangered or threatened. Some SGCN are hunted although most are not.

Senator Hansen asked Mr. Rogerson to define SGCN. He replied that the SGCN designation takes several factors into account, including how common the species is, but also how important the species is to ecosystem function and future threats to its conservation.

Matthew Sarver added that Delaware is part of a regional bloc of 13 northeastern states that collectively identified SGCN for the region. Mr. Rogerson added that while a given species (e.g., the mummichog, a small killifish found along the Atlantic coast of the United States and Canada) might have a strong or stable population within Delaware, the species may be of conservation concern at a larger, regional scale.

Douglas Tallamy asked if the argument for conservation would be stronger if the number of species listed for Delaware was higher. He added that the actual number is much higher than the listed 2,800, given that there are at least 2,000 species of moths alone, and suggested that adding more species to the inventory would strengthen the argument that Delaware has a lot of biodiversity.

Matthew Sarver explained that the list only reflects species for which conservation data are available.

Mr. Rogerson continued by explaining that Chapter 2 discusses Delaware's wildlife habitats, including ecological descriptions, habitat classifications, and specific conditions and extent for each habitat. Chapter 3 identifies issues affecting SGCN, from big-picture issues (e.g., climate change, pollution, development) that affect many SGCN and habitats, to specific stressors like white-nose syndrome affecting bats. He emphasized that while Delaware is a small state, it is the sixth most densely populated, presenting a wide range of conservation issues.

Mr. Rogerson went on to explain that Chapter 4 is the most essential part of the plan as it identifies various actions that could reduce or alleviate the issues described in Chapter 3. These action items can be of interest to landowners, agency biologists, elected officials, local governments, and others. Chapter 5 pertains to successes, providing tangible evidence of how actions were implemented (e.g., surveys conducted). Chapter 6 pertains to outreach and coordination and gives the timeline and history of the project.

Mr. Rogerson provided a few key examples of past projects/successes. These included the acquisition of 748 acres, including important wetland habitat along the St. Jones River. Another example is a species-specific conservation plan for the Delmarva Fox Squirrel, which was a federally threatened species that has been delisted. Additionally, bird survey work through the Delaware Breeding Bird Atlas has helped to close knowledge gaps, improving understanding of bird species' distributions.

Mr. Rogerson concluded his presentation with goals for the next ten years. The visualized end product for the DEWAP is a user-friendly plan with greater accessibility and specificity. One of the greatest identified threats was the lack of information, especially a lack of systematic expertise (i.e., there is a need for biologists who can identify insects under a microscope). Additional goals include increased partner participation with greater input from the public, citizen science, and conservation organizations. The DEWAP will ideally become web-enabled to become more hands-on and user-friendly, allowing users to select a particular area and see which issues affect that area.

Mr. Rogerson noted that US Fish and Wildlife approved the DEWAP in February 2017. He then demonstrated how to find the DEWAP online at this URL:

<http://www.dnrec.delaware.gov/fw/dwap/Pages/default.aspx>

Mr. Rogerson explained that the PDF is probably easier for most people to use than a printed version because it is searchable.

## **Discussion**

James White suggested that the DEWAP could be organized in taxonomic order.

Senator Hansen asked if we can tell who is using the plan.

Mr. Rogerson explained that while DNREC engages with partners throughout the process, they would not necessarily know if specific individuals used it. He then explained that a future goal is to take the action items and distill them down to various user groups (e.g., landowners versus municipalities) to make it more specific to those groups.

Senator Bryant Richardson asked how far off the coast the plan applies to.

Mr. Rogerson stated that the plan applies to three miles off of the coast. He added that the DEWAP applies to invertebrates, even microscopic ones, but not bacteria.

Senator Richardson asked Mr. Rogerson for a current list of the ten most endangered species in Delaware.

Mr. Rogerson explained that some species are listed as endangered federally or at the state level. However, there may be other species that should be included but are data-deficient. He suggested that states' list of endangered species would be a good starting point.

Robert Thornton, Home Builders Association, clarified that while federal funds from the State Wildlife Grants Program cannot be used explicitly for plant species conservation, they can indirectly be applied toward plant conservation.

Mr. Rogerson confirmed that this is true and illustrated the point with the example of a program to benefit pollinators, which would entail creating pollinator habitat by planting specific plants.

Senator Hansen said that it is time to focus on specific action items, and suggested that after the next meeting, members should come to subsequent meetings with specific recommendations.

Chris Bason, Delaware Center for Inland Bays, asked Mr. Rogerson which action items he would consider low-hanging fruit.

Mr. Rogerson offered to give this question further consideration and distill some of the ideas in the DEWAP down before the next meeting.

Robert Thornton provided a handout from the Home Builders Association.

Senator Hansen commented that it was a great compilation of action items that is worthy of discussion and asked the HBA to make a short (10-15 minute) presentation at the next meeting. Senator Hansen also stated that she would ask Sue Barton to give a short presentation that would tie in well with topics covered by the HBA.

Mr. Carey, a member of the public, asked Senator Hansen for permission to read aloud a prepared statement. His statement reflected his concern that DNREC employees have trespassed on his family's property and collected data without permission.

Senator Hansen suggested that his concerns do not fall within the purview of the Task Force's objectives, but asked him to provide a copy of his statement for the Task Force's consideration.

After conferring with Task Force members, Senator Hansen set the date and time of the next meeting for Wednesday, August 23 at 9:00 a.m.

**The meeting was adjourned at 8:00 p.m.**

# **Statewide Ecological Extinction Task Force**

**Wednesday, August 23<sup>rd</sup>, 2017**

**9:00 a.m. – 11:00 a.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Doug Tallamy  
Sarah Cooksey  
Chris Bason  
James White  
Katherine Holtz  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Michael Costello  
Susan Barton  
Michael Petit De Mange  
Kathy Stiller  
Tracy Surles

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#### **Absent:**

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Faith Kuehn

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#### **Staff:**

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#### **Attendees:**

Dave Rickards  
Shauna Thompson  
Dave Carey

#### **Organization:**

Birdsong Gardens  
Pemberton Branch  
Pemberton Branch

**The Task Force meeting was brought to order at 9:01 a.m.**

### **Introduction**

Senator Hansen introduced herself as the chair of the Task Force and invited all other attendees to introduce themselves. The Task Force took a moment to look over the minutes from the August 7<sup>th</sup> meeting and approved them. Senator Hansen reminded the Task Force that there would be three short presentations at this meeting and introduced the first of the speakers, Robert Thornton from the Home Builders Association of Delaware.

### **Presentation by Robert Thornton**

Robert Thornton began his presentation, “Native Plants in Residential Development: Successes and Failures”, at 9:06. He explained that he has been in the residential community development business in Sussex County for 24 years. He used the Silver Woods project in Ocean View, Delaware as a case study to illustrate successes and failures with regard to building sustainability and convincing homebuyers to follow a native plants manual and pest management plan. Mr. Thornton explained that many homeowners in this area come from out of state. In his experience, many homebuyers will adhere to the manual only for a short time and then revert to planting non-native plants because they like how they look. He noted that he has earned acknowledgment for having the first certified “Green Home” in the nation under the National Green Building Standard and for being the first recipient of the Green4Green Rebate in Delaware.

Mr. Thornton explained that the Silver Woods project was originally approved as a mobile home park with no open space prior to its purchase by Silverstock, and was subsequently reworked over a decade as a mixed-use planned community with upland and wetland forest preservation. He presented maps showing two development options and said that he was able to preserve between 35-40 acres of wooded open space under both options. From a financial standpoint, Option 2 was more advantageous to a developer, but he pushed for Option 1, which entailed getting a 5-foot easement to drain directly into a ditch instead of a large storm water management retention pond, but the Plantation Park HOA turned it down. As a result, the water that was supposed to drain through that easement still drains into the ditch, but meanders in a fashion that is not best for the local hydrology. The lake is currently under construction because those who had opposed the easement thought that not allowing access would stop the project, not understanding that it had no bearing on whether the project would go forward. He reiterated that while the project began with only half an acre of open space, it now has over 35 acres of open space, a major accomplishment.

Mr. Thornton continued with an overview of the Native Landscape Manual he provides to homebuyers. It includes a list of plants that are allowed to be planted on lots as well as a list of plants that are not allowed. The manual contains pictures and specific identifying information for trees, shrubs, herbs, and vines. He described how even homeowners who support sustainability generally may still choose to destroy native plants (he provided an example of a homeowner who had solar panels on his roof but mowed down silky dogwoods because he didn’t like how they looked). From his personal experience, Mr. Thornton believes that we cannot rely on homeowners to comply with recommendations to plant native plants. He referenced the well-known acronym “NIMBY (Not In My Backyard)” and said he prefers the acronym “BANANA:

Build Absolutely Nothing Anytime Near Anyone” instead to reflect many homeowners’ mindsets.

Mr. Thornton mentioned that in the near future, Jim McCulley may provide some recommendations for incentives to get private homeowners on board with preserving open space.

Mr. Thornton concluded with an overview of lessons learned: people care more about trying to slow or stop development, planting the plants they like and not what is best for the environment, and people will do what they want if there are no consequences, but would likely respond better to incentives. He opened the floor to questions and comments.

## **Discussion**

Senator Hansen thanked Mr. Thornton for sharing his experience and asked if any other Task Force members have seen similar problems.

Joseph Rogerson (DNREC) said he has experienced some of the same frustration with native plantings. He said DNREC has funded a number of stormwater retrofit projects with native plants that were set up to be managed by communities, but communities typically manage them for only a few years and then slowly replace the native plants with non-native species. He said this frustration has caused them to question their investment in native plants.

Sarah Cooksey (Delaware Nature Conservancy) noted that when you don’t have plants all the way around a pond, you begin to see problems with high numbers of Canada geese.

Senator Hansen remarked that there seems to be a common theme of HOAs and management companies starting off on the right foot with native plants but gradually seeing a changeover to non-native plants. She said that there are a number of ways to address these problems: county ordinances against it, offering incentives, providing more education so people can connect what they’re doing in their own yards with local species extinctions. She remarked that many people think that the solution lies solely with legislation and don’t realize that they have a solution in their own backyards; people need to understand that they have a personal stake and personal responsibility, and we need to get that message out to people. She said that this group is uniquely qualified to answer some of these questions because the Task Force represent all levels of government and various stakeholders.

Michael Costello (Sussex County) said that one way this is being addressed at the local level is in enforcing lot maintenance requirements (e.g., those pertaining to tall grass and weeds) in communities and common areas. He explained that Sussex County works with the HOAs to establish specific varieties of vegetation that could be native and beneficial to wildlife in a given community and allow exemptions from the ordinance (i.e., a plant is allowed to exceed 12 inches if it is recognized as beneficial).

Dr. Tallamy (University of Delaware) said that education is key, but it takes a long time. He agreed with Mr. Thornton that incentives have potential to change things overnight. People don’t need to understand the science immediately, but will understand that they will benefit in a certain way.

Matthew Sarver (Delmarva Ornithological Society) commented that many people want to do the right thing but they lack the knowledge to do so, so they make their decision based on what's available at nurseries, taking into account such factors as what looks good and what's the right price.

Dr. Tallamy mentioned that some non-native plants have berries that are poisonous and kill the birds that eat them, so there are real consequences to having non-native plants.

Senator Hansen commented that the homeowner shown in one of Mr. Thornton's photos had solar panels on his roof, indicating that he identifies as environmentally-oriented, but may lack the understanding that other things he is doing on his property are at cross purposes with that.

James White (Delaware Nature Society) explained that we are battling a deeply-rooted cultural aesthetic. Our culture values things that look neat and perceives many native plants as messy or sloppy, and this will be very difficult to change.

Dr. Tallamy said that it is true that aesthetics are important, but people can accept ugly things; he provided telephone poles as an example. They have become a part of our culture because they are necessary for our own good. If we can show that our landscape needs to look a certain way to be functional, we can gradually change our culture.

Tracy Surles (New Castle County) said that New Castle County Executive Matthew Meyer is very supportive of the Task Force's efforts. She went on to say that the county is looking to partner with Mount Cuba and a new library at Route 9 to set up an ecologically sustainable garden that the community can help to plant and maintain. It is still in preliminary stages but could serve as an educational model for other locations. The county is also thinking of changing specs for buildings to require native plant species. Currently, the architects try to incorporate native species, but even with that good intention, the actual percentage of native species used in landscape plans is typically less than 50%, so we need more stringent specs or ordinances to effect change.

Joseph Rogerson commented that there are some constituents who don't want wildlife near their homes. He said that over the 12 years he has worked for the state, there has been a shift from legitimate wildlife complaints (e.g., requests to remove a raccoon from a shed) to residents complaining simply about the presence of wildlife in their yards and requesting their removal even when the animals do not present a threat. Another concern is that these changes we are proposing could lead to increases in deer numbers in areas with restrictions on hunting, which could lead to heightened risk of Lyme disease.

Robert Thornton mentioned that for everyone that dislikes wildlife, there are many people who specifically moved to this area because they like wildlife and consider it a highlight/selling point.

Senator Hansen introduced Sarah Cooksey from the Nature Conservancy of Delaware as the next speaker.

### **Presentation by Sarah Cooksey**

Sarah Cooksey began by explaining that the Nature Conservancy is the largest not-for-profit environmental agency in the world. It is global, with a chapter in every state. Delaware's chapter

is headquartered in Wilmington and the field office is in Milton. Their mission is to conserve the lands and water upon which all life depends. They envision a world where diversity of life thrives and people act to conserve nature for its own sake as well as its ability to enrich our lives. They work to connect people with nature using an adaptive management approach, inspiring people to protect nature.

Ms. Cooksey went on to explain that the Nature Conservancy, DNREC, and other environmental groups in the state worked with the Environmental Law Institute to create a document in 1999 focused on ways to protect our natural heritage and biodiversity. In 2013, the Delaware chapter did a review on how well the state did on all those recommendations: really well on some, but others are still in need of attention.

Ms. Cooksey provided an overview of those recommendations. The first is to maintain the viability of an individual species represented in an ecosystem. Ms. Cooksey explained that protecting an iconic individual species (e.g., bald eagles) allows you to protect other species as well.

Ms. Cooksey mentioned that the second recommendation, favoring native plants and animals and avoiding the use of non-natives species, has already been discussed at great length. She said that focusing on mature stages, such as large forests, is important because they tend to be more diverse. She explained that a large-scale project is more effective than a patchwork of efforts; we should manage on a regional or landscape level whenever possible instead of piece by piece.

Ms. Cooksey went on to explain that one area which has not seen much progress is protecting buffers. Buffers along waterways protect water quality as well as habitat. Another important tool is prescribed fire. Fire is a part of our ecosystem, and the Nature Conservancy is a proponent of allowing natural patterns to continue to act the way they used to. Ms. Cooksey said that we should try to minimize the introduction of nutrients, chemicals, and pollution into the environment, improve existing habitat, and restore degraded areas.

Ms. Cooksey emphasized the importance of private land ownership. She explained that most land in Delaware is privately owned; the state government cannot do it all, so we need to work with landowners, involve all our citizens, and foster leadership at all levels of government.

Ms. Cooksey said that we need to focus biodiversity initiatives more broadly than on the development of an acquisition strategy. She says that while she is a proponent for protecting open space, that cannot be our only strategy. Ms. Cooksey noted that we need to have a unified biodiversity assessment, provide biological data to local, state, and private decision-makers at a level which they can understand, and seek science-based solutions that are a win-win for private landowners and the resource. She concluded that our strategy needs to specifically address the effects of existing laws that are prohibiting us from moving forward.

## **Discussion**

Senator Hansen opened the floor to questions for Ms. Cooksey.

Senator Richardson asked what changes allowed the bald eagle population to recover.

Ms. Cooksey responded that the pesticide DDT was the main driver of the bald eagle decline because it had caused the thinning of eggshells, but it was gradually eliminated from the environment, which along with habitat protection efforts allowed the eagles to recover.

Matthew Sarver commented that the bald eagle is an example of a simple conservation success story because there was a “silver bullet”, one factor that was primarily responsible for the eagles’ decline, whereas for the vast majority of species, unfortunately the cause tends to be habitat loss or habitat alteration, is much more challenging.

Senator Richardson commented on the problem of deer overpopulation in Delaware, which includes such deleterious side effects as automobile accidents, and asked if anything could be done to address this problem besides prolonging the hunting season.

Joseph Rogerson explained that Delaware has the second-longest deer hunting season of any state, and recent legislation allowed for hunting opportunities on Sundays (allowing for an additional 1000 deer to be harvested) and for crossbows to be used as an additional weapon to hunt deer. He went on to explain that deer are thriving in residential areas that are too densely populated to allow hunting, and financial and logistical issues have restricted the use of other control methods such as birth control.

Senator Richardson asked how many deer we have in Delaware.

Joseph Rogerson responded that the best available population estimate for deer in Delaware is a 2009 estimate of about 50,000. He mentioned that the density is more important than the total count; i.e., the density may be higher in New Castle County because there is less hunting than in the southern part of the state.

Michael Costello commented that the number of licensed hunters in the state continues to decline, and the price of hunting licenses recently doubled, which is sending the wrong message about the need for hunters.

Dr. Tallamy spoke about the long-term ecological problems associated with deer overpopulation. He mentioned that the number of deer is several times over the carrying capacity (the ability of the environment to sustain those populations without damaging the environment) and that deer exacerbate the invasive plant species problem because they primarily eat native species, allowing the invasive species to have free rein.

Katherine Holtz (Delaware Farm Bureau) said that the Delaware Farm Bureau assesses the impact of deer via crop damage, and has heard from farmers that this year has seen a noticeable increase in the deer population (the worst in a decade). Some farmers have suffered damage in the range of tens of thousands of dollars per field.

Robert Thornton suggested that the state could follow other states’ example and have a large-scale deer cull.

Joseph Rogerson responded that this has been done, but it is very costly, about \$200 per animal in terms of operational expenses.

Senator Hansen introduced the next speaker, Susan Barton (Delaware Landscape and Nursery Association).

## **Presentation by Dr. Barton**

Dr. Barton began her presentation at 10:00 by speaking about ecosystem services, including clean water/water management, air quality, pollination services, biodiversity, wildlife habitat, and human engagement (i.e., getting people involved in the landscape). She mentioned that lawn is an important component of our landscape, but it does not need to be such a big component. She advised that we need to change the design paradigm and think about creating spaces in which people can live. She showed photos of properties that used minimal lawn in addition to plantings, and said that most people would agree that these alternative landscapes are more attractive and interactive than huge lawns. She explained that other options beyond lawn include meadow, forest, and landscape beds. She shared photos from a home with a sustainable landscape and mentioned that, as Mr. Thornton had addressed earlier, landowners often do not follow through in maintaining the land the way the developer sets it up.

Dr. Barton went on to explain that meadows provide better water management and support more wildlife than lawn and can be made to look attractive by mowing the edges. She talked about the importance of having good examples in public places so that others can follow that example on their private land. She showed photos from a park in Lewes where switchgrass was used in place of the more traditional ivy, petunias, etc. as ground cover, noting that this design looks appropriate to the beach setting and acts as a model for a sustainable landscape in a public space.

Dr. Barton remarked that paths mowed through a meadow make the space more usable because the paths engage people, inviting them to walk their dogs, run through, and use the space in other ways. She noted that we should be careful to avoid annual plants because re-planting each year is too intensive a management strategy to be sustainable. She showed photos from another property and explained that the pathways make it look purposeful, providing access so people can get more use out of the meadow. She noted that it can be a challenge to get people to accept these changes, and explained that signage and other cues of care are critical so that the property does not look like a weedy mess but instead looks interesting and purposeful.

Dr. Barton spoke about data from Florida which show that there is financial incentive to reduce mowing along highways. By cutting the amount of roadside mowing in half, Florida would be able to save millions of dollars. Delaware's roadside mowing costs about \$3.2 million a year, as of about 7-8 years ago, so there is potential for us to save over \$1 million a year. She added that mowing the edge can give the roadside a neat appearance while allowing native vegetation to grow.

Next, Dr. Barton showed photos of a wooded plot on the University of Delaware which was designed by landscape design professor Gary Smith. Smith did not plant anything, but only removed invasive exotic species over a ten-year period, allowing native trees (e.g., sweet gum, cherries, tulip poplars) to come in. Dr. Barton emphasized that you don't need a lot of land to create a forest, and a forest corridor can be created when multiple neighbors decide to grow one. She added that we don't need to cut the entire forest down when we develop but rather we can build into an existing forest. This reduces maintenance costs because woods maintain themselves. She noted that a downside is that native plantings may attract wildlife that people perceive as undesirable.

Dr. Barton addressed the point that native plantings need to be designed and managed such that they don't allow for weeds to grow between them (e.g., plants should not be planted ten feet apart with nothing but mulch in between). She explained that there is a management component as well as a planting component.

Dr. Barton went to explain that we don't have legislation in Delaware for invasive plants (although we do have noxious weed legislation, which pertains to plants that are problems for agriculture; invasive plants are problems in natural areas), but many other northeastern states do; New England has been the most forward-thinking in its legislation. In Delaware, we have typically taken an education approach rather than a legislation approach, but education alone is not going to work. She advised that we need to stop planting invasive plants but also control the ones that are already out there and prevent reintroduction of invasive species. She summarized that we need to think about several directions: stopping the sale of invasive species, incentives that will encourage people to remove invasive species, and replanting species that will hold the ground.

Dr. Barton concluded by sharing photos from Ashland, a workplace where many of the techniques she described had been implemented. Invasive species were removed, native species were tagged so they would be saved, pathways were created, and hopefully, because this is a workplace, it will become an example showing other people what they can accomplish in their residences.

## **Discussion**

Senator Hansen opened the floor to questions for Dr. Barton.

Representative Gray asked if invasive plants are more common now, and if so, why.

Dr. Barton replied that invasive species fit into two categories. The first includes those introduced for erosion control or some other purposeful (albeit misinformed) way or introduced accidentally, i.e., in ship ballast; no one plants them anymore, but they are here and spreading. The other category is purposeful introductions of ornamental landscape plants that are still being grown and sold in garden centers, which are attractive, cheap, and easy to grow. Dr. Barton added that growers in Delaware are generally opposed to the labeling law example set by Maryland, and would rather have some species banned than have to label them, which puts much of the burden on garden centers.

Senator Hansen began a discussion of next steps. At this point, the Task Force has heard presentations from five member organizations and we have started to compile lists of recommendations. She encouraged members to identify areas of overlap within those lists of recommendations and begin identifying which ones are most feasible. Senator Hansen asked which Task Force members would like to have a hard copy document of materials presented and compiled so far versus electronic copies. Seven members requested hard copies. She offered the choice of meeting in two weeks or three, given the significant amount of reading members would be encouraged to do between meetings.

James White commented that we should have a discussion about species of special concern, most of which require large habitats, which has not been addressed by the Task Force yet.

Joseph Rogerson mentioned that for some species, habitat loss may not be the main driver of decline.

After conferring with Task Force members, Senator Hansen set the date and time of the next meeting for Tuesday, September 12 at 1:00 p.m., and asked those members who had agreed to provide lists of recommendations to send those lists by September 6.

**The meeting was adjourned at 10:55 a.m.**

# **Statewide Ecological Extinction Task Force**

**Tuesday, September 12<sup>th</sup>, 2017**

**1:00 p.m. – 2:05 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Douglas Tallamy  
Sarah Cooksey  
Katherine Holtz  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Michael Costello  
Susan Barton  
Faith Kuehn  
Michael Petit De Mange\*  
*\*Represented by Kris Connelly*

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#### **Present (Conference Call):**

Kathy Stiller  
Representative Heffernan\*  
*\*Represented by Hadey Salem*

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#### **Absent:**

Chris Bason  
James White  
Tracy Surles

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Jim@delawarenaturesociety.org  
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#### **Staff:**

Jennifer Parrish, Legislative Assistant  
Ashley Kennedy, Task Force Assistant

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#### **Attendees:**

Howard Fortunato  
David Rickards  
Jim McCulley

#### **Organization:**

Home Builders Association  
Birdsong Gardens  
Home Builders Association

C. Scott Kidner  
Dave Carey  
Shauna Thompson  
Chris Klarich  
Verity Watson  
Hannah Greenberg  
Amy Highland

Pemberton Branch  
Pemberton Branch  
Pemberton Branch  
Delaware Nature Society  
Home Builders Association  
Delmarva Ornithological Society  
Mount Cuba Center

**The Task Force meeting was brought to order promptly at 1:00 p.m.**

### **Introduction**

Senator Hansen brought the meeting to order and introduced herself. She then invited all other attendees to introduce themselves and reminded them to sign in. The Task Force took a moment to look over the minutes from the August 23<sup>rd</sup> meeting and approved them. Senator Hansen then introduced the speaker for this meeting, Jim McCulley from the Home Builders Association of Delaware.

### **Presentation by Jim McCulley**

Jim McCulley began his presentation, “Natural Resource Preservation Incentive Concept”, at 1:03. He explained that the HBA has been thinking about this subject for a long time and that while it may not work in every case, it is one tool that can be added to the toolbox to try to preserve natural resources. He started by outlining several basic concepts that he hoped everyone present could agree on: valuable environmental resources need to be protected, these resources have tremendous value to the public, and unfortunately, these resources have little to no value to the landowner.

Mr. McCulley continued with a case study which took place in Sussex County, specifically, the peninsula in Indian River Bay, which was developed about 10 years ago. The developer, who hired Mr. McCulley to do environmental work for the development, planned to develop a 1000-acre property, of which about 200 acres were noted as the best loblolly pine forest in Delaware according to Lorraine Fleming’s book *Delaware’s Outstanding Natural Areas and Their Preservation*. When Mr. McCulley alerted the developer to the presence of this valuable pine forest, the developer quickly agreed to work with it to keep it intact; however, when Mr. McCulley went to the site, the pines had already been cut down by the landowner, who felt that they decreased the value of his property.

Mr. McCulley shared another example from his personal experience, involving work he did for the Navy about 15 years ago. Congress had dictated that every federal facility with natural resources had to do an Integrated Natural Resources Management Plan (INRMP), so Mr. McCulley was hired to do a study at the Patuxent Naval Air Station. About 2000 acres of a 7000-acre property was developed. Another 3000 acres on the property was an old-growth forest. About six months after writing the report for the base, Mr. McCulley returned to the site and noticed that all the old-growth forest had been cut down so it would not be included in the INRMP, likely due to concerns that it could be an impediment to expanding the base in the

future. This case, like the first, illustrated the point that even valuable natural resources are perceived as having little to no value by the landowner. He noted that the problem inherently lies not with the developer, who will map natural resources and put them on a plan to protect them, but with the landowner, who knows that increasing the number of lots on their property will increase its value. This raises the question of how we can provide value to the landowner.

Mr. McCulley said that another tool in our toolbox came out with an EPA study on “Protecting Water Resources with Higher-Density Development” (EPA, 2006). By working with landowners who plan to sell to a developer, or who plan to sell density credits, we could say that if you have natural resources on your property and you want to protect them, you can get a density bonus on your site or another site. The idea is that the higher the value of the resource, the bigger the bonus you would get, so there is more incentive to protect the resource. He provided a possible scenario in which Category 1 (Highest Value) would be a 4x density bonus, Category 2 (High Value) would be a 3x density bonus, Category 3 (Typical) would be a 2x density bonus, and Category 4 (Disturbed) would be a 1x density bonus. Mr. McCulley explained that in this scenario, you would have landowners trying to prove that they have high-quality natural resources on their property so they can get a good credit, instead of cutting down their loblolly pine forest before anyone else can discover it. The landowners could sell the credits in exchange for easements or provide incentives outside of growth areas for important resources.

He continued with an example of a fictitious 100-acre property with some rare species, forests, and wetlands on it and explained how it would typically get developed. A developer would typically get a permit to fill the drainage, cut down the non-wetland forest, and build 3 units per acre, for a total of 300 single-family homes. In Mr. McCulley’s scenario, the property would have 4.56 units per acre for 456 total units, including multi-family homes, townhomes, and single family homes, and the natural resources would be protected because of the bonuses.

Mr. McCulley went on to explain the cost, saying that you would not need money to pay people to protect these resources in this scenario, but you would need three other things to happen: the public would have to accept a higher density, buyers would have to want to buy into higher-density development, and builders would have to want to build higher-density development. Mr. McCulley feels that the builders would be on board and agree that the need for this kind of development exists, but the challenge lies in getting the public to accept it. He showed some graphics from the EPA report which illustrated that increasing the density allows you to protect more land within a watershed. He explained that currently, 4 units per acre is considered high-density, but in reality, this is sprawl, taking up more land than we need, so the aim is to provide developments with up to 8 units per acre. Mr. McCulley added that although 8 units per acre may sound unusually high to some people, there are certain demographics (e.g., the elderly, millennials) who would like to live this way, but the opportunity to do so is not currently provided.

## **Discussion**

Mr. McCulley opened the floor to discussion.

Robert Thornton (HBA) said that he thinks this approach would work, and if we adopt it gradually then we can learn which parts work the best.

Mr. McCulley reiterated that many landowners may have important resources on their property but don't want anyone to know about them, because the resources decrease the property value, whereas if the resources increased their property value, the landowners would want to protect them. He added that land use is a county decision, so counties and municipalities would have to agree to a concept like this, but we also have a State Planning Office which could play an important role in taking this concept and working it into comprehensive plans.

Susan Barton (Delaware Landscape and Nursery Association) shared a story from her sister's experience. Her sister bought land in Pennsylvania, and according to rules there, every tree she took down on her property had to be replaced, even though most of the ones she removed were Norway maples, an invasive exotic species that we should be encouraging people to remove. The other trees she removed were in very poor condition, but she was required to replace them with expensive trees. She said that this example shows that some rules are made by people who don't understand the biology behind them, and cautioned that we need to be careful not to do something that winds up being the opposite of what we want it to be.

Matthew Sarver (Delmarva Ornithological Society) asked how we would go about evaluating public resources and rare species.

Mr. McCulley responded that the more valuable the resource, the bigger a density bonus you should get, because you're preserving something that's more important to the public and should be rewarded accordingly. He said the details would largely be up to DNREC and the counties because land use decisions are at the county-level, and DNREC would be responsible for setting the criteria, i.e., establishing what resources are most important.

Dr. Barton said there needs to be someone in the decision-making role who understands the value of the land properly, so they can best assess what the valuable resources are.

Mr. McCulley responded that we already have this as part of the PLUS (Preliminary Land Use Service) process, which denotes what types of species and habitats are present, but landowners are getting rid of the resources before it comes to that process and before selling to the developer because the resources decrease the value of the property. He said that if we value certain resources, those resources should add value to property or landowners will simply get rid of them.

Faith Kuehn (Department of Agriculture, Plant Industries) noted that with higher density development scenarios, you might also need more roadways, more waste management, more support services, etc. and asked how that could be balanced.

Mr. McCulley responded that when you eliminate sprawl and increase density, the price of those services goes down because the services are now concentrated, and agreed that the high-density scenarios would only work in the growth zone, where there is adequate infrastructure to handle increased density.

Matthew Sarver asked about the stormwater and septic implications of density increase.

Mr. McCulley responded that higher-density development is only possible in the growth zone, and commented that 8 units per acre wouldn't work with septic or well water. He said that this is

why there needs to be a mechanism for transferring the density bonus to an area where the infrastructure is there to support it.

Robert Thornton noted that, in his experience, moving toward higher-density development would not have any adverse effects on infrastructure.

Mr. McCulley followed up by adding that in Mr. Thornton's project, Mr. Thornton had successfully preserved a large portion of forest areas by concentrating all the development in one area. This entailed going through a zoning process that many people won't go through because it's not by right.

Senator Hansen invited Sussex County members of the Task Force to add their comments.

Representative Gray said that the environmental benefit is apparent, and asked if developers will be able to market higher-density development. He also asked how we would put together a group to evaluate finding a balance between preserving the resources we want to preserve without restricting the use of resources we don't want to preserve.

Mr. Thornton said that you can't take a 100-unit property and fit 900 units on it, but somewhere there's a happy medium that would not adversely affect infrastructure. He said that if he were to guess at that equation, it would not be double but might be between 30-65% increased density, where the development would still be marketable and the infrastructure would be okay. He added that the market has changed in just the past ten years, for example, millennials like high-density, mixed-use communities that would not have been as popular ten or fifteen years ago.

Senator Richardson said that he would hate to see us get to the point where we dictate exactly what the homeowner can and cannot do on their property. He said he would like to avoid taking away private property rights and increasing expenses for the homeowner and would rather make this an educational process, leaving some choices to the discretion of the property owner.

Maria Evans (Delaware Association of Realtors) urged caution, indicating that high-density, mixed-use community development will not work everywhere; for example, it would not work as well in Sussex County).

David Rickards (Member of public; Birdsong Gardens) spoke about the possibility of compensating farmers for loss of farmland, and reiterated Ms. Evans' point that there are places where high-density development likely would not work.

Senator Hansen said that the Task Force is considering different approaches to this problem, and that a punitive approach (such as imposing fines or penalties for removing loblolly pines, for example) likely will not work because it goes against private property rights. She went on to say that another approach would be to recommend to the Office of State Planning that they, in turn, recommend to counties and municipalities that their plans encourage people to work outside of sensitive natural areas. This approach would allow local decision-makers to make decisions, but with guidance from our task force and the state.

Mr. McCulley said that typically, developers hire someone like himself to map the resources on the property and ideally show the minimal amount of resources possible. This would dramatically change the way things are done, such that developers would want to show the most

resources possible. He said it would be better if he were arguing with DNREC that a site was more valuable and DNREC arguing that it was less valuable than the other way around, which is too confrontational.

Ms. Evans asked what would happen if a property owner had their resources mapped out and then decided not to sell the property for development; i.e., what would happen with the information that was gathered.

Mr. McCulley responded that the property owner in that scenario could take their density bonuses and sell them to someone else, which would increase their value. He explained that, regarding what happens with the data, the same outcome would occur that happens now: essentially, if the report has been submitted to the county, then there would be a public record of it, but otherwise, it would be the property owner's private information.

Douglas Tallamy (University of Delaware) said that it would be better if the homeowner does not have to sell their property to realize the benefits; there ought to be some incentive to preserve natural resources that benefit everybody without selling. He went on to say that if you have old-growth forest on your property, it is sequestering carbon, it is managing the watershed, and benefiting everyone in Delaware, and you should be compensated for that. He concluded that right now, we don't have any monetary value on these resources, but we need to have some way to value them, which will be a big cultural change.

Mr. Sarver noted that he will provide a more comprehensive list of recommendations soon. He added that currently there is no real way for landowners to get support for species and habitat management.

Senator Hansen reminded the Task Force that the money (e.g., to provide incentives or implement a new program) has to come from somewhere, and that, in order to be effective as a Task Force, we should go a step further than saying we need money and explain how we are going to come up with it.

Dr. Kuehn said that we want people to make these changes because they understand what's at stake and understand the value that resources are providing. She provided an example from a senior living development in Magnolia, which had put in a golf course and meadow, but the development next door to it did not like the meadow for various reasons (e.g., fear that it harbored snakes as well as a general concern that it looked messy). She said it is critical that people see the value of natural resources.

Senator Hansen then invited Task Force members to look at the compiled list of recommendations provided by members on behalf of their organizations and her summary thereof, and asked members to send in any additional recommendations that were not already represented in this document by the next meeting. She commented that there was some overlap between recommendations, so in the document, she consolidated these into the top six recommendations, enumerated as follows: 1) education of the public, 2) incentivizing landowners, 3) government leading by example, 4) legislation affecting development, 5) funding the open space program at the statutory level, and 6) legislation to prohibit the sale of invasive species. She added that she planned to have an intern research what plants are being sold in

various stores and nurseries to investigate how bad the problem is, i.e., what percentage of plants being sold are non-native or native, so that we have a better idea of how long the process of phasing them out would realistically take.

Amy Highland (Mount Cuba Center) mentioned that Mount Cuba Center recently did a study of that nature and would be willing to provide the information they gathered.

Mr. Thornton noted that an additional problem beyond the plants' origin is whether they have been treated with harmful pesticides; even a native plant could do harm if it is treated with poisonous substances.

Dr. Tallamy said that plants treated with pesticides in a greenhouse setting would not be permanently affected. He added that there is a lot of pressure to use natural enemies in lieu of pesticides, but in his opinion, the pesticide issue is not as important as we make it out to be.

Senator Hansen said that moving forward, the next steps are to identify the recommendations that have the support of the majority of the Task Force and adding more specific recommendations within each one.

Dr. Barton commented that Senator Hansen did an excellent job distilling the detailed lists of recommendations that were provided into several succinct items. She added that we will need to add a certain level of detail back to the recommendations to make sure we're talking about the same thing; for example, lawn should not be considered productive open space.

Senator Hansen agreed that we should start with a low number of broad categories so that we can add greater detail to each one. She commented that one of the recurring points we've seen during these meetings is that we all have a part to play, that what we (not just those sitting here, but everyone) are doing in our own backyards plays a role in species extinctions. She added that this is actually empowering to know that individuals can effect change on this issue.

Mr. Sarver said that a lot of natural resource concerns have been historically greatly underfunded because the value is not well articulated, so monetizing some of the services and benefits of natural resources to communities may help make our argument in that context and potentially justify budget items. He concluded that this could be something that the task force helps to articulate to legislators and constituents.

Senator Hansen encouraged task force members to look through the list of recommendations and ensure that it properly encapsulates what their organization wanted to communicate. After conferring with Task Force members, she set the date and time of the next meeting for Thursday, October 5<sup>th</sup> at 1:00 p.m.

**The meeting was adjourned at 2:05 p.m.**

# **Statewide Ecological Extinction Task Force**

**Thursday, October 5<sup>th</sup>, 2017**

**1:00 p.m. – 2:30 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Sarah Cooksey  
Katherine Holtz\*  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Susan Barton  
Faith Kuehn  
Tracy Surlles  
James White  
Michael Petit De Mange\*\*  
*\*Represented by Laura Hill*  
*\*\*Represented by Kris Connelly*

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#### **Present (Conference Call):**

Kathy Stiller  
Representative Heffernan

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#### **Absent:**

Representative Gray  
Chris Bason  
Michael Costello  
Douglas Tallamy

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#### **Staff:**

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#### **Attendees:**

George Coombs  
Amy Highland  
Shauna Thompson  
Dave Carey  
Donald Keller

#### **Organization:**

Mount Cuba Center  
Mount Cuba Center  
Pemberton Branch  
Pemberton Branch  
Delaware Tech

Hannah Greenberg  
Chris Klarich

Delmarva Ornithological Society  
Delaware Nature Society

**The Task Force meeting was brought to order promptly at 1:00 p.m.**

### **Introduction**

Senator Hansen brought the meeting to order and introduced herself. She then went over the agenda, reminding members that there would be two short presentations at this meeting by Mr. Chris Klarich from Delaware Nature Society and Mr. George Coombs from Mount Cuba Nature Center, followed by a discussion of recommendations.

### **Presentation by Chris Klarich**

Chris Klarich introduced himself as the Campaign Manager for the Delaware Nature Society (DNS). He explained that DNS is the National Wildlife Federation affiliate for Delaware and they are working on a campaign to increase wildlife funding through the Recovering America's Wildlife Act. He said that wildlife is in decline across the country, and pointed out that many species, such as the red knot, are migratory and don't recognize state borders, so we need to think of wildlife decline as a national issue, not a state issue.

The RAW Act would redirect 1.3 billion dollars from the Treasury to a program called the Wildlife Conservation Restoration Program and from there to state wildlife agencies, allocated proportionally based on population and land area, to solve the problem of wildlife becoming endangered. Delaware would receive \$12.16 million a year through DNREC through the RAW Act, as outlined by the state Wildlife Action Plan. An estimated 1/3 of species nationwide are at risk of becoming endangered. Here in Delaware, we have a list of 688 species that are considered species of greatest conservation concern.

The RAW Act would essentially create a trust fund for state agencies to implement their initiatives and protect wildlife. Mr. Klarich mentioned the Pittman-Robertson Act (Federal Aid in Wildlife Restoration Act) as a past success story for increased funding helping wildlife. About 15% of wildlife species are protected under that act (hunting and sport fish species); the other 85% of wildlife species are only protected by the State and Tribal Wildlife Grant Programs, so they receive much less conservation funding. Another success story is how New England states pooled funds for regional wildlife conservation, which could set an example for other parts of the country.

Mr. Klarich went on to explain that Senator Carper is the ranking member of the Senate Environment and Public Works Committee, which gives Delawareans a unique opportunity to encourage him to champion this legislation to make sure state wildlife agencies have the resources they need to be successful.

### **Discussion**

Senator Hansen asked if the RAW Act has passed. Mr. Klarich said that it was introduced in 2016 with bipartisan sponsorship by Representatives Don Young (R-AK) and Debbie Dingell (D-MI) but did not have the momentum to go to a vote. He said that over 200 groups have signed on to support the RAW Act since then so it has gained considerable momentum.

Sarah Cooksey (Delaware Nature Conservancy) asked about the source of the revenue. Mr. Klarich said it would come from money in the Treasury that comes from oil, gas, and mineral extraction. The formula to determine how much funding is allocated to each state is based on population and land area, and no state would receive less than 1% of the total funding, which gives Delaware about \$12 million.

Senator Richardson asked where the \$482,000 would come from; Mr. Klarich clarified that that is how much DNREC currently receives. In order for Delaware to receive \$12 million in federal funding, the state would need to provide \$4 million (25% of the total). Mr. Klarich suggested that there are likely many creative ways to come up with the \$4 million, such as involving NGOs (both monetary contributions and volunteer hours, which can be assigned a monetary value).

Dr. Susan Barton (Delaware Landscape and Nursery Association) asked if the \$12 million would go towards all of the 7 listed actions. Mr. Klarich said that RAW is very comprehensive in detailing how the money can be used, including a range of actions ranging from research to habitat restoration to education to law enforcement.

Robert Thornton (Home Builders Association) said that he could make a strong case for Delaware receiving more money due to its including crucial habitat areas. He said he is interested in learning if the formula can be tweaked.

Joseph Rogerson (Department of Natural Resources and Environmental Control) said that Delaware would already receive more funding than it should based on the formula alone, because of the stipulation that no state shall receive less than 1%.

Senator Hansen invited the Task Force members and other attendees to introduce themselves at this point. The Task Force reviewed the minutes from the last meeting and approved them after making an amendment to the attendance records. Senator Hansen then introduced the second speaker.

### **Presentation by George Coombs**

Mr. Coombs introduced himself as the plant research manager at Mount Cuba Center, a public garden focused on native plants. He said that a recent initiative was to evaluate the effectiveness of changing what plants are being sold in the industry. A first step was to assess what plants were already being sold at wholesale-level nurseries (i.e., places where plants are grown before they are later sold at a local garden center, Home Depot, etc.) to establish a baseline for comparison purposes. Because there are no wholesale nurseries in the state of Delaware, the study considered this from a Mid-Atlantic regional standpoint, examining a representative sample of 14 such

nurseries from Pennsylvania, New York, New Jersey, Maryland, and Virginia. The results were categorized by type of plant being sold, method of growing (e.g., in the field versus in containers), and customer type (landscapers, independent garden centers, etc.). He mentioned one caveat with this study was that they did not have access to the one big box grower in this region, which supplies to Home Depot, but he said the diversity of plants sold there would likely be similar to that seen at other nurseries which were included.

Mr. Coombs went on to say that the study found that 6800 different types of plants are being sold in the region. These were categorized as tree or shrub, by origin (e.g., native species, native cultivar, hybrid, etc.), and by invasiveness. The Delaware state botanist, Bill McAvoy, has compiled a list of invasive species for the state of Delaware, including a watch list of species that have the potential to become invasive. Mr. Coombs mentioned that there are cases in which an invasive species has a non-invasive cultivar. He also added that this study is horticulturally focused, i.e., it only addresses plants that are being sold, so it does not address invasive plant species such as multiflora rose which are not on the market.

Mr. Coombs said that the study found that about 2% of species being sold in the region are considered invasive in DE and another 2% are on the watch list. Some of the most popular invasive plants being sold are Chinese silver grass, periwinkle, barberry, burning bush, privet, Bradford pear, English ivy, and pachysandra. He noted that the popularity of these plants is not just a reflection of how many are being sold, but an indication that there could likely be pushback on attempts to regulate their sale. He shared photos of the plants listed above. He concluded by saying that the report goes more in depth, especially with regard to native plants, but that the information regarding the sale of invasive plants was the most pertinent to this Task Force.

Senator Hansen commented that although only 4% of the listed plants are invasive or on the invasive watch list, which is encouraging, we need to look at the remaining 96%, of which only 24% are native species. The other 72% are non-native.

James White (Delaware Nature Society) commented that non-native plants have the potential to become invasive species.

Mr. Coombs clarified that although the invasive species make up only 2% of species being sold, this doesn't take sales into account—they are among the most frequently sold.

Dr. Barton agreed that the volume of invasive species being sold is a major concern. She mentioned that many of these invasive species are sold in great numbers.

Senator Hansen asked who, among those present, has at least one of these invasive species in their yards; there was a show of hands. Senator Hansen pointed out that this shows that is something we can control. Although the problem seems daunting, we have control over our own

back yards; our message we can get out to neighbors, growers, and others is that we need to take personal responsibility for this problem.

Dr. Barton commented that there was a lot of concern in the landscape and nursery industry when Bill McAvoy's list of invasive species was first made available, which is why the Delaware Invasive Species Council took a closer look at the list and used tools to designate plants as "widespread and invasive" or "restricted and invasive" in Delaware. She clarified that these designations were made by a team of people, not just one person. She said it would make sense for our Task Force to use that list (the one preferred by the Delaware Invasive Species Council) instead because it has already been vetted with a state agency, as opposed to one person's opinion about what is invasive or not. She said that the lists overlap substantially, but we would have a stronger position with opponents if we use the Delaware Invasive Species Council List.

James White asked if English ivy and pachysandra are on that list; Dr. Barton said they are not. Mr. White said that this makes sense because these plants are not propagated by birds dispersing the seeds but by running (i.e., extending shoots).

Senator Hansen asked Dr. Barton if she would share the Delaware Invasive Species Council List of invasive plants with the Task Force before the next meeting. Dr. Barton agreed and added that it is widely available.

Robert Thornton recommended providing only two columns of plants (e.g., native and non-native including invasive) rather than three categories (e.g., native, non-native, and invasive) for simplification.

Dr. Barton said that it is important to recognize that there are two distinct issues: controlling the distribution of known invasive plant species, and promoting the growth of native plant species to support biodiversity. She said that while we can't necessarily legislate the 74% of non-native, non-invasive species, we can certainly promote native species in some way.

Mr. Coombs suggested that it might be an easier first step to focus legislation on a reduced list of invasive species.

Laura Hill (Delaware Farm Bureau) suggested that education and outreach would be a better approach than legislation because it would have less pushback than telling people what they can and cannot plant.

Dr. Faith Kuehn (Department of Agriculture's Plant Industries) said that the list the Delaware Invasive Species Council compiled from Bill McAvoy's list of invasive plant species has been in use since 2003. The committee that put it together adopted an educational approach, but now that it has been 14 years, they think an educational approach may not be good enough on its own. She suggested that combining education and regulation may be the best approach.

Senator Hansen suggested that we could develop a timeline beginning with an educational initiative, but set clear benchmarks to evaluate its effectiveness, and if specific benchmarks are not met by set deadlines, then we could go farther with the legislation. She commented that even environmentally-aware people are unfamiliar with these issues even after 14 years of education and outreach. She pointed out that a bill would generate higher awareness and public interest, whether or not it passes, because it would start a discussion with potential to be effective in making change.

Maria Evans (Delaware Association of Realtors) provided examples of effective educational campaigns, such as anti-littering campaigns in the 1970s and today's campaigns about texting while driving. She said that effective campaigns need to reach the right people with the right message, but they do work, and she thinks that a clever message with high visibility, starting in schools, would have an effect.

Dr. Barton said that the anti-littering campaign of the 1970s likely cost billions of dollars.

Maria Evans said that an educational campaign for a state of only one million people and three counties would be significantly more affordable than a federal campaign but with potential to be just as effective.

Mr. Coombs said that there are different kinds of customers (e.g., people who buy their own plants, builders who put plants in at subdivisions, and landscapers who choose plants for homeowners who may or may not know anything about them). He said it would be difficult for an educational campaign to reach all these audiences. He mentioned that Maryland has a policy of labeling invasive plants but does not inhibit buyers from purchasing them.

Matthew Sarver (Delmarva Ornithological Society) said that he believed his organization would support legislation and considers it far more cost-effective. He mentioned that we learned from Dr. Barton's presentation at an earlier meeting that the nursery industry would be supportive of legislation, so we should take advantage of their willingness to level the playing field and make it happen.

Dr. Barton followed up by saying that she had initially been interested in Maryland's invasive plant labeling legislation, but when it was presented in Delaware, the landscape and nursery association reacted unfavorably, indicating that labeling would be hugely time-consuming and place a burden on nurseries. She said that while landowners would, for example, still have the ability to drive to New Jersey to purchase a Bradford pear if it were banned in Delaware, the legislation would simultaneously educate people, and very few people would be willing to drive across state lines to buy certain plants.

Senator Hansen directed the discussion to the recommendations that were provided before the meeting, including the revised summary of recommendations she provided. She mentioned that

this list had not changed much since the last meeting except for the addition of a deer management category. She said the list now includes seven categories: 1) Education, 2) Incentivize private landowners, 3) Government leads by example, 4) Legislation affecting development, 5) Fund Open Space Program at statutory level, 6) Legislation to prohibit the sale of invasive species, and 7) Deer management.

Senator Hansen suggested that we should proceed by deciding which items to flesh out, which items to discard, and which items require further investigation, with voting beginning at the next meeting. She reminded Task Force members that we have only four meetings left. She drew attention to a document circulated before the meeting which includes an overarching statement prepared by Dr. Douglas Tallamy and read it aloud: “Although we need to protect and support existing wildlands, we also need to promote policies that encourage the ecological restoration of built landscapes throughout Delaware if we are to stem the loss of species for our state.” She noted that the document also includes supporting information from scientific references.

Focusing this meeting’s efforts on the first category, Education, Senator Hansen advised that we need to be clear who the target of our education efforts will be. She highlighted some of the major audiences for consideration: private property owners (large and small), homeowner associations and property management companies, government officials, landscape professionals (e.g., architects and contractors).

Dr. Barton suggested that children would be a good target audience, as Maria Evans suggested earlier; she noted that many people learned the importance of recycling from their children.

Joseph Rogerson noted that the target audience depends largely on the specific issue in question (e.g., anglers should be educated about aquatic invasive species). He mentioned that DNREC does a great deal of outreach about white-nose syndrome in bats at Fort Delaware. He added that we have focused our attention on terrestrial systems and native versus non-native plants, but there are more things impacting wildlife that are not included.

Dr. Kuehn suggested that we focus educational efforts on larger spaces that are more frequented by people, e.g., large businesses with highly visible landscaping, which could make an impression on others who see it.

Dr. Barton agreed and suggested that Christiana Medical Center would be a good example of a starting place which could be landscaped with native plants, because many people interact with it as opposed to just driving by.

Senator Hansen suggested that teachers could be another potential audience who might be on board to help develop a curriculum to teach students about native versus non-native and invasive plants.

Matthew Sarver noted that several curricula on these and similar topics already exist.

Senator Hansen asked how we could get our message out to homeowners. She mentioned trainings, seminars, and local television stations as possible avenues.

Tracy Surles (New Castle County) confirmed that New Castle County has its own television station and is always open to new ideas for programming.

Senator Hansen said that she will coalesce the materials discussed today into a recommendation with many subparts, which will be discussed and voted upon in turn. She said that the next two recommendations on the list (incentivize private landowners, government leads by example) would be discussed at the next meeting.

After conferring with Task Force members, Senator Hansen set the next meeting for Thursday, October 19<sup>th</sup>, at 7 p.m, and subsequent meetings for 1 p.m. on Thursday, November 2<sup>nd</sup>, Thursday, November 16<sup>th</sup>, and Tuesday, November 28<sup>th</sup>. She also mentioned that attendance will be of paramount importance at all subsequent Task Force meetings now that we will begin the process of voting on recommendations, and reminded them that participation via phone is an option. She concluded the meeting with a reminder that the Task Force's final report is due December 1<sup>st</sup>, the Friday after the final meeting.

**The meeting was adjourned at 2:35 p.m.**

# **Statewide Ecological Extinction Task Force**

**Thursday, October 19<sup>th</sup>, 2017**

**7:00 p.m. – 9:15 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Douglas Tallamy\*  
Katherine Holtz  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Joseph Rogerson  
Susan Barton\*\*  
Tracy Surlles  
James White  
Chris Bason

*\*Represented by Ashley Kennedy*

*\*\*Represented by Valann Budischak*

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#### **Present (Conference Call):**

Michael Costello  
Representative Heffernan\*  
*\*Represented by Hadey Salem*

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#### **Absent:**

Michael Petit De Mange  
Sarah Cooksey  
Faith Kuehn  
Kathy Stiller

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Sarah.Cooksey@TNC.org  
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#### **Staff:**

Jennifer Parrish, Legislative Assistant

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#### **Attendees:**

Chris Klarich  
Dave Carey  
Shauna Thompson  
Jim McCulley  
Howard Fortunato

#### **Organization:**

Delaware Nature Society  
Pemberton Branch  
Pemberton Branch  
Home Builders Association  
Home Builders Association

Greg DeCowsky  
Nicole Alvarez

DNREC (Retired)  
Ecological Extinction Task Force

**The Task Force meeting was brought to order at 7:00 p.m.**

Senator Hansen brought the meeting to order. The Task Force reviewed the minutes from the last meeting and approved them after making an amendment to the email list.

Senator Hansen reminded Task Force members that a vote was conducted via email to address absentee and proxy voting. Representative Heffernan had suggested previously that absentee and proxy voting could be implemented so that members could still vote in the event that they could not make it to a meeting. A majority of members voted in favor of both written absentee and proxy voting. Senator Hansen put forward a motion to set absentee voting procedure, specifying that members will have 72 hours/3 business days to submit a vote by absentee after the meeting. The motion passed with all in favor.

Senator Hansen directed the discussion to the specific Education recommendations which were circulated to members prior to the meeting, in order to be voted on at this meeting. After conferring with Task Force members, Senator Hansen determined that all “no” votes will be recorded for each motion but votes in favor will not be recorded, in the interest of saving time.

Senator Richardson suggested adding “prevention of” before “the extinction of local species” to the first recommendation so that it reads “***Overarching Statement: The concept that the public, through the collective action of private landowners, has an important role to play in the prevention of extinction of local species, and also in the resurgence of local species, is a relatively new concept.***” The motion to approve this recommendation passed with all in favor.

Joseph Rogerson (DNREC) suggested changing the word “extinction” to “decline” in the second recommendation, and James White (Delaware Nature Society) suggested removing the last clause, so that it reads “***Overarching Statement: Education is the key to understanding. A comprehensive, educational effort will be required in order to change the way we, as individual property owners, view our effect on the decline of local species. When we understand the way that our choices drive the decline of local species, we will make different choices in how we manage our property.***” The motion to approve this recommendation passed with all in favor.

Senator Hansen guided discussion to the third recommendation. Robert Thornton (Home Builders Association) suggested included “professional builders” in the text. Representative Gray suggested removing “civil” and Maria Evans (Delaware Association of Realtors) suggested changing “local and municipal” to “state and local” so that it reads “***Overarching Statement: Of critical importance is the education of property owners, our children, and those who play a role in the development of property including state and local land use officials, engineers, landscape design professionals, professional builders, and landscape contractors, as well as those who have responsibility to manage private property including homeowner associations and property management companies.***” The motion to approve this recommendation passed with all in favor.

During discussion on the fourth recommendation, “extinction” was changed to “decline” at the suggestion of Katherine Holtz (Delaware Farm Bureau), and “the benefit of native species” was added at the suggestion of Representative Gray and Maria Evans. The final wording of the recommendation was “***Methods of Education: Educational material should be developed, tailored to the specific target audience, which will explain the benefit of native species as well as the effect of non-native and invasive species proliferation, and their contribution to the decline of our local species.***” The motion to approve this recommendation passed with all in favor.

Chris Bason (Center for Inland Bays) suggested adding “preservation and” to the language of the fifth recommendation, and Matthew Sarver (Delmarva Ornithological Society) suggested removing “undeveloped”, such that it now reads “*Educational material should be developed, tailored to the specific audience, on the preservation and management of open spaces within communities, on private property, and on public property.*” Maria Evans raised concerns that communities lack space for recreational programs (e.g., children’s soccer); the Task Force decided that removal of the word “undeveloped” broadens the language of this recommendation so it would not present a conflict. The motion to approve passed with all in favor.

During discussion on the sixth recommendation, Michael Costello (Sussex County) commented that we should strive not to steer property owners into a direction that would put them in violation of county or local codes (e.g., regarding the height of grass). The Task Force approved the language of this recommendation as written with no changes, as follows: “*Educational material should be developed to specifically guide property owners on the identification of non-native and invasive species, the native species alternatives, and proper management of property landscaping*”, with all in favor.

Maria Evans commented during discussion of the seventh recommendation that teachers may be too overwhelmed to squeeze additional curricula into their teaching schedules. Tracy Surles (New Castle County) suggested that the educational material could be woven into existing curricula rather than necessitating the creation of an entire new curriculum. Chris Bason and Katherine Holtz suggested that the curriculum could be implemented via outreach programs (e.g., through libraries or nonprofit organizations) as well as schools, and Matthew Sarver agreed and suggested broadening the language so that it reads “*A curriculum should be developed to bring the educational material into our children’s classrooms and various outreach programs.*” The motion to approve passed with all in favor.

Senator Hansen commented that we will need to consider whether we should create an organization or committee to work on implementing these recommendations over time after the Task Force has formally ended.

During discussion on the eighth recommendation, Valann Budischak (Delaware Landscape and Nursery Association) commented that distributing educational materials to professionals in her field would be missing the target, as they are already well-familiar with these topics, but instead need elevator speeches to communicate this information to their customers. “Professional

builders” was added at the end of this recommendation to make it more inclusive, so that it read *“The educational material should be distributed to professional organizations having responsibility in property development such as engineers, landscape design professionals, landscape contractors, and professional builders.”* The motion to approve passed with all in favor.

The discussion moved to the ninth recommendation. Maria Evans raised concerns that required training would be logistically difficult to implement. After discussion, the language of the recommendation was amended to read *“Encourage incorporating the educational material in obtaining or maintaining professional licensing.”* The motion to approve this recommendation passed with all in favor.

The motion to approve the tenth recommendation, *“The educational material should be distributed to homeowner associations and property management associations. This will not only inform those organizations, but this should be encouraged as one method of subsequent distribution to the individual homeowners”*, passed with all in favor.

After discussion with input from Maria Evans, the Task Force agreed to expand the eleventh recommendation and divide it into two parts (A and B), and to remove “realtors” and “home sales offices” from the text. The resulting recommendation reads *“A. The educational material should be available to individual property owners through home and garden centers, state and local government, and other organizations as available. B. Recommend to the Delaware Real Estate Commission to add a line on the Sellers Disclosure forms directing homeowners to a webpage of educational material.”* The motion to approve this recommendation passed with all in favor.

The motion to approve the twelfth recommendation, *“The educational material should form the basis of training seminars and trade symposiums geared toward local government officials involved in land use planning”*, passed with all in favor.

Maria Evans suggested adding “social media” to the text of the thirteenth recommendation such that it reads *“Education through media outlets should be investigated and implemented. Examples include advertising and discussion on social media, radio and television (including local cable television and New Castle County’s television station).”* The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the fourteenth recommendation. James White suggested adding NGOs to the text, and Representative Gray suggested adding the words “and should be encouraged” to the last sentence, so that it reads *“Education through demonstration projects by local government, business owners, non-profits and others should be encouraged and properly recognized. Signage associated with the project is critical and should be encouraged.”* The motion to approve passed with all in favor.

The motion to approve the fifteenth recommendation, *“Education through public presentations to interested groups and organizations should be encouraged”*, passed with all in favor.

During discussion of the sixteenth recommendation, Maria Evans suggested adding “methods of” and removing “and supported”, and Senator Richardson suggested adding “public/private”, such that the recommendation reads as follows: “*Methods of funding centered on implementing the educational initiatives recommended by the Task Force should be explored, including public/private arrangements.*” The motion to approve this recommendation passed with all in favor.

The discussion moved to the seventeenth recommendation, “***Other Specific Recommendations: Educational campaigns centered around informing the public on the value of wildlife and how wildlife and their native habitats benefit humans including how all three are interconnected should be encouraged.***” Maria Evans raised concerns about the possibility of native plantings/natural areas attracting wildlife which in turn could be trapped and killed if property owners perceive them as a nuisance. She referenced a recent incident in Rehoboth Beach involving a fox which had been euthanized. Joseph Rogerson explained that a wildlife control operator, not DNREC, had responded to this incident, and that wildlife control operators are private businesses permitted through Fish and Wildlife to remove/relocate or euthanize animals perceived as nuisances. He added that this recommendation addresses this issue because it is aimed at educating the public about the value of wildlife. Ashley Kennedy (University of Delaware) said that the educational materials in question would teach people about appropriate interactions with wildlife and added that planting native plants is not likely to create nuisance foxes. James White commented that he deals with similar issues regularly, with property owners asking him to kill snakes that they perceive as dangerous, when in fact there are very few dangerous snakes in this state. Maria Evans made a motion to approve the recommendation, which passed with all in favor.

Ashley Kennedy suggested adding “should be encouraged” to the end of the eighteenth recommendation such that it reads “*A program to either educate landowners on living/green shoreline options and their benefits and/or a program to train engineers in living/green shoreline construction including the pros and cons of various options to minimize shoreline erosion should be encouraged.*” The motion to approve this recommendation passed with all in favor.

Robert Thornton suggested amending the wording of the nineteenth recommendation such that it reads “*Encourage landscape contractors to remove, manage, and control invasive plants and replant with native species.*” The motion to approve this recommendation passed with all in favor.

The discussion moved to the twentieth recommendation, “*Promote/follow Delaware Livable Lawns practices on lawns in Delaware. (<https://www.delawarelivablelawns.org/>).*” Maria Evans inquired who Delaware Livable Lawns is. Valann Budischak explained that Delaware Livable Lawns is a joint initiative by DeDOT, DNREC, University of Delaware, Delaware Nursery and Landscape Association, and other entities to educate applicators and homeowners about how to

put the right thing, at the right time, in the right quantities on their lawns. The motion to approve this recommendation passed with all in favor.

Chris Bason initially opposed the twenty-first recommendation because the language suggested that property owners could choose not to comply with legislation. The Task Force agreed to remove the last clause to remove any potential ambiguity, such that it reads “*Recommend that education and incentives be used to encourage property owners to plant and or convert to native plants and trees on their properties.*” The motion to approve this recommendation passed with all in favor.

During discussion of the twenty-second recommendation, Matthew Sarver commented that numerous examples of native plant lists already exist, so it would not be necessary for the Task Force to create one. Senator Richardson and Senator Hansen proposed changing the wording such that it reads “*Recommend the Task force promote the distribution of a list of native plants and trees that are easy to grow in our area.*” The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the twenty-third recommendation. Valann Budischak commented that a specific template/subscription design would not be suitable or successful for every homeowner based on differences in terrain of the property, etc. Representative Gray suggested this recommendation could be removed. Senator Hansen suggested changing the language such that it reads “*Prepare several examples of single family home landscape plans that use native trees and plants (+or- 75% of those chosen) to show how native plants and trees may provide an aesthetically pleasing yard and one that is easy to maintain.*” The motion to approve this recommendation passed with all in favor.

During discussion of the twenty-fourth recommendation, Valann Budischak and Joseph Rogerson raised concerns that a training course/seminar about native plants may not reach the target audiences but instead may attract professionals who are already well-informed on this topic. Senator Hansen added that the development of a training course raises questions about logistical concerns (e.g., who exactly would be responsible for it and how would it be funded?). She recommended changing the wording such that it reads “*Encourage the development of a training course and/or seminar that developers, landscape professionals, and others may attend to provide education and a forum for collaboration of ideas to promote the planting of native trees and plants.*” The motion to approve this recommendation passed with all in favor.

Ashley Kennedy suggested combining the twenty-fifth and twenty-sixth recommendations into one, which reads as follows: “*Governmental, educational, and environmental organizations should work together to develop a comprehensive, environmental education program regarding using native species versus non-native and invasive species.*” The motion to approve this recommendation passed with all in favor.

Senator Hansen reminded Task Force members that the next meeting is set for 1 p.m. on Thursday, November 2<sup>nd</sup> and subsequent meetings for 1 p.m. on Thursday, November 16<sup>th</sup>, and 1 p.m. on Tuesday, November 28<sup>th</sup>.

**The meeting was adjourned at 9:15 p.m.**

# **Statewide Ecological Extinction Task Force**

**Thursday, November 2<sup>nd</sup>, 2017**

**1:00 p.m. – 3:15 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Douglas Tallamy\*  
Katherine Holtz  
Maria Evans\*\*  
Matthew Sarver  
Robert Thornton  
Susan Barton  
James White  
Michael Petit De Mange\*\*\*  
Michael Costello  
Sarah Cooksey  
Faith Kuehn  
Kathy Stiller  
*\*Represented by Ashley Kennedy*  
*\*\*Represented by Audrey Brodie*  
*\*\*\*Represented by Kris Connelly*

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#### **Absent:**

Representative Heffernan  
Joseph Rogerson  
Chris Bason  
Tracy Surles

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#### **Staff:**

Jennifer Parrish, Legislative Assistant

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#### **Attendees:**

Dave Carey  
Shauna Thompson  
Howard Fortunato  
Greg DeCowsky  
Amy Highland

#### **Organization:**

Pemberton Branch  
Pemberton Branch  
Home Builders Association  
DNREC (Retired)  
Mount Cuba Center

**The Task Force meeting was brought to order at 1:00 p.m.**

Senator Hansen brought the meeting to order. The Task Force reviewed and approved the minutes from the last meeting.

Senator Hansen reminded Task Force members that the amended Education recommendations were circulated by email, and noted that there were no absentee votes, but they were not necessary as the Task Force had met the quorum at the last meeting. She noted that the next topic of discussion would be the “Incentivizing Private Landowners” recommendations.

Senator Hansen noted that Susan Barton was published in the Nov. 2<sup>nd</sup> issue of the *Delaware News Journal*. Dr. Barton’s article encourages converting lawn into meadow and incorporates many of the themes discussed on this Task Force.

Senator Hansen guided the discussion to the first recommendation. Matthew Sarver (Delmarva Ornithological Society) suggested adding “restoration” and “and their habitats” to broaden the language, such that it reads “***Overarching Statement: Incentives should be created to encourage the planting, restoration, and management of native species and their habitat.***” Susan Barton (Delaware Landscape and Nursery Association) made a point that it is important to make the recommendations simple, clear, and concise. She added that the Task Force should carefully distinguish between the two separate issues, the first being the need to plant more native species and the second being to control invasive species. Faith Kuehn (Department of Agriculture Division of Plant Industries) added that the Task Force needs to establish clear definitions and realistic goals. The motion to approve this recommendation passed with all in favor.

During discussion of the second recommendation, Susan Barton said that the original wording conflated the two aforementioned issues that should be kept separate. Senator Hansen suggested dividing the recommendation into two parts, one for each issue, so that it reads “***Overarching Statement: (A) Incentives should be created to encourage the removal of invasive species and their replacement with native species. (B) Incentives should be created to replace non-native species with native species.***” The motion to approve this recommendation passed with all in favor.

Senator Hansen brought up the point that not all of these recommendations can be implemented legislatively. She suggested that the Task Force consider the creation of a new commission or an alternative method by which these recommendations could be implemented. Faith Kuehn mentioned that the Invasive Species Council may be a vehicle to address some of these issues, but it would need to be strengthened. Matthew Sarver added that another existing organization that addresses some of these topics is the Mid-Atlantic Invasive Plant Council, for which he serves as the Delaware representative.

Several Task Force members suggested that the overall number of recommendations could be reduced. After discussion of the third recommendation, the Task Force ultimately moved to strike it, and the motion passed with all in favor. This recommendation entailed increasing

consumer demand for pollinator-friendly plants; Susan Barton made the point that this was already partly addressed under the Education recommendations, and that if the sale of the most commonly sold five or six invasive species is curtailed, then consumer demand for native species will increase as a natural result.

During discussion of the fourth recommendation, Faith Kuehn mentioned that the topics it addressed were already covered in other recommendations. Robert Thornton (Home Builders Association) mentioned that he liked the wording and felt like it would go over well. Ashley Kennedy (University of Delaware) suggested that the wording could be interpreted such that property owners would not have to comply with existing or future legislation on this topic. The motion to remove this recommendation also passed with all in favor.

Senator Hansen guided the discussion to the fifth recommendation. Susan Barton suggested adding “Sustainable Sites” to the list of examples of landscape design practices because it is more pertinent to the topic of sustainability than the others listed. Representative Gray suggested removing “reduction of impact fees, building permit fees” because we would need a mechanism to make up for the loss of those funds. Matthew Sarver made a point that we don’t want to come across as endorsing specific programs. Robert Thornton suggested reordering the examples to reflect their pertinence to sustainability. The resulting recommendation reads as follows: *“**Method of Incentivizing:** Establish incentives such as expedited permitting and density bonuses for environmentally sensitive landscape design practices such as those included in Sustainable Sites, the National Green Building Standard, Energy Star, Leadership in Energy and Environmental Design (LEED) certification, or green technology best management practices.”* The motion to approve this recommendation passed with all in favor.

The sixth recommendation was originally listed under the heading “Method of Incentivizing”. Matthew Sarver suggested changing the heading to “Overarching Statement” such that it reads *“**Overarching Statement:** Incentivizing can take many forms and may include such things as monetary incentives, public recognition, and ease of permitting or other governmental approvals.”* The motion to approve this recommendation passed with all in favor.

During discussion of the seventh recommendation, which concerned tax incentives for agricultural lands, Susan Barton posed the question of why agricultural land was singled out. Representative Gray pointed out that there would likely be pushback if we try to pass legislation to give tax breaks. The motion to remove this recommendation passed with all in favor.

Katherine Holtz (Delaware Farm Bureau) said that she was against the eighth recommendation, which concerned amending the Farmland Assessment Act, and added that there would likely be a lot of opposition to it. The motion to remove this recommendation passed with all in favor.

Senator Hansen guided the discussion to the ninth recommendation, which concerned creating programs to incentivize homeowners to implement habitat management. Matthew Sarver and

Representative Gray suggested that this topic had been sufficiently addressed by earlier recommendations. The motion to remove this recommendation passed with all in favor.

During discussion of the tenth recommendation, Michael Costello (Sussex County) voiced a concern that it could slow projects down at the county level. Representative Gray inquired about the checks and balances on DNREC; Matthew Sarver replied that it is essentially the same as exists in every state. Representative Gray suggested that the wording was too broad, so “PLUS” was added to the text to make it more specific, such that it reads “*Incentivize land development applicants to incorporate DNREC’s PLUS recommendations regarding specific potential impacts to state rare and federally listed species and their habitats into their development plans.*” The motion to approve this recommendation passed with all in favor.

Susan Barton suggested changing the wording of the eleventh recommendation to make it more feasible, such that it reads “*Create incentives for reducing lawn area and replacing it with native plants.*” The motion to approve this recommendation passed with all in favor.

Susan Barton suggested that the twelfth recommendation, which concerned creating incentives for using plants that best support food webs, was redundant. The motion to remove this recommendation passed with all in favor.

Matthew Sarver suggested changing the wording of the thirteenth recommendation such that it reads “*Encourage the incorporation of pollinator and other insect habitat into incentive programs.*” James White (Delaware Nature Society) agreed that this wording helped to highlight the importance of pollinators while eliminating uncertainty about the status of pollinator species as generalists versus specialists. The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the fourteenth recommendation. Robert Thornton suggested removing the word “new” before “home buyers”, and removing the word “financial” before “incentives”, such that it reads “*Provide incentives for home buyers with native landscaping such as the Green4Green program.*” The motion to approve this recommendation passed with all in favor.

The fifteenth recommendation reads “*Seek funding to cost share native habitat improvements on private lands.*” Susan Barton inquired why this recommendation specifies private lands. Matthew Sarver said that this is a key point because there isn’t any existing mechanism to help private landowners make these kinds of changes. Representative Gray inquired where the funding would come from; Senator Hansen replied that this recommendation is not intended to answer that question, but simply recommends that funding should be sought. Kathy Stiller (Delaware State Chamber of Commerce) voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

During discussion of the sixteenth recommendation, Susan Barton raised the question of whether we should specify “healthy” trees. Matthew Sarver clarified that the intent of this recommendation is to support trees of high value to wildlife. Amy Highland (Mount Cuba Center) brought up Bill McAvoy’s tool for assessing old growth trees. Senator Hansen and Faith Kuehn suggested rewording it such that it reads “*Incentivize homeowners and developers to retain tree species of high wildlife value (e.g. oaks, hickories).*” The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the seventeenth recommendation, which concerned the Transfer Development Rights (TDR) program. She suggested that this is more of a county issue. The motion to remove this recommendation passed with all in favor.

The motion to remove the eighteenth recommendation, which concerned ranking properties for county agricultural land preservation funding, passed with all in favor.

During discussion of the nineteenth recommendation, Matthew Sarver provided background information for the Forestland Preservation easement program, mentioning that it has historically been drastically underfunded. Senator Hansen suggested rewording it such that it reads “*Encourage the funding of the Forestland Preservation easement program.*” Kathy Stiller voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

The discussion moved to the twentieth recommendation, which concerns providing incentives to targeted species via the Natural Resources Conservation Service programs. Matthew Sarver suggested rewording it to broaden the language and include mention of the Farm Service Agency, such that it reads “*Explore opportunities to provide state-level add-on incentives and best management practices to targeted species via NRCS and FSA programs.*” Senator Richardson voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

The twenty-first recommendation concerned providing technical support for species management. The motion to remove this recommendation passed with all in favor.

During discussion of the twenty-second recommendation, Kathy Stiller suggested clarifying the level of government in question, and Ashley Kennedy suggested adding “Explore opportunities to provide” at the beginning to broaden the language, such that it reads “*Explore opportunities to provide state income tax exemptions for state or federal conservation incentive payments.*” The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the twenty-third recommendation. Matthew Sarver suggested changing the wording such that it reads “*Encourage tax ditch associations to implement BMPs that minimize impacts to key habitats.*” The motion to approve this recommendation passed with all in favor.

Matthew Sarver suggested changing the wording of the twenty-fourth recommendation such that it reads “*Encourage the development of and/or marketing of biodiversity certification programs for private forestland and farmland.*” The motion to approve this recommendation passed with all in favor.

The twenty-fifth recommendation concerned working with conservation partners and other parties to create certification for environmentally-friendly developments. The motion to remove this recommendation passed with all in favor.

During discussion of the twenty-sixth recommendation, James White said that the Backyard Wildlife Habitat Certification program is a great program, and added that it is unclear what specific actions are needed to advance it. Senator Hansen suggested rewording it such that it reads “*Encourage enrollment in the Backyard Wildlife Habitat Certification Program.*” The motion to approve this recommendation passed with all in favor.

The twenty-seventh recommendation concerned working with the Department of Agriculture and other entities to develop BMPs that minimize impacts to key habitats. Matthew Sarver suggested that this topic was adequately addressed in the twentieth recommendation. The motion to remove this recommendation passed with all in favor.

The twenty-eighth recommendation reads “*Increase access to prescribed fire as a management tool.*” The motion to approve this recommendation passed with all in favor.

Matthew Sarver suggested adding a twenty-ninth recommendation, “*Encourage support of the Landowner Incentives Program.*” He explained that this is a state program that is traditionally funded by federal State Wildlife Grant funds. The motion to approve this recommendation passed with all in favor.

Senator Hansen reminded Task Force members that the next meeting is set for 1 p.m. on Thursday, November 16<sup>th</sup>, and the final meeting for 1 p.m. on Tuesday, November 28<sup>th</sup>. She commented that there is still a great deal of material to cover and suggested either adding another meeting to the schedule, or holding a “marathon session” at the next meeting. The Task Force agreed that holding a lengthier session on the November 16<sup>th</sup> meeting would be preferable. Senator Hansen reminded Task Force members that absentee voting is an option to accommodate members who cannot make it to the remaining meetings.

**The meeting was adjourned at 3:15 p.m.**

# **Statewide Ecological Extinction Task Force**

**Thursday, November 16<sup>th</sup>, 2017**

**1:00 p.m. – 4:45 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Representative Gray  
Douglas Tallamy\*  
Katherine Holtz  
Maria Evans  
Matthew Sarver  
Robert Thornton  
Susan Barton\*\*  
James White  
Michael Costello  
Faith Kuehn  
Kathy Stiller  
Joseph Rogerson

*\*Represented by Ashley Kennedy*

*\*\*Represented by Valann Budischak*

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#### **Absent:**

Senator Richardson  
Representative Heffernan  
Chris Bason  
Tracy Surlles  
Michael Petit De Mange  
Sarah Cooksey

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#### **Staff:**

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#### **Attendees:**

Dave Carey  
Shauna Thompson  
C. Scott Kidner  
Greg DeCowsky  
Hannah Greenberg

#### **Organization:**

Pemberton Branch  
Pemberton Branch  
Pemberton Branch  
DNREC (Retired)  
Delmarva Ornithological Society

**The Task Force meeting was brought to order at 1:00 p.m.**

Senator Hansen brought the meeting to order. The Task Force reviewed and approved the minutes from the last meeting. Senator Hansen noted that there were two additions to the agenda for this meeting: a preview of items for discussion for the final meeting, and a short presentation on the research completed by the Task Force interns.

Senator Hansen guided the discussion to the topics to be addressed at the November 28<sup>th</sup> meeting. These include three remaining categories of recommendations to be voted on (funding the Open Space program, legislation to prohibit the sale of invasive species, and deer management), as well as the possibility of creating a commission or other possible next steps to implement the recommendations of the Task Force. She noted that there is an existing Delaware Invasive Species Council, a nonprofit, volunteer-driven organization, that is concerned with some of the issues the Task Force has addressed. Faith Kuehn added that there is also a Delaware Native Plant Society. Senator Hansen suggested that the Task Force can decide at the next meeting if there is a need to establish a working group to implement our recommendations, perhaps in collaboration with these and other entities. Another topic of discussion for the next meeting will be whether the Task Force should support the Recovering America's Wildlife Act.

Senator Hansen reminded the Task Force that the final report will be due December 1<sup>st</sup>, shortly after the final meeting on November 28<sup>th</sup>. It will include biographies of Task Force members, minutes from the meetings, the recommendations, and other materials submitted by Task Force members. She also noted that there will be a group photo of the Task Force taken at the final meeting.

Jennifer Parrish (Legislative Assistant) presented the results of the research she and three interns conducted on the sale of native versus non-native species in Delaware. Five stores in New Castle County were surveyed, representing a mix of nurseries and big-box retailers: Lowe's, Home Depot, Countryside Nursery and Garden Center, Mid-County Material Supply and Garden Center, and Willey Farms. The types of plants being sold as well as the volume of plants on hand were recorded. At each of the five stores, the percentage of non-native plant species being sold was much higher than the percentage of native plant species, and similarly, the volume of non-native plants on hand was much higher than the volume of native plants. Of the 1,346 plant species recorded across the five stores, 1,047 (77.8%) were non-native. These results were similar to those found by researchers from Mount Cuba Center, who had surveyed 14 nurseries in the Mid-Atlantic region and determined that 24% of species sold were native.

Senator Hansen pointed out that not only is the percentage of non-native plant species sold in Delaware slightly higher than it is for the Mid-Atlantic region as a whole, but also, the percentage of non-native species considered invasive or on the invasive watch list is higher in (7% in Delaware to 4% in the Mid-Atlantic region). She also noted that the volume of invasive species sold at the five stores ranges from a low of 2.7% at Countryside Nursery and Garden Center to a high of 10.65% at Lowe's.

Robert Thornton (Home Builders Association) suggested inviting board members from the big-box retailers to discuss changes they could implement to reduce the amount of non-native and invasive species sold and make up the losses elsewhere.

Jennifer Parrish noted that the types and volume of plants on hand at each store varies throughout the year based on the season.

Senator Hansen guided the discussion to the “**Government Leads by Example**” recommendations to be voted on at this meeting. The first recommendation reads “*All Delaware state facilities and departments should set the example, reducing lawn and replacing with native plants or pollinator gardens, and revising land management practices to be more pollinator friendly.*” The motion to approve this recommendation passed with all in favor.

During discussion of the second recommendation, Matthew Sarver (Delmarva Ornithological Society) suggested changing “in public plantings” to “on public property”, such that it reads “*Create incentives for using native plants on public property.*” Representative Gray inquired what kinds of incentives this would entail; Senator Hansen suggested awards and recognition/acknowledgement as possible options. The motion to approve this recommendation passed with all in favor.

Faith Kuehn (Department of Agriculture Division of Plant Industries) suggested changing “invasive species” to “invasive plants” in the third recommendation, such that it reads “*Provide funding/incentives for the removal of invasive plants on public property and, where appropriate, replanting with native species.*” Kathy Stiller (Delaware State Chamber of Commerce) voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

During discussion of the fourth recommendation, which entailed promoting the use of native plants in public and private plantings, Faith Kuehn pointed out that private property should not be addressed under the heading “Government Leads By Example.” Representative Gray noted that this recommendation was similar to the second one. The motion to remove this recommendation also passed with all in favor.

Senator Hansen guided the discussion to the fifth recommendation, which concerned providing incentives for reduced lawn area. Maria Evans (Delaware Association of Realtors) suggested removing the word “private”. She also commented that children need lawns to play in, and lawns take carbon dioxide out of the air. Ashley Kennedy (University of Delaware) noted that children can play in meadows and forests as well as lawn, and those habitats provide greater ecosystem services than lawns do. James White (Delaware Nature Society) commented that we have ample lawn space available and added that this recommendation is not taking away recreational space. Senator Hansen noted that realistically, people are not going to become so avid about reducing lawn to protect native species that soccer fields will be at risk of being eliminated. Maria Evans added that in Rehoboth Beach, regulations compel people to replace their stone front yards with

grass. Senator Hansen suggested adding “passive open-space” before “public landscapes”. With these additions and deletions, the final wording of the recommendation reads “*Provide incentives/requirements for reduced lawn areas in passive open-space public landscapes.*” The motion to approve this recommendation passed with all in favor.

The sixth recommendation originally included a list of examples of sites where demonstration landscapes could be implemented, including hospitals, libraries, and schools; Faith Kuehn made the point that not all hospitals, schools, etc. are public. Matthew Sarver suggested striking “with groundcovers ultimately covering soil surface” because this wording was too specific to apply to all areas; he pointed out that ground-nesting bees require access to the soil surface. The resulting recommendation reads “*Provide funding/incentives for demonstration landscapes on public land to demonstrate sustainable landscape practices including reduced lawn, use of native plants, reduced mulch, etc.*” Kathy Stiller voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

During discussion of the seventh recommendation, which concerned using native landscaping for state projects, James White and Valann Budischak (Delaware Landscape and Nursery Association) said that the wording was too broad. Faith Kuehn noted that recommendation 12 concerns the same topic. The motion to remove Recommendation 7 passed with all in favor.

Recommendation 8 concerned using native landscaping for county projects. Due to its similarity to Recommendations 7 and 12, this recommendation was removed, with all Task Force members present voting in favor of removal.

Senator Hansen guided the discussion to the ninth recommendation, which reads “*Encourage municipalities to adopt native landscaping in their codes.*” The motion to approve this recommendation passed with all in favor.

During discussion of the tenth recommendation, which concerned requiring restoration plans for public lands, Faith Kuehn and Joseph Rogerson (DNREC) voiced a concern that it was too vague. Mr. Rogerson and James White noted that agencies such as DNREC typically have restoration plans in place, but lack the funds to implement them. The motion to remove this recommendation passed with all in favor.

The eleventh recommendation concerned requiring publicly owned lands to eradicate invasive species. James White and Faith Kuehn commented that the wording of this recommendation was too strong, as requiring the eradication of invasive species is not logistically feasible. Joseph Rogerson agreed and noted that this is an important issue, but this recommendation is not the best vehicle to address it. Ashley Kennedy noted that if the language is softened (i.e., changing “require” to “encourage”), this recommendation becomes redundant as it echoes the intent of Recommendation 3 above. The motion to remove this recommendation passed with all in favor.

During discussion of the twelfth recommendation, Michael Costello (Sussex County) suggested changing “require” to “encourage” such that it reads “*Encourage new public facilities to use native plants in landscaping.*” Maria Evans asked if there would be a great price difference between native and non-native plants. James White and Matthew Sarver said that there would not be a significant price difference. Ashley Kennedy said that the short-term costs of planting native species should be weighed against the long-term costs of allowing non-native and invasive plant species to proliferate. Matthew Sarver added that native plants contribute a quantifiable set of ecosystem services that would offset any costs of planting. The motion to approve this recommendation passed with all in favor.

Valann Budischak suggested adding the word “median” to the thirteenth recommendation, and Senator Hansen suggested changing “grass” to “vegetation”. Matthew Sarver suggested adding “in late fall or early spring”, such that it reads “*On all highway medians, mow a strip of grass adjacent to the roadway (beauty strip) and allow the rest of the vegetation to grow. Mow median once or twice a year in late fall or early spring.*” Mr. Sarver noted that this change would make this recommendation more ecologically sound, as the timing of the mowing is particularly important (e.g., even mowing occurs only once a year, it could knock out the local monarch caterpillar population if the timing is right). The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the fourteenth recommendation. Matthew Sarver suggested adding “in early spring or late fall”, such that it reads “*On all highway roadsides, mow one mower pass above the ditch line to allow for designed drainage function. Mow the rest of the right of way once or twice a year in early spring or late fall as needed to control invasive species. Woody vegetation may be allowed to grow on some rights of way if invasives are controlled.*” Katherine Holtz (Delaware Farm Bureau) noted that mowing can help to slow the spread of some invasive species. The motion to approve this recommendation passed with all in favor.

The fifteenth recommendation reads “*On highway cloverleaves created by on/off ramps, mow one mower pass adjacent to the ramp/roadway. Mow the rest of the cloverleaf one or two times a year as needed to control height, visibility and invasive species. Woody vegetation may be allowed to grow on some rights of way if invasive species are controlled.*” The motion to approve this recommendation passed with all in favor.

The sixteenth recommendation reads “*On secondary roads, apply reduced mowing standards whenever feasible.*” Katherine Holtz noted that reduced mowing could lead to the spread of invasive species. She voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed. Representative Gray asked if the Task Force was going to talk to DeDOT about this topic. Senator Hansen replied that we should ensure that going forward, whatever commission/working group we appoint to implement these recommendations will work collaboratively with DeDOT.

During discussion of the seventeenth recommendation, Valann Budischak noted that it would be financially difficult to implement. Ashley Kennedy suggested changing “remove” to “encourage the removal” and Matthew Sarver suggested adding “woody” such that it reads “*Encourage the removal and stump treatment of woody invasive plants on DelDOT rights of way.*” The motion to approve this recommendation passed with all in favor.

The eighteenth recommendation reads “*On new highway projects that involve landscaping, plant predominantly native species.*” The original wording included “at least 80%” at the end, but James White and Valann Budischak commented that DelDOT already strongly favors the use of native plants, so Representative Gray suggested removing that specification as it seemed unnecessary. The motion to approve this recommendation passed with all in favor.

Senator Hansen suggested putting the nineteenth and twentieth recommendations on hold until the next/final meeting, when the discussion of the next step in the implementation of these recommendations will be held. The Task Force agreed and discussion moved to the twenty-first recommendation.

James White suggested changing the wording of the twenty-first recommendation, such that it reads “*Encourage state and local governments to make better use of existing land by creating better habitats on available land. Examples could include creating native meadows, creation of wetlands, reforestation, etc.*” The motion to approve this recommendation passed with all in favor.

During discussion of the twenty-second recommendation, Maria Evans raised a concern that reduced salt use on the roads could lead to dangerous driving conditions. Matthew Sarver commented that road salt is extremely detrimental to aquatic habitats, and in other states (e.g., Massachusetts and other New England states, which experience more snow and icy conditions than Delaware does), there exists a well-established practice of designating areas with particularly sensitive species or valuable habitats to receive reduced salt, in combination with alternative safety measures such as the use of sand. Maria Evans advocated removing part (A) from this recommendation, stating that Delaware roads are already impacted by inclement weather as well as impaired drivers due to the opioid crisis. James White commented that this Task Force is charged with saving species, not highway safety, and we should pass these recommendations on to DelDOT and work collaboratively with them to find solutions that work towards both ends (highway safety and saving species). Michael Costello suggested removing all the examples A-E; Matthew Sarver and James White disagreed, saying that it would be better to provide specific examples to DelDOT based on biological research and models from other states. Taking these considerations into account, Senator Hansen suggested changing the wording such that this recommendation reads:

*“Review DelDOT’s policies and work collaboratively to enhance the role of DelDOT in species conservation, without reducing highway safety, by:*

*(A) designating reduced salt use in environmentally sensitive areas*

*(B) native plantings*

(C) *increased collaborative management of ROWs and water control structures*  
(D) *Coordinate timing of mowing and construction to minimize impacts*  
(E) *Integrate key habitat and Species of Greatest Conservation Need (SGCN) conservation into long-range transportation planning.*” Maria Evans voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

Senator Hansen guided the discussion to the twenty-third recommendation, which concerned increasing species and habitat management on state wildlife areas, state parks, and state forests. Faith Kuehn commented that the wording implies that species and habitats are not being managed well in Delaware. James White agreed that the wording was too broad and that the state is already working hard on species and habitat management. The motion to remove this recommendation passed with all in favor.

Joseph Rogerson suggested changing the wording of the twenty-fourth recommendation such that it reads “*Given the State of Delaware owns a large percentage of land in the state, we recommend increasing funding, staffing, and better management practices of state owned lands.*” Kathy Stiller voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

The twenty-fifth recommendation concerned establishing landscape buffers along tax ditches. It originally included several specific examples; James White commented that this level of specificity was not required at this stage. He also suggested adding “increase biodiversity” to wording. The amended recommendation reads “*Work with DNREC and the individual Tax Ditch Organizations to explore the feasibility of establishing landscape buffers along tax ditches in order to reduce erosion along ditch banks, reduce maintenance requirements, and improve water quality.*” The motion to approve this recommendation, under the condition that it is moved to the list of “Education” recommendations, passed with all in favor.

At this juncture (about 3:00), the Task Force agreed to take a ten-minute break before moving on to the next list of recommendations, those listed under “**Legislation Affecting Development.**”

After reconvening, the Task Force began discussion of the first recommendation. Senator Hansen and James White suggested changing the wording such that it reads “*Review existing regulations to determine their effectiveness in protecting state-endangered species.*” Maria Evans made a motion to strike this recommendation, but the motion did not pass. Matthew Sarver made the point that this is of critical importance in protecting endangered species, and James White added that part of our job on this Task Force is to explore new ways to protect them. Representative Gray voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

The second recommendation concerned density bonuses for preservation of native species. The Task Force agreed that this recommendation should be left for future discussion with the

commission/working group tasked with implementing the recommendations. The motion to remove this recommendation passed with all in favor.

The third recommendation concerned reducing stormwater management requirements for communities landscaped with native species. Faith Kuehn commented that the Department of Agriculture was opposed to this one because stormwater management serves multiple useful purposes and should not be reduced. The motion to remove this recommendation passed with all in favor.

The fourth recommendation concerned requiring projects that receive state permits to use native landscaping in common areas. Faith Kuehn pointed out that this wording is too broad as it did not specify the type of permit(s) in question. The motion to remove this recommendation passed with all in favor.

The discussion moved to the fifth recommendation. Maria Evans suggested changing “ensure” to “encourage”, such that it reads “*Encourage protection of Delaware’s rarest plant communities such as Atlantic White Cedar Swamps; Coastal Plain Ponds; Interdunal Swales; Sea-level Fens; Piedmont Streamside Seepage Wetland and Piedmont Tuliptree Rich Woods.*” The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the Overarching Statements for the two categories of recommendations discussed at this meeting. She noted that Douglas Tallamy had indicated previously that he would like to change the wording from “ecology” to “ecosystem” in the first statement, for “Government Leads by Example.” Matthew Sarver recommended making it “ecosystems” (plural) such that it reads “*A critical part of demonstrating to the public the importance of native species to our local ecosystems is by our government taking the lead and providing native species landscapes and management on our public property.*” The motion to approve this statement passed with all in favor.

The second Overarching Statement pertained to the “Legislation Affecting Development” category. Michael Costello and Matthew Sarver suggested changing the wording such that it reads “*In order to improve and protect our ecosystems during land development, legislation at the state and/or local level is/may be necessary. The term ‘legislation’ is used loosely and may include such things as a bill or resolution passed by the General Assembly, an ordinance or resolution passed by a local government, a change in the regulations administered by the state or local government, or a change in state or local government policy.*” Faith Kuehn, Katherine Holtz, Valann Budischak, Michael Costello, Kathy Stiller, Representative Gray, and Maria Evans voted for “may be necessary”; Matthew Sarver, James White, Ashley Kennedy, and Senator Hansen voted for “is necessary”. Due to failure to secure a majority vote one way or the other, it was decided that this recommendation would be put on hold until absentee voting could be completed to allow other Task Force members to participate.

Senator Hansen turned the discussion back to the recommendations, starting with Recommendation 6. Ashley Kennedy suggested changing “conductivity” to “connectivity” and Matthew Sarver suggested clarifying the wording such that it reads “*Look for linkages and connectivity between native habitats in existing and new development to connect native habitat in subdivision site plans.*” The motion to approve this recommendation passed with all in favor.

Matthew Sarver noted that Recommendation 7, which concerned favoring native plants in all new subdivisions, and Recommendation 8, which concerned keeping development out of the woods, were too broad to be strictly useful. The motions to remove each of these recommendations passed with all in favor.

The ninth recommendation concerned requiring buffers of no disturbance around sensitive habitats. Faith Kuehn pointed out that it bore a strong similarity to Recommendation 17 below, with the latter being more detailed/specific. The motion to remove this recommendation passed with all in favor.

The tenth recommendation concerned bioretention facilities. Senator Hansen noted that it would serve as a good model for future legislation. Michael Costello suggested that it may be beyond the purview of this Task Force as it pertains to issues that other groups are already addressing in great detail. The motion to remove this recommendation passed with all in favor.

Senator Hansen guided the discussion to the eleventh recommendation. She suggested changing “draft legislation” to “encourage drafting”, and Michael Costello suggested adding “when maintained in accordance with an approved plan”, such that it reads “*Encourage drafting of legislation for use by local governments that would provide exemptions for common areas, buffer zones, and open space areas from tall weeds/grass property code violations, when maintained in accordance with an approved plan.*” The motion to approve this recommendation passed with all in favor.

James White suggested changing the wording of Recommendation 12 such that it reads “*Encourage the preservation of the remaining intact forest habitat (largest tracts should receive highest priority).*” Maria Evans asked for clarification as to whether this applies both to public and private land. James White replied that while it is unspecified in the text of the recommendation, most forest habitat in the state is on private land. Representative Gray voiced a concern that this recommendation may infringe on private property rights. Kathy Stiller suggested moving this recommendation to the “Incentivize Private Landowner” list of recommendations. The motion to approve this recommendation, on the condition that it is moved to that list, passed with all in favor.

James White suggested adding Recommendation 13 to the list of “Incentivize Private Landowners” recommendations as had been done with 12. It reads “*Preserve or otherwise conserve and manage as much of the remaining freshwater wetlands as possible – e.g. Delmarva Bays (Coastal Plain Ponds).*” The motion to approve this recommendation, on the condition that

it is moved to the list of “Incentivize Private Landowners” recommendations, passed with all in favor.

Senator Hansen guided the discussion to the fourteenth recommendation, “*Encourage Kent and Sussex Counties to adopt overlay zoning ordinances incorporating sensitive natural resources.*” Representative Gray asked if New Castle County already has such ordinances in place; Senator Hansen replied in the affirmative. The motion to approve this recommendation passed with all in favor.

During discussion of the fifteenth recommendation, which reads “*Encourage the revisitation of wetlands regulations to ensure protection of freshwater non-tidal wetlands via regulation and incentives*”, Matthew Sarver noted that this is a particularly important issue which has received attention from the state in the past but without a satisfactory outcome. James White noted that he is optimistic that common ground can be found. Michael Costello asked if wetlands can be relocated; James White replied that the state has done a lot of wetland recreation with some success, but it is far more difficult than preserving the original wetland. Kathy Stiller, Katherine Holtz, Michael Costello, Faith Kuehn, Representative Gray, and Maria Evans voted against this recommendation while James White, Matthew Sarver, Ashley Kennedy, Valann Budischak, and Senator Hansen voted in favor. As this recommendation did not receive a majority vote to either pass, delete, or further recommend, it was decided that it would be put on hold until absentee voting could be completed to allow other Task Force members to participate.

The discussion moved to the sixteenth recommendation, which reads “*Encourage all counties to adopt environmental design standards for development projects in order to protect key wildlife habitats and species of greatest conservation need (SGCN).*” Kathy Stiller voted against this recommendation; all other Task Force members present voted in favor and the motion to approve passed.

Recommendation 17 concerned increasing the width of non-disturbance areas surrounding wetlands, waterbodies, and conveyance systems. James White commented that buffers are beneficial from an ecological standpoint (improving water quality, etc.) but added that every type of ecosystem needs a different kind of buffer, so the wording of this recommendation was too specific to be applicable in all situations. The motion to remove this recommendation passed with all in favor.

Recommendation 18 concerned using the passive open space provisions of the Subdivision and Land Development ordinance to require reintroduction of wildlife habitats and upland forests. The members of the Task Force present decided that they lack sufficient knowledge of the ordinance in question to vote on this topic. The motion to remove this recommendation passed with all in favor.

The discussion moved to the nineteenth recommendation. Matthew Sarver suggested removing the last clause (“to control invasive species”), such that it reads “*Ensure that all State, County,*

*and local codes allow for managed meadow areas as defined by neatly mowed edges, mowed paths, and management plans.”* The motion to approve this recommendation passed with all in favor. Faith Kuehn inquired which list the Task Force will defer to as the authority on invasive plant species, and recommended using the list provided by the Invasive Species Council. James White and Matthew Sarver agreed and Senator Hansen said that a formal decision will be made at the next and final meeting.

Senator Hansen invited members of the public to speak at this juncture.

Scott Kidner from the Pemberton Branch took a moment to say that concern for private property rights motivated his group to attend these meetings, and added that he looks forward to submitting public comment on the finalized report.

Greg DeCowsky (DNREC, retired) commented that private property rights go both ways, and shared that he lives adjacent to an abandoned property that has subjected his own property to a succession of one invasive species after another over the past twenty years due to the neglect of the neighboring property.

Senator Hansen reminded Task Force members that the final meeting is set for 1 p.m. on Tuesday, November 28<sup>th</sup>.

**The meeting was adjourned at 4:45 p.m.**

# **Statewide Ecological Extinction Task Force**

**Tuesday, November 28<sup>th</sup>, 2017**

**1:00 p.m. – 5:15 p.m.**

**Senate Hearing Room, Legislative Hall**

## **Meeting Attendance**

### **Task Force Members:**

#### **Present:**

Senator Hansen  
Senator Richardson  
Representative Gray  
Representative Heffernan  
Douglas Tallamy\*  
Matthew Sarver  
Robert Thornton  
Susan Barton  
James White  
Faith Kuehn  
Kathy Stiller  
Joseph Rogerson  
Michael Petit De Mange\*\*  
Tracy Surlis  
Maria Evans

*\*Represented by Ashley Kennedy*

*\*\*Represented by Kris Connelly*

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#### **Absent:**

Michael Costello  
Chris Bason  
Sarah Cooksey  
Katherine Holtz

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**Staff:**

Jennifer Parrish, Legislative Assistant

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**Attendees:**

Chris Klarich  
Dave Carey  
Shauna Thompson  
C. Scott Kidner  
Greg DeCowsky  
Howard Fortunato  
Verity Watson  
Hadey Salem

**Organization:**

Delaware Nature Society  
Pemberton Branch  
Pemberton Branch  
Pemberton Branch  
DNREC (Retired)  
Home Builders Association  
Home Builders Association  
Legislative Assistant

**The Task Force meeting was brought to order at 1:00 p.m.**

Senator Hansen brought the meeting to order. The Task Force reviewed and approved the minutes from the last meeting.

Senator Hansen drew the Task Force members' attention to a document in their folders which consisted of a vote tally for recommendations that did not pass during the last meeting. She noted that after absentee voting was conducted over email, Recommendation 15 in the "Legislation Affecting Development" category passed.

Robert Thornton (Home Builders Association) added for the record that the Home Builders Association fully supports Recommendation 15.

Senator Hansen noted that Recommendation 20, the "Overarching Statement" for that category, did not pass as it received only eight votes in favor, two shy of a majority vote. Senator Hansen noted that the "Overarching Statements" serve as the "findings" for the Task Force's final report, and pointed out that it's important for each category to have at least one "finding" to justify passing recommendations associated with each category. She reviewed the recommendations in the "Legislation Affecting Development" section that already received a majority vote of approval, including those that were moved to a different category. She then proposed revisiting Recommendation 20 with the goal of establishing an "Overarching Statement" that a majority of Task Force members could approve.

Susan Barton (Delaware Landscape and Nursery Association) made a motion to change the wording from "is" to "may be".

Senator Richardson said that his concern was that "legislation" was too loosely defined and he did not want to open the door to further regulations. He added that he believes the emphasis should be on education instead of legislation, and he considers legislation regarding what people can plant in their yards overreaching.

Senator Hansen noted that the “Education” category of recommendations was very well-developed, and added that having a “Legislation” category would not overshadow the “Education” category but would instead show that there are different methods of addressing the issue.

Matthew Sarver (Delmarva Ornithological Society) suggested changing “legislation” to “policy changes” to be more inclusive.

Susan Barton commented that another aspect of private property rights includes not having your property impinged upon and invaded by someone else’s poor choice of plants. She added that ordinances and regulations can be extremely helpful in changing the way people look at landscapes, i.e., encouraging people to have meadows instead of lawns, and noted that people should be allowed to have meadows on their own private property if they are managed.

Representative Heffernan agreed and shared an example in which a land owner clear-cut bamboo to comply with a neighborhood ordinance to prevent the spread of the bamboo to other properties.

Ashley Kennedy (University of Delaware) commented that she supports this recommendation and said that what land owners do on their own property does affect other properties. She provided a hypothetical example of a land owner not being able to dump toxic chemicals into a waterway on their own property because it is understood that the chemicals would have an impact on neighboring properties. She said that invasive plants can similarly be considered a toxic influence in communities.

Representative Gray shared his perspective as a former land developer. He noted that trying to develop land is difficult because of onerous EPA and DNREC restrictions, and if people are unable to build in a given location, they will then spread out more and encroach on other natural areas.

Senator Hansen and Susan Barton suggested striking “land developers” and “during land development” to broaden the language of the statement. The amended version with these and earlier suggested edits reads *“In order to improve and protect our ecosystems, policy changes at the state and/or local levels may be necessary. Policy changes may include such things as a bill or resolution passed by the General Assembly, an ordinance or resolution passed by a local government, a change in the regulations administered by state or local government, or a change in state or local government policy.”*

Joseph Rogerson (DNREC) said he supported the change in wording, and added that Delaware has about 60 state- and federal-listed endangered species, of which the state-endangered species do not have any further protection. He said we need to protect our last populations of wildlife that may not necessarily be listed as endangered.

Maria Evans (Delaware Association of Realtors) asked if Delaware already has legislation to protect endangered species.

Matthew Sarver says there no statutory laws to protect state-listed endangered species. Joseph Rogerson added that all existing protections are for federally-listed endangered species. He said that only about a fifth of our state-endangered species are also federally listed.

Senator Richardson and Kathy Stiller opposed this recommendation, but all other Task Force members present voted in favor and the motion to approve passed.

At this juncture, Senator Hansen proposed that the Task Force take a break to have a group photo taken.

After the photo, Senator Hansen announced that there will be a press conference on Tuesday, December 5<sup>th</sup>, 11:30 a.m. at Ashland Nature Center, and invited everyone to attend. She encouraged Task Force members to let her know if they would like to speak at this event.

Senator Hansen next guided the discussion to the recommendations in the “Funding Open Space Program at Statutory Level” category. The first recommendation reads “*Overarching Statement: Utilization of the Open Space Program is an effective tool in stemming the loss of our native species.*” The motion to approve this recommendation passed with all in favor.

During discussion of the second recommendation, “*Fund the Delaware Open Space Program at the level required by statute*”, Senator Hansen said that this recommendation had been put forth by several Task Force members (Nature Conservancy, Delaware Nature Society, Delmarva Ornithological Society, and Representative Gray). She noted that the statute addressing this is 30 Del.C. Sec. 5423(c)(1). “(c)(1) Funds for the Open Space Program, and the earnings thereon to be retained therein, shall be applied by the Department to pay the costs of planning, and acquisition and development of property, to achieve the purposes of this subchapter. The program shall be funded by a transfer of \$9,000,000 of realty transfer taxes into the Endowment Account on or before December 15 of each fiscal year...”. Senator Hansen added that the statute was waived for fiscal year ending June 30, 2018, by 81 Del. Laws, c. 59, § 10, with the result that the Open Space Program is currently unfunded.

Maria Evans said that the Delaware Association of Realtors is opposed to transfer taxes in general because they encourage bad development, and noted that she would be voting against this recommendation.

Senator Hansen pointed out that the recommendation as written does not specify the method of funding, but only the level of funding.

Senator Richardson and Maria Evans opposed this recommendation, but all other Task Force members present voted in favor and the motion to approve passed.

Senator Richardson commented that he voted against this motion because while he is in favor of the Open Space Program, he is against the real estate transfer tax for the reasons Ms. Evans gave.

During discussion of the third recommendation, Joseph Rogerson suggested mentioning the importance of connectivity between habitats.

Faith Kuehn (Department of Agriculture Division of Plant Industries) added that there is support for the Open Space Program in the Department of Agriculture, but they believe the priority should be lands adjacent to already existing state lands.

Susan Barton suggested combining the third and fourth recommendations into one, such that it reads “*Open Space Program funds should be used for purchasing high-quality habitats with native plants and trees, especially those habitats required for species of special concern and those that connect existing protected lands.*” The motion to approve this recommendation passed with all in favor.

During discussion of the fifth recommendation, “*Continue dedicating funds toward the Agricultural Land Preservation Program as finances permit*”, Representative Heffernan noted that Delaware is a General Fund state, so it is unusual for a statute to specify that a program’s funding comes from realty transfer taxes. The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to the next category, “Legislation to Prohibit the Sale of Invasive Species”. She noted that it is important that the Task Force agree on which species are considered invasive, i.e., designate an invasive plant species list as a guiding authority. She noted that the Task Force has previously referenced both the Delaware Invasive Species Council list and a list compiled by William McAvoy from DNREC. She commented that she spoke with Mr. McAvoy and learned that he updates his list each year.

Jennifer Parrish (Legislative Assistant) provided a spreadsheet showing the results from the intern study on plants for sale in Delaware. Senator Hansen noted that the majority of species sold are non-native.

During discussion of the first recommendation, Joseph Rogerson suggested removing “plant” from “native plant species”, given that native insects and other wildlife are impacted by the spread of invasive plant species.

Susan Barton commented that this overarching statement is true and important, and reminded the Task Force that we should consider not only the number of invasive plant species sold, but also the overall number/volume of invasive plants sold. She noted that some invasive plant species such as garlic mustard, multiflora rose, and Japanese stiltgrass are not being sold in nurseries so we don’t have a means of controlling them, but we can prevent nurseries from selling other invasive plants like Callery pear, burning bush, and Norway maple.

Faith Kuehn added that the nursery and landscape industry would likely be supportive, or at least not strongly opposed to, such regulations, especially if they were given a lead time to implement them.

Susan Barton recommended using the list provided by the Delaware Invasive Species Council because it was compiled by numerous stakeholders rather than just one agency, but added that it is older and should be reevaluated.

Faith Kuehn agreed, adding that the Delaware Invasive Species Council list provides a good framework and assessment tool.

Matthew Sarver added his support for use of the Delaware Invasive Species Council list.

The final wording of the first recommendation was “*Overarching Statement: The sale of invasive plant species is an important factor contributing to the loss of native species in Delaware*”. The motion to approve this recommendation passed with all in favor.

The Task Force decided to merge the second and third recommendation into one due to their similarity, as both pertained to prohibiting the sale of invasive plant species.

Representative Heffernan noted that this raises the question of how the prohibition would be enforced.

Faith Kuehn said that within the Department of Agriculture Division of Plant Industries, there are employees who already regularly visit nurseries (e.g., to look for invasive insect species) and this could be added to their duties without much difficulty.

Ashley Kennedy noted that she believes this recommendation could be one of the best and most important things to come out of the Task Force’s efforts.

Susan Barton commented that the recommendation does not stipulate that land owners are responsible for removing invasive plants; it is only intended to prevent adding to the problem. She recommended dividing the recommendation into sub-parts, such that it reads “*Make the sale of invasive plants illegal in Delaware, allowing an appropriate phase-out period after legislation passes.*”

*A) Invasive species are those on the Delaware Invasive Species Council plant list, as periodically amended.*

*B) The Delaware Invasive Species Council plant list must be reviewed and amended if necessary on a regular basis.”*

Senator Richardson commented that if you make something illegal, it follows that there is a penalty for noncompliance, and he is against penalizing businesses without duly warning them.

Susan Barton noted that legislation is the best form of education; the publicity surrounding a new law would educate people, and nursery industry meetings and publications would also address this, so nurseries would not be caught unawares.

Senator Richardson, Kris Connelly, Maria Evans, and Kathy Stiller opposed this recommendation, but all other Task Force members present voted in favor and the motion to approve passed.

The fourth recommendation pertained to the Noxious Weed Control and Nuisance Plants laws. Susan Barton said that these laws are not pertinent to our goals because the former was written for a very different purpose (i.e., to protect agriculture) which should not be conflated with our goals, and the latter is problematic because there are no plants on the “Nuisance Plant” list.

Faith Kuehn agreed, saying that the definition of “noxious weed” in the code is very specific and different from the definition of “invasive species”. The motion to remove this recommendation passed with all in favor.

Senator Hansen guided the discussion to the next category, “Deer Management.”

During discussion of the first recommendation, Matthew Sarver suggested taking out the word “plant” such that it reads “*Overarching Statement: The proliferation of deer is an important factor contributing to the loss of native species in Delaware.*”

Senator Richardson suggested including agriculture, given that deer are detrimental to farmers.

Faith Kuehn acknowledged that while deer are a serious problem and an economic burden on farmers, that might be considered a separate issue from the focus of the Task Force.

Ashley Kennedy agreed, stating that there are other deleterious effects of deer overpopulation such as fatalities from vehicle collisions, but these are not within the purview of the Task Force.

The motion to approve the first recommendation passed with all in favor.

The Task Force decided to skip the second recommendation, which pertained to deer management in heavily populated areas, for the moment and return to it later in the discussion.

During discussion of the third recommendation, Joseph Rogerson suggested changing “federal, NGO, county, and municipal conservation” to “landowners” such that it reads “*Encourage land owners and land managers to increase deer harvest as necessary to reduce impacts to key habitats.*” The motion to approve this recommendation passed with all in favor.

Matthew Sarver suggesting changing the wording of the fourth recommendation such that it reads “*Promote the availability of deer damage permits to non-agricultural land owners.*” The motion to approve this recommendation passed with all in favor.

The fifth recommendation reads “*Encourage farmers to utilize their crop damage tags by allowing hunting on their property.*” The motion to approve this recommendation passed with all in favor.

The sixth recommendation concerned allowing farmers to open their land to access by hunters at certain times. The motion to remove this recommendation passed with all in favor.

Joseph Rogerson inquired if the “Notes” column from each of the “Recommendations” documents will be included in the final report.

Senator Hansen said that they should be included in the discussion section of the report or in the appendix.

The seventh recommendation reads “*The sign-up process for the DE Severe Damage Program should be streamlined and more user-friendly.*” The motion to approve this recommendation passed with all in favor.

The eighth recommendation concerned legislation to allow farmers and land owners the right to protect their property from destructive wildlife year-round. The motion to delete this recommendation passed with all in favor.

At 3:15, the Task Force took a ten-minute break.

After the Task Force reconvened, Senator Hansen reminded the Task Force that there were two recommendations, numbers 19 and 20, in the “Government Leads by Example” category that had not yet been voted on, due to the Task Force’s decision to hold them until the discussion of next steps in the implementation of the recommendations was held. She guided the discussion to the topic of “Formation of the Delaware Native Species Commission.” She noted that Task Force members were given a document with the recommendation for this topic as well as descriptions of two agencies whose interests pertain to this topic, the Delaware Invasive Species Council, Inc., and the Delaware Native Plant Society. She mentioned that these are volunteer-based, nonprofit organizations which can dissolve at any time the Board of Directors or the membership chooses, and as advocacy groups, they are not bound to implement our recommendations or to have a balanced membership of different stakeholders on the commission.

James White noted the Delaware Nature Society, Delmarva Ornithological Society, and other organizations work towards these goals as well.

Faith Kuehn noted that this draft recommendation was shown to the Board of the Delaware Invasive Species Council this morning. She reported that the Board was enthusiastic about the existence of this Task Force and commented that they would make a good partner going forward.

Senator Hansen noted that we want to continue removing invasive species as well as promoting conservation of native species, adding that while there is some overlap, these are two distinct issues.

Representative Gray asked who would serve on the commission.

Kathy Stiller suggested that the same organizations/agencies, if not necessarily the same individuals, that took part in this Task Force could serve on the commission.

Senator Hansen said that the Task Force does not need to specify details of the commission membership at this time, but instead provide the basic framework (i.e., there should be a commission, the commission membership should be balanced, and the committee should report back to the General Assembly).

Representative Gray suggested going around the table and each member sharing their thoughts on this issue.

Ashley Kennedy said that she certainly supports the establishment of a commission and that Task Force members should be permitted to serve on it if they would like to do so.

Matthew Sarver agreed and said that a formal commission would be helpful and welcomed by the nonprofit community to help keep them on track.

Tracy Surles (New Castle County) agreed and said a commission would be needed to keep these efforts going, and having a commission would expose more people to these issues.

Kathy Stiller agreed and said the commission needs to be balanced but not so large that it becomes less effective.

James White agreed that a commission would be very valuable, and that the composition of this Task Force was very good. He noted that the Delaware Nature Society would certainly want to stay involved.

Maria Evans agreed that the formation of a commission is a good idea and added that the Delaware Association of Realtors would like to participate. She asked if there would be enough work to keep a commission going.

Senator Hansen replied that she certainly believed so, and asked if the Task Force would want to put a sunset on this.

Maria Evans asked if the commission would go under the Public Integrity Commission, given that it would be teaching classes to professionals.

Senator Hansen said that the commission would likely work within the Public Integrity Commission and with the Division of Regulation.

Robert Thornton said that we need to define what the charges of the commission would be, and that we should pull from existing organizations and decide how long the commission should meet. He noted that it is important not to adopt a punitive enforcement situation.

Faith Kuehn said that she is very supportive of a commission, and agreed that it would need to have clearly-defined goals and broad representation.

Joseph Rogerson agreed and said that many of our recommendations will not come to fruition without a commission to implement them.

Senator Richardson noted he has learned a lot from this Task Force and he is supportive of a commission to continue this work.

Representative Gray said that he would like to give the commission a chance, and liked the idea of sunseting it if it is no longer being productive after a period.

Senator Hansen said that the commission should decide how frequently to meet or how large it should be, but suggested specifying that it should meet no less than four times a year and have no less than twelve members. She suggested ten years as a sunset, noting that this is a fairly typical length, and added that no individual needs to commit to serving for ten years, but organizations in the membership can rotate their representatives on the commission as needed.

Maria Evans noted that this was the best-run Task Force she has served on, commending Senator Hansen for the clearly-defined goals and deadlines.

Senator Richardson asked if the commission would need to report back to the General Assembly via a document.

Senator Hansen responded in the affirmative, and suggested changing “periodical” to “yearly” in the text of the recommendation to make it more specific. She also suggested removing the last sentence, which concerned working collaboratively with the Delaware Invasive Species Council and the Delaware Native Plant Society, because it was unnecessary, as those organizations will likely take an active role on the commission.

Senator Richardson suggested adding “other” before “stakeholders.” With these changes, the recommendation reads *“The Delaware Native Species Commission should be formed by an action of the General Assembly to implement the recommendations of the Task Force and report back to the General Assembly on a yearly basis. Its membership should reflect a balance of interests between environmental professionals, government, and other stakeholders and meet on a regular basis to be determined by the Commission. The Commission will sunset ten years (10) after enactment unless reauthorized by the General Assembly.”* The motion to approve this recommendation passed with all in favor.

Senator Hansen guided the discussion to Recommendations 19 and 20 in the “Government Leads by Example” category.

Tracy Surles suggested combining these recommendations into one, such that it reads *“Develop model legislation or policy to make it easier for state or local government to make changes, such as adopting legislation or policy requiring native species for new government buildings and parks.”*

Senator Richardson suggested removing “model legislation”.

Senator Hansen said that from the perspective of local government, having model legislation is valuable.

Tracy Surles noted that model legislation would not be compulsory, but would allow local governments to choose what makes sense for them on a case by case basis.

Faith Kuehn commented that model legislation is indicative of a group of people with experience and insight coming together and developing something that will work, and many organizations develop model legislation so that others will not have to start from scratch.

Senator Hansen put this recommendation to a vote. Kathy Stiller and Senator Richardson voted against it, but all other Task Force members present voted in favor and the motion to approve passed.

Senator Hansen guided the discussion to the next category, “Recovering America’s Wildlife Act”. The first recommendation in this category reads *“By offering support of the Recovering America’s Wildlife Act, the Delaware Ecological Extinction Task Force supports the efforts of the Blue Ribbon Panel to identify an adequate and sustainable source of money dedicated to the conservation of species in greatest conservation need in an effort to prevent further population*

*declines in some species of wildlife thus reducing the risk of more species becoming endangered.”*

Joseph Rogerson summarized the bill, explaining that it is a federal bill that, if passed, would dedicate funding to states to implement their state Wildlife Action Plans.

Chris Klarich (Delaware Nature Society) provided additional information, saying that the bill has support from numerous businesses, because it would cut down on the number of species listed as endangered. It would do so by preventing species decline as a preventative measure. He mentioned that the bill has support from the National Realtors Association, the Chamber of Commerce, and other groups.

Representative Gray asked what the impact would be on Delaware taxpayers.

Joseph Rogerson said that if it were passed, Delaware would be eligible for up to \$12 million annually in federal money, and would be required to provide a non-federal match of 25% to realize the full allotment. He noted that the non-federal match could come in the form of Open Space funds, various grants, and time contributed by state employees. He concluded that there are numerous alternatives to a state tax to raise the non-federal matching funds.

Matthew Sarver added that hours put in by volunteers (e.g., Delaware Nature Society and Delmarva Ornithological Society HawkWatch volunteers) could also go toward the non-federal match.

Senator Richardson asked if part of the \$12 million would be reallocated to other states if Delaware did not realize the full 25% non-federal match. Joseph Rogerson replied in the affirmative.

Senator Hansen put the first recommendation to a vote. Representative Gray opposed this recommendation; all other Task Force members present voted in favor and the motion to approve passed. The representative noted that he voted against it because he has not read the Delaware Wildlife Action Plan in its entirety.

Joseph Rogerson explained that the second recommendation goes a step further, adding the Task Force to a national sign-on letter in support of the Recovering America’s Wildlife Act. The recommendation reads “*The Delaware Ecological Extinction Task Force supports the efforts of the Blue Ribbon Panel to identify an adequate and sustainable source of money dedicated to the conservation of species in greatest conservation need and offers support of this effort by joining the Recovering America’s Wildlife Sign-On Letter which can be found here:* [https://docs.google.com/forms/d/e/1FAIpQLScvMgnygWgk\\_nLeygYJ4tTVpX4bCDpFG\\_cbbZ\\_tOPA\\_JRwUlg/viewform](https://docs.google.com/forms/d/e/1FAIpQLScvMgnygWgk_nLeygYJ4tTVpX4bCDpFG_cbbZ_tOPA_JRwUlg/viewform).”

Jennifer Parrish provided a print-out of the sign-on letter to Task Force members.

Joseph Rogerson noted that if the federal bill passes, Delaware is not mandated to come up with the non-federal matching funds, but any money that Delaware can get out of this is more than we had before.

Matthew Sarver commented that this is the best opportunity we have had at the federal level in his lifetime to make a generational change in how we handle wildlife conservation. He noted that this area of conservation has been tremendously underfunded, which has led to a long list of candidate species for the Endangered Species Act, something that is unpopular with businesses and land owners alike.

Representative Gray and Senator Richardson voted against this recommendation. Senator Hansen, Ashley Kennedy, Matthew Sarver, Tracy Surles, Kathy Stiller, Representative Heffernan, James White, Robert Thornton, and Joseph Rogerson voted in favor. With nine votes in favor, one shy of a majority vote, it was determined that this recommendation would be put to an absentee vote via email.

Joseph Rogerson explained that the third recommendation goes an additional step further. It reads *“Following the introduction of the Recovering America’s Wildlife Act a letter on behalf of the Delaware Ecological Extinction Task Force shall be sent to Representative Lisa Blunt-Rochester and Senators Thomas R. Carper and Christopher A. Coons requesting their support for the legislation.”*

Representative Gray, Senator Richardson, and Robert Thornton voted against this recommendation; Senator Hansen, Ashley Kennedy, Matthew Sarver, Tracy Surles, Kathy Stiller, Representative Heffernan, James White, and Joseph Rogerson voted in favor. With eight votes in favor and three opposed, the recommendation neither passed nor failed, and it was determined that this recommendation would be put to an absentee vote via email.

At this point, the Task Force revisited the second recommendation under “Deer Management.” The Task Force amended the wording such that it reads *“Encourage the review of county code or local ordinances that may be inhibiting adequate deer harvest.”* The motion to approve passed with all in favor.

Senator Hansen indicated that a member of the public, Mr. Carey (Pemberton Branch), had provided a set of three recommendations to the Task Force for their consideration. She reminded members that Mr. Carey had previously spoken to the Task Force about concerns that DNREC had collected information on his private property. The first recommendation stipulated that all the illegally gained data be returned to the property owners and erased from all networks and files. The second concerned conducting a full review of DNREC’s data collection and analysis policy procedures. The third concerned having the Task Force support Senate Bill 133 as currently written; this bill would prohibit dissemination of natural resource data to any person or entity without written consent of the property owners. Senator Hansen noted that she believes this is a private property issue with DNREC and she did not want to make a recommendation without first investigating all the facts, which would include having witnesses from DNREC.

Tracy Surles commented that the mission of this Task Force is to make recommendations to further conservation of native plants and animals, and this issue is related, but only indirectly.

James White agreed that this issue is not within the scope of the Task Force.

Mr. Carey noted that he and his family share many of the same interests as the Task Force and consider themselves good stewards of natural resources.

Ashley Kennedy said that with only three days until the dissolution of the Task Force, we do not have time to consider recommendations outside of the Task Force recommendations, even if there was interest in doing so.

Senator Hansen suggested voting on whether the Task Force should consider recommendations outside of Task Force recommendations. The motion to avoid considering outside recommendations passed.

Senator Hansen ended the meeting with a reminder about the press conference on Tuesday.

**The meeting was adjourned at 5:15 p.m.**

**Appendix D: Intern Report**

**Analysis of the Sale of Native Species in  
Retail and Wholesale Outlets in New Castle  
County, Delaware**

By Nicole Alvarez and Jennifer Parrish

With special assistance from Hannah Kirk, Ashley Kennedy, and Alison Sayers

## **Executive Summary**

This report was written to analyze the sale of native species in retail and wholesale outlets in New Castle County, Delaware. Five retail establishments were surveyed by recording the types of plant species sold, as well as the volume of those plant species sold. The data include cultivars and hybrids. The data were then sorted and analyzed to find the percentages of native, non-native, and invasive species being sold.

It was found that a total of 77.45% of all recorded in stock species are non-native and 22.54% of all recorded in stock species are native. It was also found that of the 77.45% of all recorded non-native plant species from all five surveyed establishments, 73.28% are non-invasive, 2% are considered invasive species, and 2.17% are on the invasive watch list. Because the volume of the plant species being sold was also taken into consideration, it was found that 83.1% of the total distribution of volume of plant species on hand are non-native and only 16.85% are native.

The Ecological Extinction Task Force was created with the passing of Senate Concurrent Resolution 20 in the 149<sup>th</sup> General Assembly of the State of Delaware, chaired by Senator Stephanie Hansen. This task force was created to examine the extinction of local plant and animal species and report its findings and recommendations for action. It has been found that 40% of all native plant species are threatened or already extirpated from the State of Delaware. It has also been found that the proliferation of non-native and invasive plant species has contributed to a nearly 50% reduction in population sizes for many of our bird species within the span of 50 years. One of the goals of the Ecological Extinction Task Force is to find out the percentages of native, non-native, and invasive species that are being sold in Delaware, which is discussed in this report.

Researchers from Mt. Cuba Center researched and compiled a report of the native and invasive plants sold by the Mid-Atlantic nursery industry. The purpose of this report was to establish a baseline from which Mt. Cuba Center could measure changes in the nursery industry regarding the availability of native and invasive plants, and as a result, its influence. For the Mt. Cuba report, fourteen nurseries from the mid-Atlantic region (PA, NJ, MD, and VA) were surveyed. The final results indicated that 24% of all taxa sold by these fourteen nurseries are native (Coombs & Gilchrist, 2017). Included in this percentage were native species, cultivars, and hybrids. Only 23% of those natives were straight species. Since invasive species were also of interest, it was also found that 2% of all the taxa being sold are considered invasive to the state of Delaware. Delaware also has an Invasive Plant Watch List, which is a list of plants that have the potential to pose a risk of invasiveness (Coombs & Gilchrist, 2017). Another 2% of the surveyed plants are on that list.

To determine the native, non-native, and invasive species sold in Delaware, data were gathered from three nurseries, as well as two big-box retailers in New Castle County. The data gathered are a representation of the flora sold in the state. The data gathered include the types of plants and the volume of plants on hand at the retailers. The data were sorted into spreadsheets with the common name, the scientific name, and designation as to whether the plant was native, non-native, or invasive to Delaware. In order to determine if a plant was native, non-native, or invasive, the scientific name of the plant was found using the Missouri Botanical Garden website (Missouri Botanical Garden Plant Search, n.d.) and the Monrovia website (Monrovia Plant Catalog, n.d.). To determine whether a plant is native or non-native to Delaware the Biota of North America Program North America Plant Atlas the Lady Bird Johnson Wildflower Center website (Lady Bird Johnson Wildflower Center Plant Database, n.d.) and the United States Department of Agriculture online plant database (United States Department of Agriculture Natural Resources Conservation Service. Plant Finder n.d.) were used. To determine if a plant is considered invasive in Delaware, the “Non-Native and Invasive Plants in Delaware” list was used (McAvoy, 2016).

The five retail establishments that were surveyed for this report were Willey Farms in Townsend, Lowe’s in Middletown, Mid-County Material Supply and Garden Center in Bear, Home Depot in Newark, and Countryside Nursery and Garden Center in Newark. The site visits to Lowe’s, Mid-County Material Supply and Garden Center, Home Depot, and Countryside Nursery and Garden Center occurred on September 22, 2017. Mid-County Supply and Garden Center and Home Depot did not have a physical inventory list to give, so all information was manually recorded. Lowe’s provided inventory lists of in stock plants as well as a list of volume sold. Countryside Nursery and Garden Center provided an inventory list of all in-stock plants as

well as the quantities on hand. On September 29, 2017, Willey Farms was visited. They also did not have a physical inventory list, so the entire inventory was manually recorded. Once all the data were sorted, and labeled as native, non-native, or invasive, percentages were calculated.

The overall number of plant species recorded across all five retail establishments totaled 1,149. Of the total number of species sold, 890 species (77.45%) are considered non-native while 259 species (22.54%) are considered native to Delaware. Of the 77.45% of all recorded plant species from all five surveyed establishments, 842 (73.28%) are non-invasive, 23 (2%) are considered invasive species, and 25 (2.17%) are on the invasive watch list. The volumes of plants in stock were also taken into consideration. Of the total 8,957 plant species being sold, a total of 7,447 (83.1%) are non-native plant species, and 1,510 (16.5%) are native plant species. The results of this study show that at each store surveyed, the non-native plants sold outnumbered the native plants sold and that the majority of in stock plant species by number and quantity are non-native.

## References

BONAP's North American Plant Atlas (NAPA). US County-Level Species Maps: List by Genus.

(n.d.). Retrieved from: <http://bonap.net/NAPA/Genus/Traditional/County#refC>

Coombs, G. & Gilchrist, D. (2017). Native and Invasive Plants Sold by the Mid-Atlantic Nursery Industry. *Mt. Cuba Center*

Lady Bird Johnson Wildflower Center Plant Database. (n.d.). Retrieved from:

<https://www.wildflower.org/plants/combo.php?distribution=DE&habit=&duration=>

McAvoy, W. (2016). Non-Native and Invasive Plants in Delaware. *Species Conservation and Research Program. Delaware Division of Fish and Wildlife*

Missouri Botanical Garden Plant Search (n.d.). Retrieved from:

<https://www.wildflower.org/plants/combo.php?distribution=DE&habit=&duration=>

Monrovia Plant Catalog. (n.d.) Retrieved from: <http://www.monrovia.com/plant-catalog/>

United States Department of Agriculture Natural Resources Conservation Service. Plant Finder.

(n.d.). Retrieved from: <https://plants.usda.gov/java/nameSearch>

## **Appendix E: Links to Supplemental Materials Provided by Task Force Members**

- Controlling Backyard Invaders

<http://s3.amazonaws.com/udextension/lawngarden/files/2012/06/11FinalCBI.pdf>

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

- “Creating Living Landscapes: Why We Need to Increase Plant/Insect Linkages in Designed Landscapes”

<http://horttech.ashspublications.org/content/27/4/446.abstract>

Contributed by: Douglas Tallamy (University of Delaware)

- Delaware Biodiversity Scorecard

[https://drive.google.com/open?id=1XkTt2bv7o\\_IcX\\_sspVi7grI7FUJdZZ1K](https://drive.google.com/open?id=1XkTt2bv7o_IcX_sspVi7grI7FUJdZZ1K)

Contributed by Sarah Cooksey (Nature Conservancy)

- Delaware Invasive Species Council:

<http://delawareinvasives.net/blog1/>

Contributed by: Faith Kuehn (Department of Agriculture Division of Plant Industries)

- Delaware Rare Plant Conservation Program:

<https://drive.google.com/open?id=1Kes29nSZRuae0P6vkLGc-MbfyUfLBt9F>

Contributed by: Joseph Rogerson (DNREC)

- Delaware Wildlife Action Plan (DEWAP):

<http://www.dnrec.delaware.gov/fw/dwap/Pages/default.aspx>

Contributed by: Joseph Rogerson (DNREC)

- Delaware Wildlife Action Plan (DEWAP) Overview

<https://drive.google.com/open?id=1tdGn1bkR1nkf-4uS7g5l195PmTeMRluo>

Contributed by: Joseph Rogerson (DNREC)

- Delaware’s State Endangered Species Regulation List Revisions

[https://drive.google.com/open?id=1pYqWQmNHKuifTCP\\_-KKFjJC6AeeT-Yi](https://drive.google.com/open?id=1pYqWQmNHKuifTCP_-KKFjJC6AeeT-Yi)

Contributed by: Joseph Rogerson (DNREC)

- Entomological Society of America Position Statement: Pollinator Health

<http://www.entsoc.org/sci-pol/pollinator-health>

Contributed by: Faith Kuehn (Department of Agriculture Division of Plant Industries)

- Green Home Homeowners Manual

[https://drive.google.com/open?id=1fLPL9\\_cAk12HGhPsIIP1R6jxCu\\_w7cCn](https://drive.google.com/open?id=1fLPL9_cAk12HGhPsIIP1R6jxCu_w7cCn)

Contributed by: Robert Thornton (Home Builders Association)

- Implementation of the Delaware Shorebird Conservation Plan Final Performance Report:

<https://drive.google.com/open?id=1eS-k43UwC4U6W8ptURtEYWAqzDAfzC30>

Contributed by: Joseph Rogerson (DNREC)

- Livable Ecosystems: A Model for Suburbia

[http://s3.amazonaws.com/udextension/lawngarden/files/2012/06/live\\_eco\\_final.pdf](http://s3.amazonaws.com/udextension/lawngarden/files/2012/06/live_eco_final.pdf)

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

- Livable Lawns: Managing a Healthy Lawn

[http://s3.amazonaws.com/udextension/lawngarden/files/2012/10/D32536\\_LivableLawns\\_FINAL\\_web.pdf](http://s3.amazonaws.com/udextension/lawngarden/files/2012/10/D32536_LivableLawns_FINAL_web.pdf)

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

- Livable Plants for the Home Landscape

<http://s3.amazonaws.com/udextension/lawngarden/files/2012/06/lowres18spreads.pdf>

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

- Native and Invasive Plants Sold by the Mid-Atlantic Nursery Industry: A Baseline for Future Comparisons

<https://drive.google.com/open?id=1kIs0cksO4eYJDn7xd67rMysKkqQxVAS>

- Non-native and Invasive Plants in Delaware

<https://drive.google.com/open?id=1y2sU2kRNgMMsYA1peFJdLO8kQ-UZj3tq>

- Partnership for the Delaware Estuary

<http://www.delawareestuary.org/data-and-reports/state-of-the-estuary-report/>

Contributed by: Kathy Stiller (Delaware State Chamber of Commerce)

- Plants for a Livable Delaware

<http://s3.amazonaws.com/udextension/lawngarden/files/2012/06/PLD.pdf>

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

- Port Mahon Volunteer Project to Protect Diamondback Terrapins

<https://drive.google.com/open?id=1Anhc79kHXAZ9pRHCiJ567UjEyRgN6DrY>

Contributed by: Joseph Rogerson (DNREC)

- Protecting Delaware's Natural Heritage: Tools for Biodiversity Conservation

<https://www.eli.org/sites/default/files/eli-pubs/d9.12.pdf>

Contributed by: Sarah Cooksey (Nature Conservancy)

- Protecting Delaware's Natural Heritage: Tools for Biodiversity Conservation (Executive Summary)

<https://drive.google.com/open?id=1hJNPOZI9PHXfDkXPNNvTO8Jbp9Cnk3>

Contributed by: Sarah Cooksey (Nature Conservancy)

- Restoring Nature's Relationships

<https://drive.google.com/open?id=1aDxHwXCmEy7fHHBpxVOm0Rb7wDgOLtkW>

Contributed by: Douglas Tallamy (University of Delaware)

- Silver Woods Landscape Manual

<https://drive.google.com/open?id=1OvCN7mKn3qp4hbLiXqaopWRefFdwFdcd>

Contributed by: Robert Thornton (Home Builders Association)

- Sustainable Sites:

<http://www.sustainablesites.org/>

Contributed by: Susan Barton (Delaware Landscape and Nursery Association)

## **Appendix F: List of Invasive Plants**

### **Designated by the Delaware Invasive Species Council**

(Updated list and species fact sheets may be accessed at:

[http://delawareinvasives.net/blog1/?page\\_id=68](http://delawareinvasives.net/blog1/?page_id=68) )

### **Widespread Invasive Plants**

**These plants are currently invasive, cause serious management concerns, or pose a serious threat to the biological diversity of Delaware.**

Multiflora rose, *Rosa multiflora*

Japanese honeysuckle, *Lonicera japonica*

Oriental bittersweet, *Celastrus orbiculatus*

Japanese stilt grass, *Microstegium vimineum*

Japanese knotweed, *Fallopia japonica*

Autumn olive, *Elaeagnus umbellata*

Norway maple, *Acer platanoides*

Common reed, *Phragmites australis*

Hydrilla, *Hydrilla verticillata*

Morrow's honeysuckle, *Lonicera morrowii*

Mile-a-minute weed, *Persicaria perfoliata*

Yam-leaved Clematis, *Clematis terniflora*

Privet, *Ligustrum*, several species

European Sweetflag, *Acorus calamus*

Wineberry, *Rubus phoenicolasius*

### **Restricted Invasive Plants**

**These plants are equally problematic; however, they have a more localized distribution in Delaware.**

Japanese barberry, *Berberis thunbergii*

Periwinkle, *Vinca minor*

Garlic mustard, *Alliaria petiolata*

Winged euonymus, *Euonymus alata*  
Porcelain berry, *Ampelopsis brevipedunculata*  
Bradford pear, *Pyrus calleryana*  
Marsh Dewflower, *Murdannia keisak*  
Lesser celandine, *Ficaria verna*  
Purple loosestrife, *Lythrum salicaria*  
Reed canarygrass, *Phalaris arundinacea*  
Amur honeysuckle, *Lonicera maackii*  
Tartarian honeysuckle, *Lonicera tatarica*  
Tree of heaven, *Ailanthus altissima*  
Spotted knapweed, *Centaruea biebersteinii*

### **Restricted and Potentially Invasive**

Butterflybush, *Buddleia davidii*