

# New Jersey's Landscape Project

## Frequently Asked Questions

New Jersey Department of Environmental Protection  
Division of Fish and Wildlife  
Endangered and Nongame Species Program

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## **PART I. Landscape Project Maps: Frequently Asked Questions (FAQs).**

As part of its transformation efforts, the Department is working to improve customer service and engage with stakeholders on key issues. This FAQs document attempts to address some of the more common questions and concerns about Landscape Project maps that became apparent during the stakeholder process. The FAQs refer primarily to the mapping product itself and its methodology and characterization and do not address the use and application of the mapping.

FAQs have been identified primarily through feedback the NJ Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP) has received from the public through outreach efforts and information from evaluation forms completed by attendees of Landscape Project [training and information sessions](#) conducted over several years. Additional FAQs were identified during a recent evaluation of the Landscape Project maps conducted in partnership with the Endangered and Nongame Species Advisory Committee (ENSAC). The evaluation process included two stakeholder meetings that generated valuable feedback. The first was held at Rutgers University on September 21, 2010 and included a cross-section of Landscape Project map end-users representing federal agencies, county governments, environmental commissions and the consultant community. The second was held at Assunpink Wildlife Management Area on January 20, 2011 and included representatives of the private forestry consultant community throughout the state.

The following list is organized with the headings, "General FAQs," "Species Occurrence Data FAQs," and "Mapping Approach FAQs." Each item in the list will be addressed in turn by an associated answer and discussion included in **PART II** of this document. Click on any item in the list to jump to its associated answer in **PART II**.

### **General FAQs**

**FAQ 1:** What is the purpose of the Landscape Project?

**FAQ 2:** What is the Landscape Project peer-review process and how are reviewers selected?

**FAQ 3:** Do the Landscape Project maps include rare plant data?

**FAQ 4:** Are the Landscape Project maps derived from satellite imagery? Did Rutgers University Center for Remote Sensing and Spatial Analysis (CRSSA) create the Landscape Project maps?

**FAQ 5:** What percentage of New Jersey is mapped as endangered and threatened species habitat (rank 3, 4, or 5) in the Landscape Project?

**FAQ 6:** Are Landscape Project habitat patches ranked 3 (state threatened), 4 (state endangered), and 5 (federally listed) protected from development? What protections are in place for these habitat patches?

### **Species Occurrence Data FAQs**

**FAQ 7:** What are the quality assurance and quality control standards for screening sighting reports and accepting species occurrences for use in the Landscape Project maps?

**FAQ 8:** Why are species occurrence data not available to the public?

**FAQ 9:** What is the cutoff date for the use of species occurrence data in the Landscape Project maps?

**FAQ 10:** Will the next version of the Landscape Project maps contain information on the last known date of observation for species occurrences associated with a particular patch of habitat?

**FAQ 11:** Are the Landscape Project maps based on theoretical habitat or on actual species occurrences?

### **Mapping Approach FAQs**

**FAQ 12:** How does an SOA value habitat patches in the Landscape Project maps?

**FAQ 13:** What do the habitat patches in the Landscape Project maps represent?

**FAQ 14:** Does the inclusion of cropland in the Version 2.1 “grassland” layer mean that the layer includes areas that are not habitat for grassland species?

**FAQ 15:** Does the potential exist for a large contiguous patch of habitat to be valued by only one documented species occurrence? For example, can a single red-shouldered hawk occurrence at the edge of a forest habitat patch value an entire contiguous patch that may extend for miles without having any additional documented occurrences of red-shouldered hawk or other threatened (T) or endangered (E) species? If so, do Landscape Project maps tend to overestimate the habitat needed to support the occurrence, particularly in large forest and grassland habitat patches?

**FAQ 16:** What does the designation rank 1 “Suitable Habitat” mean?

**FAQ 17:** Why are major roads used to divide habitat patches and is the selection of roads based on their “series” (i.e., 500 vs. 600 series county routes) arbitrary?

**FAQ 18:** Will the next version of the Landscape Project maps take into account topographic or other elevation data?

## **PART II. Answers to FAQs.**

The following are answers to frequently asked questions about the Landscape Project mapping.

### **General FAQs**

#### ***FAQ 1: What is the purpose of the Landscape Project?***

***Answer:***

In the context of land use planning and regulation, the Landscape Project maps were designed to provide scientifically sound information that transparently document threatened and endangered species habitat. The maps help increase predictability for local planners, environmental commissions, and developers and help facilitate local land use decisions that appropriately site and balance development and habitat protection. The Landscape Project maps, which are readily available on the [NJDEP website](#), allow the regulated public to anticipate potential environmental regulation in an area and provide some level of assurance regarding areas where endangered, threatened or species of special concern are not likely to occur, affording predictability to the application and development process. Thus, Landscape Project maps can be used proactively by regulators, planners and the regulated public in order to minimize conflict and protect species. Less time is wasted, and less money spent, attempting to resolve after-the-fact endangered and threatened species issues.

#### ***FAQ 2: What is the Landscape Project peer-review process and how are reviewers selected?***

***Answer:***

ENSP invites experts in wildlife ecology, conservation, species modeling and applied GIS techniques to participate as members of the Landscape Project peer-review committee. Committee representation is sought from all regions of the state. Before the release of each new version of the Landscape Project maps, ENSP hosts a peer-review committee meeting to accomplish the following: review the methodology for base mapping and inclusion of species occurrences; present any changes in methodology; facilitate discussion and solicit questions and comments; and record all comments. ENSP then prepares a summary report addressing all reviewer comments. The report is presented to the Endangered and Nongame Species Advisory

Committee (ENSAC) for approval. Two ENSAC members who are also on the peer-review committee take the lead in reviewing and recommending changes and final approval by ENSAC. If there are major issues judged by ENSAC to be insufficiently addressed by ENSP, ENSAC may recommend reconvening the peer-review committee. The peer-review committee membership is cited in the final [Landscape Project report](#) and includes those who *participated* in the peer review (not all who were invited). See [Appendix I](#) for a full list of committee members that participated in the most recent peer review. In future versions of the Landscape Project ENSP will work to incorporate a detailed account of the peer-review process in a section of the Landscape Project report entitled, *Protocol for Peer Review of the Landscape Project Methodology*.

***FAQ 3: Do the Landscape Project maps include rare plant data?***

***Answer:***

Rare plant data are not represented in the Landscape Project maps. ENSP does share the tracking of rare species with the [NJ Natural Heritage Program](#) (NHP) through a joint database called Biotics. ENSP manages animal records within this database while NHP manages all plant and natural community records. The following NHP GIS products can be downloaded from the [NJDEP Bureau of GIS](#):

Natural Heritage Grid Map of rare plant species and natural communities

Natural Heritage Priority Sites

***FAQ 4: Are the Landscape Project maps derived from satellite imagery? Did Rutgers University's Center for Remote Sensing and Spatial Analysis (CRSSA) create the Landscape Project maps?***

***Answer:***

The current version of the Landscape Project (Version 2.1 statewide and 3.0 in Highlands) was derived from the NJDEP's aerial photo-based land-use/land-cover (LU/LC) that depicts the state of land use and natural land cover statewide and was created by the NJDEP's Endangered and Nongame Species Program. However, the first publicly available version of the

Landscape Project maps (Version 1.0), released in 2001, used base layer data that was satellite-derived and created in cooperation with [CRSSA](#).

***FAQ 5: What percentage of New Jersey is mapped as endangered and threatened species habitat (rank 3, 4, or 5) in the Landscape Project?***

***Answer:***

Approximately 47% of New Jersey is mapped as endangered and threatened species habitat (rank 3, 4, or 5), yet continued urbanization of the landscape results in the loss of over 12,000 acres of wildlife habitat per year (Hasse and Lathrop, [2008](#), [2010](#)).

***FAQ 6: Are Landscape Project habitat patches ranked 3 (state threatened), 4 (state endangered), and 5 (federally listed) protected from development? What protections are in place for these habitat patches?***

***Answer:***

Threatened and endangered species habitats in New Jersey are protected by several land use regulations that limit development and disturbance of areas identified as such habitat. However, threatened and endangered species habitat is not protected in all areas of the state. Habitat patches ranked 3, 4, or 5 in the Landscape Project maps that are not under the jurisdiction of such regulations are, therefore, unprotected. Restrictions are imposed on the development of endangered and threatened wildlife habitat under the following Department regulations:

[Coastal Permit Program Rules \(N.J.A.C. 7:7\)](#)

[Coastal Zone Management Rules \(N.J.A.C. 7:7E\)](#)

[Freshwater Wetlands Protection Act Rules \(N.J.A.C. 7:7A\)](#)

[Flood Hazard Area Control Act Rules \(N.J.A.C. 7:13\)](#)

[Highlands Water Protection and Planning Act Rules \(N.J.A.C. 7:38\)](#)

[Water Quality Management Planning Rules \(N.J.A.C. 7:15\)](#)

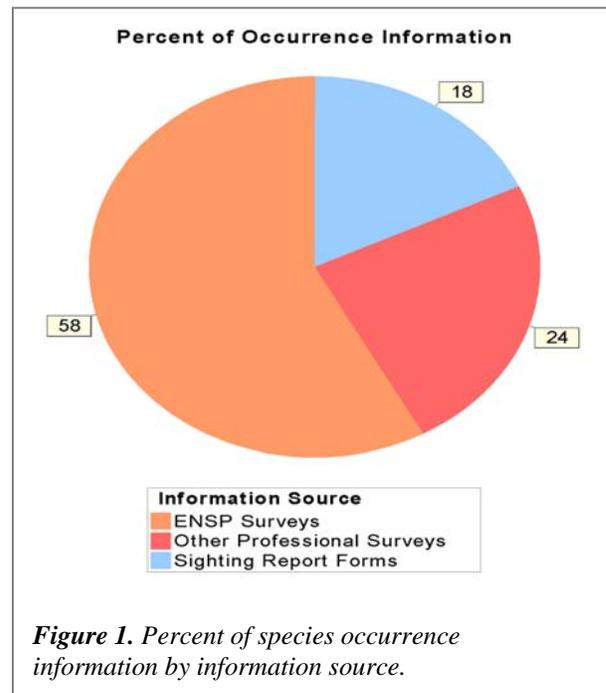
There are many factors that impact the application of the Department’s land use regulations, such as the type and size of proposed development and the presence of other sensitive resources (for example, wetlands). Further, in the context of the various land use regulations, habitat patches ranked 3, 4, or 5 in the Landscape Project maps are not determinative but are used as guidance – habitat warranting protection under the Department’s land use regulations is not always present in the areas mapped and actual habitat suitability is determined on a case by case basis. There are provisions in each regulation that recognize the limitations of mapping on a statewide scale, and thus provide an opportunity for applicants to clarify or challenge any presumption provided by the maps during the permit application process.

### **Species Occurrence Data FAQs**

**FAQ 7:** What are the quality assurance and quality control standards for screening sighting reports and accepting species occurrences for use in the Landscape Project maps?

**Answer:**

ENSP receives species information from a number of sources. The [Rare Wildlife Sighting Report Form](#) (See [Appendix II](#)) is the mechanism used by the general public to report sightings to ENSP. Thus, data derived from sighting report forms only represent a portion of the species occurrence data entered into the [Biotics](#) database and used in the Landscape Project maps. An average of all data entered into the Biotics database over a five year period (**Figure 1**) shows that sighting report form data account for 18% of all occurrences, while 58% are a result of ENSP surveys and 24% are derived from other professional surveys, including those conducted by government agencies and environmental consultants.



**Figure 1.** Percent of species occurrence information by information source.

More importantly, there are standards that reported sightings must meet in order to be included in the Biotics database and additional standards for inclusion in the Landscape Project maps. These standards are detailed in [Winkler et al. \(2008\)](#) on page 23, Appendix I: *Protocol for Accepting or Rejecting Species Sighting Reports* (See [Appendix III](#)). The protocol for screening sighting report forms is followed by reviewers in order to determine the acceptability and reliability of submitted reports and ensure the quality of the accepted sightings. For the period covering 2004 – 2010, 9% of sighting report forms were rejected, while 91% were accepted for inclusion in the Biotics database. Of these, 65% were accepted for inclusion in the Landscape Project maps. In order for an occurrence to be included in the Landscape Project maps it must meet the following criteria: the species status must be endangered, threatened or special concern; it must be a “high accuracy” record according to [NatureServe](#) (accurate within 6-50 meters [most fall within 20 meters]); it must have a 1970 or later last observation date; and it must be an occurrence associated with habitat essential for survival such as a breeding or foraging site. An occurrence of a migrating bird may be considered valid, but would not be included in the Landscape Project maps as it may not rely on habitat in New Jersey for survival.

***FAQ 8: Why are species occurrence data not available to the public?***

***Answer:***

Many species occurrence locations cannot be published because they may represent nest sites, roost sites, dens and other sites used by species that are vulnerable to human disturbance and, in some cases, susceptible to illegal collection. Landscape Project maps display habitat patches that animals use and that have general species occurrence information embedded within them, rather than pinpointing exact locations of the most sensitive wildlife sites.

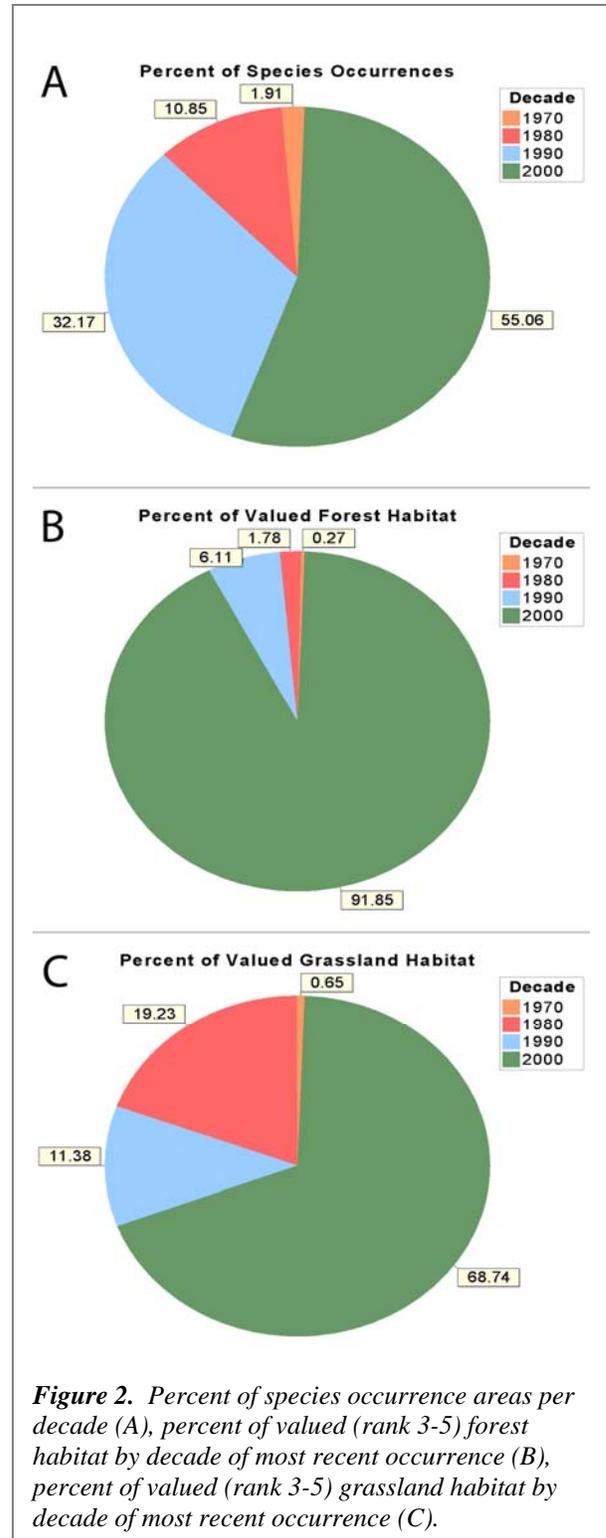
***FAQ 9: What is the cutoff date for the use of species occurrence data in the Landscape Project maps?***

***Answer:***

Species occurrence data with a last observation date prior to 1970 are excluded from the Landscape Project maps. The 1970 date for use of occurrence data in the Landscape Project maps coincides with the time when biologists started to track and record precise locations of

imperiled and rare species. When the Biological and Conservation database (BCD) was upgraded to Biotics in 2004, ENSP reviewed all imperiled and rare animal occurrences to verify that suitable habitat remained in the immediate vicinity of the occurrence. If occurrences were deemed outdated and/or no suitable habitat remained, they were excluded from use in the Landscape Project maps.

Species occurrences from the decade of 1970 account for less than 2% of the total occurrences used in the Landscape Project maps (*Figure 2A*). This translates into a relatively small amount of habitat area valued solely by threatened (T) or endangered (E) species occurrences from the 1970 decade. Less than 0.3% of all habitat area ranked 3, 4, or 5 in the Version 2.1 forest layer was valued only by occurrences from the 1970s (*Figure 2B*). Similarly, less than 0.7% of all habitat area ranked 3, 4, or 5 in the Version 2.1 grassland layer was valued solely by occurrences from the 1970 decade (*Figure 2C*). In the next version of the Landscape Project maps, the cutoff date for the use of species occurrence data will be moved to 1980, thus excluding species occurrence data with a last observation date prior to 1980.



***FAQ 10: Will the next version of the Landscape Project maps contain information on the last known date of observation for species occurrences associated with a particular patch of habitat?***

***Answer:***

The next version of the Landscape Project maps will incorporate a last known observation date or a date range of observation for species occurrences associated with a particular patch of habitat.

***FAQ 11: Are the Landscape Project maps based on theoretical habitat or on actual species occurrences?***

***Answer:***

Landscape Project mapping utilizes documented species occurrence areas (SOA) to value habitat patches. Habitat patches ranked 2, 3, 4, or 5 intersect with or contain at least one documented SOA. An SOA is a species-specific area that is applied to all occurrences in the Biotics database that have been reviewed by an ENSP biologist. The size of the area is generally based on the average home range or territory size, or other appropriate life-history parameter as reported in peer-reviewed scientific literature or from information obtained through ENSP research and expert opinion (see Appendix III in the *New Jersey Landscape Project [Version 2.1](#)* report and Appendix II in the *[Version 3.0](#)* report). SOAs are intersected (overlaid) with appropriate habitat patches and patches are assigned a rank based on the status of the species present.

### **Mapping Approach FAQs**

***FAQ 12: How does an SOA value habitat patches in the Landscape Project maps?***

***Answer:***

Each species has a specific set of land-use/land-cover (LU/LC) classifications that can be valued as habitat for the species. For each species, appropriate LU/LC polygons are combined into a potential habitat layer relating to its needs. Species occurrence areas are then overlaid on appropriate habitat patches that are given a rank based on the status of the species present. In

other words, the SOA will *only value habitat it intersects if that habitat is appropriate* for the species based on individual species-habitat associations derived from peer-reviewed scientific literature or from information obtained through ENSP research and expert opinion (see Appendix III in the *New Jersey Landscape Project [Version 3.0](#)* report).

***FAQ 13: What do the habitat patches in the Landscape Project maps represent?***

***Answer:***

A species occurrence area (SOA) represents the habitat that supports the individual occurrence and often indicates the presence of a species population beyond the individual documented occurrence. The Landscape Project habitat patch mapping approach is designed to capture and represent the habitat needed to support the *local population* indicated by the individual SOA.

***FAQ 14: Does the inclusion of cropland in the Version 2.1 “grassland” layer mean that the layer includes areas that are not habitat for grassland species?***

***Answer:***

The Landscape Project map, including the grassland layer, was created using the NJDEP aerial photo-based land-use/land-cover (LU/LC). The LU/LC depicts the state of the land use and natural land cover statewide in a digital geographic information system (GIS) file, based on aerial photography captured in the spring of 2002. Land use and natural land cover are categorized into TYPE02 and LU02 codes using a modified Anderson classification system (Anderson et al. 1976). TYPE02 describes the general land-use/land-cover categories and the LU02 codes represent more detailed LU/LC categories (See [Appendix IV](#) for a full list of 2002 LU/LC categories).

The grassland layer in Version 2.1 is made up of a number of agricultural lands (LU02: 2000), including “CROPLAND AND PASTURELAND” (LU02: 2100). The current version of the LU/LC makes no distinction between cropland and pastureland, thus there is no mechanism yet available to select out one from the other. In addition, tillable agricultural land is, by nature, a dynamic landscape. Unlike forests, a field can be used for one crop one growing season and a different crop the next because crops are planted and harvested annually. Therefore, a field in a

row crop may not grow that same crop year after year. The type of row crop may also impact grassland dependent species differently; fields in rye or oat crops versus corn crops have different habitat values. Moreover, many grassland dependent species require large areas and at a landscape level, agricultural lands are viewed as part of the grassland matrix that a species requires. Additionally, many fields have areas that are typically not farmed when they are too wet; those areas are beneficial to grassland dependent species. In this context, tillable agricultural lands are potential habitat for grassland dependent species.

***FAQ 15: Does the potential exist for a large contiguous patch of habitat to be valued by only one documented species occurrence? For example, can a single red-shouldered hawk occurrence at the edge of a forest habitat patch value an entire contiguous patch that may extend for miles without having any additional documented occurrences of red-shouldered hawk or other threatened (T) or endangered (E) species? If so, do Landscape Project maps tend to overestimate the habitat needed to support the occurrence, particularly in large forest and grassland habitat patches?***

***Answer:***

While the potential does exist for large habitat patches to be valued by one occurrence of a species, it is important to consider a range of factors in order to put this scenario in perspective and understand it as a valid approach to mapping threatened (T) and endangered (E) species habitat. First, a species occurrence may represent multiple individuals as in the case of Indiana bat hibernaculum or a timber rattlesnake den. The presence or absence of documented species in a patch of habitat and the number of documented occurrences in a habitat patch can relate to the survey effort, or lack thereof, carried out within a patch. Habitat patches valued by one occurrence or a small number of documented occurrences, may be a result of survey intensity not being great enough to reveal more occurrences. Furthermore, habitat patches without documented occurrences are not necessarily absent of threatened and endangered species.

Second, since endangered, threatened and other rare species are not abundant across the landscape, even one occurrence of a species in a very large patch may represent a significant portion of the local population. In addition, a single occurrence often indicates the presence of a larger portion of the population within a habitat patch. In other words, a single red-shouldered

hawk occurrence that represents a breeding pair within a large, suitable habitat patch often suggests the presence of additional breeding pairs in another portion of the same patch. Moreover, protecting individual occurrences or the area used by one individual is generally not sufficient to protect the local population.

Third, wildlife moves, as individual animals that use various habitat features within the landscape find food, shelter, water and fulfill other life history needs (e.g. breeding, nesting, etc.). Some animals, like bobcats or bald eagles, require large home range areas to survive and can move miles within a day. It is necessary, therefore, to extrapolate the observation represented by the occurrence to a more meaningful representation of the area actually used and required to sustain the local population of that animal. Thus, Landscape Project maps help address this issue by displaying habitat patches animals use and that are required to support local populations, rather than simply points where species happened to be observed.

Since the *potential* exists for large habitat patches to be valued by a single species occurrence, it is important to consider how often this actually occurs in the Landscape Project maps and the size of the patches in which it is occurring. An analysis\* of Version 2.1 forest patches and grassland patches showed that less than 10% of forest area and approximately 42% of grassland area ranked 3, 4, or 5

were valued by only one occurrence, with a median patch size of 3.9 acres and 6 acres, respectively (*Table 1*).

An analysis\* of median patch size showed that patches valued by a single occurrence in both the forest and grassland layer have a lower median patch size than all valued (Rank 3, 4, or 5) patches (*Figure 3A*). As expected, this indicates a positive relationship between patch size and the number of species occurrences. Where habitat patches are smaller and more fragmented, fewer occurrences are documented. Of all forest patches (2,300) and grassland patches (888) valued by a single T or E occurrence, a large majority (1,577 and 551, respectively) were 10 acres or less in

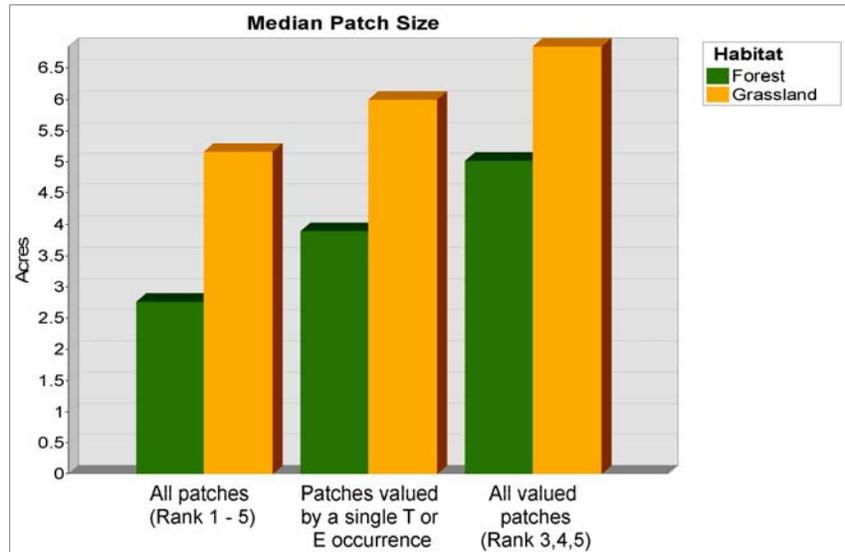
Number of Patches	Acres	Percent of Area Ranked 3,4,5	Median Patch Size (Acres)	Largest Patch (Acres)
2,300	121,001	9.94	3.9	9,548
888	52,838	42.16	6	2,532

*Table 1. Version 2.1 forest and grassland patches valued by a single T or E occurrence.*

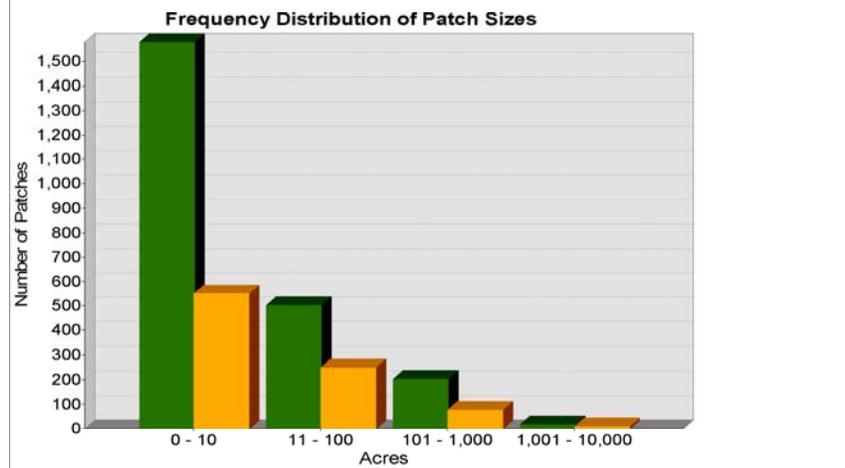
\* These analyses were limited to the Version 2.1 forest and grassland layers because they contain the largest contiguous patches of habitat, have the highest average patch size, and are layers that have received substantial criticism. In addition, the forest layer accounts for the most endangered and threatened species habitat (rank 3, 4, and 5) in the Landscape Project. In subsequent versions of the Landscape Project maps, these analyses will be conducted on all Landscape Project layers.

size (*Figure 3B*). These account for less than 4% of the total area valued by a single T or E occurrence in the forest and grassland layers. Approximately one-third of the total forest area valued by a single T or E occurrence is made up of a small number (18) of relatively large (>1000 acres) patches. Similarly, approximately 30% of the total grassland area valued by a single T or E occurrence is made up of a small number (10) of larger patches (>1000 acres).

In part, the potential of large contiguous patches of habitat being valued by only one documented T or E occurrence will be addressed in the next version of the Landscape Project maps through the Version 3.0 approach to habitat mapping. The Version 3.0 approach retains the original land-use/land-cover classifications instead of grouping LU/LC classes into broad habitat categories that are then combined to create contiguous patches. For example, in Version 3.0, instead of combining the unique land-use/land-cover classes (such as “coniferous forest 10-50% crown closure” and “deciduous forest 10-50% crown closure” combined into a general “forest” habitat type), the unique classes are retained and each species is associated with a specific set of classes that can come to represent habitat for that species.



*Figure 3A. Median patch size in the forest and grassland layers compared across all patches, patches valued by a single T or E occurrence, and all valued patches (Rank 3, 4, or 5.)*



*Figure 3B. Version 2.1 forest and grassland patch size frequency distribution for patches valued by a single T or E occurrence.*

***FAQ 16: What does the designation rank 1 “Suitable Habitat” mean?***

***Answer:***

Rank 1 is assigned to patches that meet habitat-specific suitability requirements such as minimum size criteria for endangered, threatened or special concern wildlife species, but that do not intersect any documented occurrences of such species. Habitat patches that have no documented occurrence of a species may not have been systematically surveyed. Thus, Rank 1 patches are not necessarily absent of endangered, threatened or special concern species. Rank 1 designation is used for planning purposes, such as targeting for species surveys.

***FAQ 17: Why are major roads used to divide habitat patches and is the selection of roads based on their “series” (i.e., 500 vs. 600 series county routes) arbitrary?***

***Answer:***

Depending on the species, the amount of vehicular traffic present and other road attributes, roads can range from risky to cross to completely impassable. This creates habitat fragmentation and disrupts natural migration corridors. Animals that attempt to cross roads in order to migrate, find food, or return to their breeding grounds are not always successful, as we see by the road kill on the side of our roads. Thus major roads are used as habitat patch breaks in the Landscape Project because they create ecologically significant boundaries.

The change from 500 to 600 series county level routes being used as patch barriers in sequential versions of the Landscape Project mapping was a result of learning from NJ Department of Transportation (DOT) that there is no significant difference between these series in terms of lane width or traffic volume, attributes that both relate to a road serving as a barrier for wildlife. The inclusion of 600 series county routes in Version 3.0 formed a more complete dataset of those qualities. When Version 2.1 of the Landscape mapping is updated to Version 3.0, 600 series county routes will be used as patch breaks consistently throughout the state.

In addition, ENSP has been looking more closely into the effect of roads on wildlife in New Jersey, beginning with the formation of a Roads and Wildlife Working Group in 2009 comprised of programs from DEP and DOT. The group intends to develop a wildlife habitat corridor map, identify known areas of high road mortality for vulnerable species, and investigate the potential to use road traffic volume as a criterion for whether or not a road serves as a habitat

patch barrier. Numerous studies have examined the threshold traffic volumes that have the most significant effect on each taxon of wildlife. The current limitation is that New Jersey road volume information is available for few roads beyond those under state jurisdiction.

***FAQ 18: Will the next version of the Landscape Project maps take into account topographic or other elevation data?***

***Answer:***

NJDEP is currently working with partners to collect high resolution elevation data through a series of [Light Detection and Ranging \(LiDAR\)](#) collection projects. LiDAR data can be used to create high-resolution digital elevation models (DEMs) that can be applied to species habitat modeling initiatives. Over the next five years ENSP will work to incorporate topography and elevation data into the Landscape Project maps and/or its species models.

**Appendix I. Landscape Project Peer Review Committee Members.**

John F. Bunnell, Pinelands Commission

Dr. Joanna Burger, Rutgers University

Dr. William Cromartie, The Richard Stockton College of New Jersey

Dr. Michael Gochfeld, Rutgers University

Dr. John Hasse, Rowan University

Dr. Daniel Hernandez, The Richard Stockton College of New Jersey

Dr. Eric Karlin, Ramapo College of New Jersey

Dr. Richard Lathrop, Rutgers University

Dr. Howard Reinert, The College of New Jersey

Dr. Lance S. Risley, William Paterson University

Dr. David Tulloch, Rutgers University

**Appendix II. Rare Wildlife Sighting Report Form.**

**RARE WILDLIFE SIGHTING REPORT FORM**

REPORT FORM MUST BE ACCOMPANIED BY AN AERIAL PHOTOGRAPH, SATELLITE IMAGE, OR TOPOGRAPHIC MAP WITH THE LOCATION PRECISELY MARKED. PLEASE PRINT LEGIBLY.  
\*The inclusion of a map is mandatory, please see other side for further information on obtaining a map.

**General Information**

Today's Date \_\_\_\_\_  
Common Name \_\_\_\_\_ Scientific Name (If known) \_\_\_\_\_

**Where did the sighting take place?**

Municipality/ Township \_\_\_\_\_ County \_\_\_\_\_  
Topographic quad (if known) \_\_\_\_\_ Coordinates in state plane feet (if known) \_\_\_\_\_

Directions to location with landmarks, which will enable the future relocation of the site where the species was sighted:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Land Owner (name, address and phone number, if known) \_\_\_\_\_  
Describe habitat at the point of sighting and habitat in the general area of the sighting location.  
\_\_\_\_\_  
\_\_\_\_\_

Would you accompany a biologist to the site if needed?  Yes  No  
Can you describe any immediate or future plans to develop or disturb the site?  Yes  No  
If so, please describe. \_\_\_\_\_  
\_\_\_\_\_

**Locational Accuracy**

1. Is your depiction of the sighting location on the topographic map or aerial photo within 6m (20ft) of the animals actual location on the ground?  Yes  No (if no, answer question 2 below)

2. Your mapping is accurate to within \_\_\_ meters \_\_\_ feet \_\_\_ miles of the actual location.

**What was observed?**

How was the species identification made? (ex. Sighting, Call, Road Kill, etc.) \_\_\_\_\_  
Date and time of this sighting (ex. August 20, 2004, 10:30am) \_\_\_\_\_  
How frequently has this species been sighted at this location and over how long a period of time? \_\_\_\_\_  
\_\_\_\_\_

Number of individuals sighted: Adult \_\_\_ Immature \_\_\_ Larva \_\_\_ Unknown/Other \_\_\_

Describe sighting and activity observed (ex. Nesting, Perched, Flying, Sunning, etc.) \_\_\_\_\_  
Describe physical features that identify the sighted animal as the species you are reporting. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Appendix II. (Cont.).**

Were photos taken?  Yes  No      Was video recorded?  Yes  No      Was audio recorded?  Yes  No  
**(PHOTOS/VIDEO/AUDIO ARE STRONGLY ENCOURAGED IN ORDER TO VERIFY THE ACCURACY OF A SIGHTING. Items should be identified with the date taken, location, and observer signature. Items will not be returned.)**

List manuals used or experts consulted to verify identification. \_\_\_\_\_

Provide a brief background on wildlife knowledge and/or experience, or additional information that would add to the validity of the sighting. \_\_\_\_\_

Can this be verified by someone else or can anyone vouch for your identification skills?  Yes  No \_\_\_\_\_

Describe any additional information that may be useful in regards to the condition of the animal or location. \_\_\_\_\_

**Your Contact information**

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_  
Daytime Phone (    )        -        E-mail \_\_\_\_\_

Preferred method of contact \_\_\_\_\_

Signature \_\_\_\_\_



**Return to:**  
Endangered and Nongame Species Program  
NJ Division of Fish and Wildlife  
PO Box 400  
Trenton, NJ 08625-0400  
(609) 292-9400



**Instructions**

1. Complete this form for first-hand field observations only.
2. **DO NOT COMPLETE THIS FORM** if the source of your information is a report, letter, conversation, or other document. Send us the documentation instead.
3. Attach a copy of a map. (\*see below)
4. Only report one species at each location per form and map.

**\*Mapping**  
A map is necessary to help our biologists determine if suitable habitat is present at the location. Once the suitability of the area is determined the map provided aids in the delineation of land to be protected. Ideally the most accurate form of map is an aerial photo, which can be obtained from <http://www.state.nj.us/dep/gis/imapnj/imapnj.htm>, if you are comfortable with your ability to identify the location of the sighting accurately on them. In addition, satellite-derived images are available at <http://www.maps.google.com>. These images can be printed and clearly marked with a pen. An alternative to an aerial photo or satellite image is a topographic map. You may also print copies of topographic maps from the internet at <http://www.topozone.com>. Please use 1:24,000 scale topographic maps only. Please provide either an image or a topographic map, but **NOT** both. Thank you.

Refer to the DFW website for further information: <http://www.njfishandwildlife.com/ensp/rprtform.htm>

### **Appendix III. Protocol for Accepting or Rejecting Species Sighting Reports.**

1. When a sighting report arrives at the ENSP office it is logged in and tracked in a database, regardless of acceptability.
2. If no additional information is needed, the sighting report is sent to the appropriate ENSP biologist for review.
3. If additional information is needed, an attempt is made to obtain the required information. This can include sending a map to the observer to mark the location of the sighting, a telephone interview to clarify information, etc. After all of the required information is obtained the report is sent to the appropriate ENSP biologist for review.
4. ENSP biologist receives the sighting report and reviews it for acceptability/reliability. A species sighting is accepted or rejected based on the following criteria:
  - Did the sighting occur within the known range of the species?
  - Did the sighting occur in the known/recognized habitat for the species?
  - Is the species easily identified, or is it often confused with another?
  - Did anyone else confirm the sighting, or can someone else vouch for the observer's identification skills?
  - Do we have first-hand knowledge of the observer's identification skills?
  - Did the observer include a photograph?
  - Is the species listed as endangered, threatened or special concern for the season in which it was reported? (Some species can have a separate status for breeding season and non-breeding season.)
  - If uncertainty remains about the validity of the sighting, the observer is interviewed by the ENSP biologist.
- a. If sufficient information accompanies the sighting report the record is either accepted or rejected by an ENSP biologist.
- b. If accepted, the reviewing biologist assigns the sighting a feature label and determines whether the sighting should be used in the Landscape Project. For some species, only occurrences assigned specific feature labels are included in the Landscape Project. For example, for many of the raptors a sighting of a migrating bird may be considered valid, but not for inclusion in the Landscape Project. The report is then returned to ENSP's GIS staff and advances to step 5 if accepted.
- c. The reviewing biologist may determine that it is necessary to gather additional information (e.g., ascertain observer experience, ask if there have been additional sightings, ask for photos, ask for verifications by second observer, etc.) before the record can be accepted. If the record is accepted, advance to step 5.
- d. If the reviewing biologist determines that the sighting must be field checked, it is initially rejected until fieldwork can be scheduled to verify the sighting.
5. ENSP GIS staff digitizes the sighting location and prepares the data in a standardized format to enter into the Biotics database.
6. ENSP staff perform a quality check of the documentation, mapping and data entry before the record is complete and filed.

## Appendix IV. NJDEP 2002 Land-use/Land Cover Descriptions.

(For complete details on New Jersey 2002 LU/LC data consult the DEP's website: <http://www.nj.gov/dep/gis/lulc02shp.html>)

<b>LU02</b>	<b>TYPE02</b>	<b>LABEL02</b>
1110	URBAN	RESIDENTIAL, HIGH DENSITY OR MULTIPLE DWELLING
1130	URBAN	RESIDENTIAL, SINGLE UNIT, LOW DENSITY
1140	URBAN	RESIDENTIAL, RURAL, SINGLE UNIT
1150	URBAN	MIXED RESIDENTIAL
1200	URBAN	COMMERCIAL/SERVICES
1211	URBAN	MILITARY INSTALLATIONS
1214	URBAN	FORMER MILITARY, INDETERMINATE USE
1300	URBAN	INDUSTRIAL
1400	URBAN	TRANSPORTATION/COMMUNICATION/UTILITIES
1410	URBAN	MAJOR ROADWAY
1419	WATER	BRIDGE OVER WATER
1440	URBAN	AIRPORT FACILITIES
1461	WETLANDS	WETLAND RIGHTS-OF-WAY
1462	URBAN	UPLAND RIGHTS-OF-WAY DEVELOPED
1463	URBAN	UPLAND RIGHTS-OF-WAY UNDEVELOPED
1499	URBAN	STORMWATER BASIN
1500	URBAN	INDUSTRIAL/COMMERCIAL COMPLEXES
1600	URBAN	MIXED URBAN OR BUILT-UP LAND
1700	URBAN	OTHER URBAN OR BUILT-UP LAND
1710	URBAN	CEMETERY
1711	WETLANDS	CEMETERY ON WETLAND
1741	URBAN	PHRAGMITES DOMINATE URBAN AREA
1750	WETLANDS	MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE
1800	URBAN	RECREATIONAL LAND
1804	URBAN	ATHLETIC FIELDS (SCHOOLS)
1810	URBAN	STADIUM THEATERS CULTURAL CENTERS AND ZOOS
1850	WETLANDS	MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA
2100	AGRICULTURE	CROPLAND AND PASTURELAND
2140	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)
2150	WETLANDS	FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)
2200	AGRICULTURE	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS
2300	AGRICULTURE	CONFINED FEEDING OPERATIONS
2400	AGRICULTURE	OTHER AGRICULTURE
4110	FOREST	DECIDUOUS FOREST (10-50% CROWN CLOSURE)
4120	FOREST	DECIDUOUS FOREST (>50% CROWN CLOSURE)
4210	FOREST	CONIFEROUS FOREST (10-50% CROWN CLOSURE)
4220	FOREST	CONIFEROUS FOREST (>50% CROWN CLOSURE)
4230	FOREST	PLANTATION
4311	FOREST	MIXED FOREST (>50% CONIFEROUS WITH 10-50% CROWN CLOSURE)
4312	FOREST	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)

**Appendix IV. (Cont).**

<b>LU02</b>	<b>TYPE02</b>	<b>LABEL02</b>
4321	FOREST	MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)
4322	FOREST	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)
4410	FOREST	OLD FIELD (< 25% BRUSH COVERED)
4411	FOREST	PHRAGMITES DOMINATE OLD FIELD
4420	FOREST	DECIDUOUS BRUSH/SHRUBLAND
4430	FOREST	CONIFEROUS BRUSH/SHRUBLAND
4440	FOREST	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND
4500	FOREST	SEVERE BURNED UPLAND VEGETATION
5100	WATER	STREAMS AND CANALS
5200	WATER	NATURAL LAKES
5300	WATER	ARTIFICIAL LAKES
5410	WATER	TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS
5411	WATER	OPEN TIDAL BAYS
5420	WATER	DREDGED LAGOON
5430	WATER	ATLANTIC OCEAN
6111	WETLANDS	SALINE MARSH (LOW MARSH)
6112	WETLANDS	SALINE MARSH (HIGH MARSH)
6120	WETLANDS	FRESHWATER TIDAL MARSHES
6130	WETLANDS	VEGETATED DUNE COMMUNITIES
6141	WETLANDS	PHRAGMITES DOMINATE COASTAL WETLANDS
6210	WETLANDS	DECIDUOUS WOODED WETLANDS
6220	WETLANDS	CONIFEROUS WOODED WETLANDS
6221	WETLANDS	ATLANTIC WHITE CEDAR WETLANDS
6231	WETLANDS	DECIDUOUS SCRUB/SHRUB WETLANDS
6232	WETLANDS	CONIFEROUS SCRUB/SHRUB WETLANDS
6233	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)
6234	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)
6240	WETLANDS	HERBACEOUS WETLANDS
6241	WETLANDS	PHRAGMITES DOMINATE INTERIOR WETLANDS
6251	WETLANDS	MIXED WOODED WETLANDS (DECIDUOUS DOM.)
6252	WETLANDS	MIXED WOODED WETLANDS (CONIFEROUS DOM.)
6500	WETLANDS	SEVERE BURNED WETLANDS
7100	BARREN LAND	BEACHES
7200	BARREN LAND	BARE EXPOSED ROCK, ROCK SLIDES, ETC.
7300	BARREN LAND	EXTRACTIVE MINING
7400	BARREN LAND	ALTERED LANDS
7430	WETLANDS	DISTURBED WETLANDS (MODIFIED)
7500	BARREN LAND	TRANSITIONAL AREAS
7600	BARREN LAND	UNDIFFERENTIATED BARREN LANDS

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