Central Pine Barrens Commission Public Hearing
January 19, 2022
Remote via Zoom

Quogue Wildlife Refuge Core Preservation Area
Compelling Public Need Hardship Waiver Application

List of Staff Exhibits

A. Draft Staff Report

B. Nature center expansion rendering

C. Storage structure building rendering

D. Applicant's petition

E. Map/aerial photograph (2020)

F. Photographs of the site

G. Natural Heritage Program Conservation Guides for Chuck-will's-widow and Pine Barrens Underwing

H. Wetlands

I. Flood zone

J. Soils

K. Study Area

624 Old Riverhead Road
Westhampton Beach, NY
11978

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A. Draft Staff Report

DRAFT STAFF REPORT
Central Pine Barrens Joint Planning and Policy Commission
Wednesday, January 19, 2022

APPLICATION NAME: **Quogue Wildlife Refuge Compelling Public Need Core Preservation Area Hardship Waiver Application**

PROPERTY OWNERS: Village of Quogue, Southampton Waterfowl Association, Southampton Town

APPLICANT: Michael Nelson, Executive Director

APPLICATION TIMELINE:

- December 3, 2021 Application received
- December 15, 2021 Scheduled public hearing
- January 19, 2022 Public hearing
- April 1, 2022 Decision deadline

LOCATION: 3 Old Country Road, Quogue

TAX MAP #s: 900-313-1-1.1 (Town); 902-1-1-23.1 & 24 (Village)

ZONING: Town zoning: Open space conservation (OSC); Village zoning: A9 Residence 35,000 square feet

REQUEST: Development expansion of nature center and storage building

This Staff Report is Exhibit A.

PROJECT DESCRIPTION

The project involves two primary elements: to expand the nature center and construct an equipment storage building for the Refuge, specifically:

1. Development of a 1,000 square foot expansion on the rear of the existing 3,150 square foot nature center. See a rendering in Exhibit B.

2. Construction of a 1,980 square foot storage building for Refuge maintenance. See a rendering in Exhibit C.

APPLICATION REQUEST

The applicant seeks a compelling public need hardship waiver for development in the Core Preservation Area. The application states that the Refuge has recently experienced a significant increase in public use and activity due in part to the pandemic and the increase in the local

resident population. It continues that facility improvements are needed to accommodate staff, maintenance needs and program activities for the visiting public.

According to the application, the projects will help the Refuge meet its expansion needs while creating the least amount of disturbance as possible and continuing to protect the resources of the property.

It is represented in the application that no feasible alternatives exist outside of the Core to meet the public need and no better alternatives exist within the county. See the applicant's petition in Exhibit D.

According to the application, the nature center expansion will clear three trees. Planting with native species will occur in the area of the expansion. The storage building is proposed in an area presently utilized for storage and maintenance and therefore, no trees will be cleared to construct the storage building.

EXISTING CONDITIONS

The Refuge is on Old Country Road, north of the LIRR train tracks. The 300-acre Refuge property is located in two municipalities: the Village of Quogue and the Town of Southampton. See an aerial map of the site's location in Exhibit E.

The Refuge is an area of natural open space with seven miles of passive recreational trails, ponds, a nature center, wildlife rehabilitation enclosures, a residence, outdoor storage area for kayaks and other equipment, an historic ice house, restroom facilities, parking and group gathering areas. Structures are concentrated at the sound end of the site. The Refuge offers programs to scouting groups and other environmental education and outreach programs.

Before the Refuge was founded in 1934, the Old Ice Pond was used for ice harvesting by the Quogue Ice Company. In 1938, the Southampton Township Wildfowl Association (STWA) purchased 107 acres from the Quogue Ice Company. The easterly 104 acres of the former Ice Company was donated by Richard and George Post. In the 1980s, the Town of Southampton acquired another 100 acres for the Refuge.

The existing nature center was built in the 1970s. An outdoor deck was constructed on the west side of the nature center in 2017. A residence currently occupied by the Executive Director has existed on the property for more than 50 years.

This section provides a general description of the existing natural resources at the Refuge. Information was collected using the application, knowledge of the Refuge, printed material and online databases.

Existing Land Use: Natural open space and recreational resource. The Refuge hosts scouting and other environmental education activities, a youth day camp and wildlife outreach programs. See photographs of the site taken in December 2021 in Exhibit F.

Natural Habitat: The Refuge is a nature preserve with natural pine barrens vegetation and habitats including terrestrial woodlands and wetland ecosystems. It contains a series of freshwater ponds and is in the watershed of Quantuck Creek, which is connected to the Shinnecock Bay estuary.

The NYSDEC Environmental Resource Mapper describes the ecological communities on site as: pine barrens shrub swamp, pitch pine-oak-heath woodland, pitch pine-oak forest, and freshwater wetlands including a coastal plain Atlantic white cedar swamp and coastal plain poor fen.

The application was referred to the NYSDEC Natural Heritage Program (NHP). A letter was received on January 7, 2022 containing reports on Rare Animals, Rare Plans and Significant Natural Communities on or in the vicinity of the site. Two animals, a bird and a moth, were listed in the report (see Exhibit G), including:

• Chuck-will's-widow, listed as Critically Imperiled in New York State (documented at the project site).
• Pine Barrens Underwing – NY State-listed Special Concern, Critically Imperiled in New York State and Globally Uncommon (documented within 50 yards north of the project site)

Upland/Terrestrial Communities listed in the NHP report include:

- Pitch Pine-Oak Forest - High Quality Occurrence of Uncommon Community Type (documented at the project site)
- Pitch Pine-Oak-Heath Woodland -High Quality Occurrence of Uncommon Community Type (documented at the project site)

Wetland/Aquatic Communities listed in the NHP report include:

- Pine Barrens Shrub Swamp - High Quality Occurrence of Uncommon Community Type (documented within 250 yards of the project site)
- Coastal Plain Atlantic White Cedar Swamp – Rare Community Type (documented within 250 yards of the project site)
- Coastal Poor Fen – Rare Community Type and Globally Uncommon (documented within ¼ mile north of the project site)

Vascular plants listed in the NHP report include:

- Zizag Bladderwort – NY State listed Rare (documented within 250 yards north of the project site)
- Button Sedge – NY State-listed Endangered (documented within 250 yards north of the project site)
- Atlantic White Cedar – NY State-listed Threatened (documented within 250 yards north of the project site)
- Reticulated Nut Sedge – NY State-listed Threatened (documented within 1/2 mile north of the project site

- Thread-leaved Sundew – NY State-listed Threatened (documented within ½ mile north of the project site)

Wetlands: The USFWS National Wetlands Inventory mapped wetlands on site are defined as:

- PUBHh - palustrine, unconsolidated bottom, permanently flooded, diked impounded
- PFO1C - palustrine (nontidal wetlands) forested broadleaved deciduous seasonally flooded

NYSDEC-mapped and regulated freshwater wetland habitats present on the site are classified as Class 1, which is of the highest quality and may support endangered species and other unique natural features. See wetlands map in Exhibit H.

Topography: Topography in the project area contains no steep slopes.

Flood Zone: The site contains a special flood hazard area subject to inundation by the 1% annual chance flood. See Exhibit I.

Depth to Groundwater: Depth to groundwater is approximately five feet in the nature center expansion area.

Soils: Soil types present in the development area include CpA, Carver and Plymouth Sands 0 to 3% slopes and Bd Berryland mucky sand. A map of soils and table of soil types is provided in Exhibit J.

Cultural/Archeological Resources: The New York State Office of Parks, Parks, Recreation, and Historic Preservation stated in a letter dated January 6, 2022, "Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project."

Project Site and Study Area Surrounding Land Use and Zoning

The methodology to characterize land uses in the immediate vicinity of the project site is to analyze the land uses within a half mile of the project site. This area is the Study Area. See Exhibit K. The Study Area contains an area of approximately 450 to 500 acres.

The project site is situated in the Town of Southampton and the Village of Quogue. Land uses in the Study area include commercial and industrial uses in the immediate area on Old Country Road and low-density residential development to the east and south outside of the Study Area.

Starting in the east side of the Study Area, in Southampton Town, the area is developed with single-family residential communities in the CGA. In the Village of Quogue portion of the Study Area, a commercial/industrial land use corridor is developed on Old Country Road, also in the CGA. Businesses on the south side of Old Country Road include contractors, gravel operations and a mini storage.

Quantuck Creek, a tidal creek in Shinnecock Bay, is located in the southern portion of the Study Area, south of the railroad tracks and outside of the boundary of the Central Pine Barrens. Although not in the Central Pine Barrens, this wetland ecosystem is an important roosting habitat for white egrets where many can be seen roosting in the trees. Gabreski Airport occupies the west side and northerly end of the Study Area, also in the CGA, including runway facilities and undeveloped areas. Beyond Gabreski, in the northernmost limits of the Study Area is the Core Preservation Area and the mini-storage facility, a partially developed conservation easement in the Pine Barrens Credit Program. The northeast corner of the Study Area contains a significant amount of protected farmland on the east side of CR 104 and beyond the Study Area limits in the vicinity of Lewis Road.

REQUIRED REVIEW AND APPROVALS

The proposal is a Type II Action pursuant to Part 617.5(c)(34) of the State Environmental Quality Review Act (SEQRA) regulations.

Other permits and approvals required include:

- Village of Quogue
- Town of Southampton (if the activities require permits from Southampton Town)
- Suffolk County Department of Health Services
- New York State Department of Environmental Conservation

CENTRAL PINE BARRENS STATUS

The proposed project constitutes “development” pursuant to NYS Environmental Conservation Law §57-0107(13)(b) and (c):

> (b) a material increase in the intensity of use of land or environmental impacts as a result thereof;”
>
> (c) commencement of mining, excavation or material alteration of grade or vegetation on a parcel of land excluding environmental restoration activities;

As development activity in the Core Preservation Area, the project must establish hardship as outlined in the Act.

§ 57-0123. Implementation of the Central Pine Barrens comprehensive land use plan.

> Subsequent to the adoption of the land use plan, the provisions of any other law, ordinance, rule or regulation to the contrary notwithstanding, no application for development within the Central Pine Barrens area shall be approved by any municipality or county or agency thereof or the commission, and no state approval, certificate, license,

consent, permit, or financial assistance for the construction of any structure or the disturbance of any land within such area shall be granted, unless such approval or grant conforms to the provisions of such land use plan; provided, however, that the commission by majority vote is hereby authorized to waive strict compliance with such plan or with any element or standard contained therein, for an application for development of any person, upon finding that such waiver is necessary to alleviate hardship for proposed development in the core preservation area according to the conditions and finding of extraordinary hardship or compelling public need pursuant to subdivision ten of section 57-0121 of this article,…

CORE PRESERVATION AREA COMPELLING PUBLIC NEED HARDSHIP

The Applicant is required to demonstrate hardship in accordance with ECL §57-0121(10). The Applicant's hardship request is provided in Exhibit D. The waiver criteria include:

10. Any person, the state or a public corporation upon a showing of hardship caused by the provisions of subdivision eight of this section on development in the core preservation area, may apply to the commission for a permit exempting such applicant from such subdivision eight in connection with any proposed development in the core preservation area. Such application for an exemption pursuant to the demonstration of hardship within the core preservation area shall be approved only if the person satisfies the following conditions and extraordinary hardship or compelling public need is determined to have been established under the following standards or for development by the state or a public corporation or proposed for land owned by the state or a public corporation compelling public need is determined to have been established under the following standards:"

(a) The particular physical surroundings, shape or topographical conditions of the specific property involved would result in an extraordinary hardship, as distinguished from a mere inconvenience, if the provisions of this act are literally enforced."

A person shall be deemed to have established the existence of extraordinary hardship only if he or she demonstrates, based on specific facts, that the subject property does not have any beneficial use if used for its present use or developed as authorized by the provisions of this article, and that this inability to have a beneficial use results from unique circumstances peculiar to the subject property which:

(i) Do not apply to or affect other property in the immediate vicinity;

(ii) Relate to or arise out of the characteristics of the subject property rather than the personal situation of the applicant; or

(iii) Are not the result of any action or inaction by the applicant or the owner or his or her predecessors in title including any transfer of contiguous lands which were in common ownership on or after June 1, 1993."

(b) An applicant shall be deemed to have established compelling public need if the applicant demonstrates, based on specific facts, one of the following:

(i) The proposed development will serve an essential health or safety need of the municipality or, in the case of an application serving more than one of the municipalities that the public health and safety require the requested waiver, that the public benefits from the proposed use are of a character that override the importance of the protection of the core preservation area as established in this article, that the proposed use is required to serve existing needs of the residents, and that no feasible alternatives exist outside the core preservation area to meet the established public need and that no better alternatives exist within the county; or

(ii) The proposed development constitutes an adaptive reuse of an historic resource designated by the commission and said reuse is the minimum relief necessary to ensure the integrity and continued protection of the designated historic resource and further that the designated historic resource's integrity and continued protection cannot be maintained without the granting of a permit.

"(c) An application for a permit in the core preservation area shall be approved only if it is determined that the following additional standards also are met:

(i) The granting of the permit will not be materially detrimental or injurious to other property or improvements in the area in which the subject property is located, increase the danger of fire, endanger public safety or result in substantial impairment of the resources of the core preservation area;

(ii) The waiver will not be inconsistent with the purposes, objectives or the general spirit and intent of this article; or

(iii) The waiver is the minimum relief necessary to relieve the extraordinary hardship, which may include the granting of a residential development right to other lands in the compatible growth area that may be transferred or clustered to those lands to satisfy the compelling public need."

"Any waiver or exemption granted under the provisions of this part shall only be considered an exemption or waiver of the particular standard of this article, which the commission waived. It shall not constitute an approval of the entire development

proposal. Nor shall it constitute a waiver from any requirements contained within any local, county or state law or ordinance."

PRIOR COMMISSION DECISIONS ON SIMILAR MATTERS

The Commission has granted Compelling Public Need Core Preservation Area hardship waivers for infrastructure utility projects (e.g., Keyspan gas main, Keyspan electric transmission line, LIPA substation expansion), a restroom on public land and a wireless communications facility (i.e., Rockwell Collins). None have been disapproved. Kent Animal Shelter applied for a compelling public need hardship, but eventually withdrew the application and proceeded with in-kind facility replacements.

DISCUSSION ITEMS/ADDITIONAL INFORMATION

1. Will the sanitary system need to be upgraded for the project?
2. Submit owners consent forms from the Town of Southampton and the Southampton Waterfowl Association.
3. Public Hearing and Decision Deadline
    a. The hearing transcript will be distributed to the Commission, the applicant and posted on the website when it is received.
    b. Additional supplemental information and analyses may be necessary to be submitted by the applicant after the public hearing.
    c. A decision will be needed made at the March 16 meeting since the deadline occurs between the March and April meetings unless an extension is provided.

STAFF EXHIBITS

A. Draft Staff Report

B. Nature center expansion rendering

C. Storage structure building rendering

D. Applicant's petition

E. Map/aerial photograph (2020)

F. Photographs of the site

G. Natural Heritage Program Conservation Guides for Chuck-will's-widow and PB Underwing

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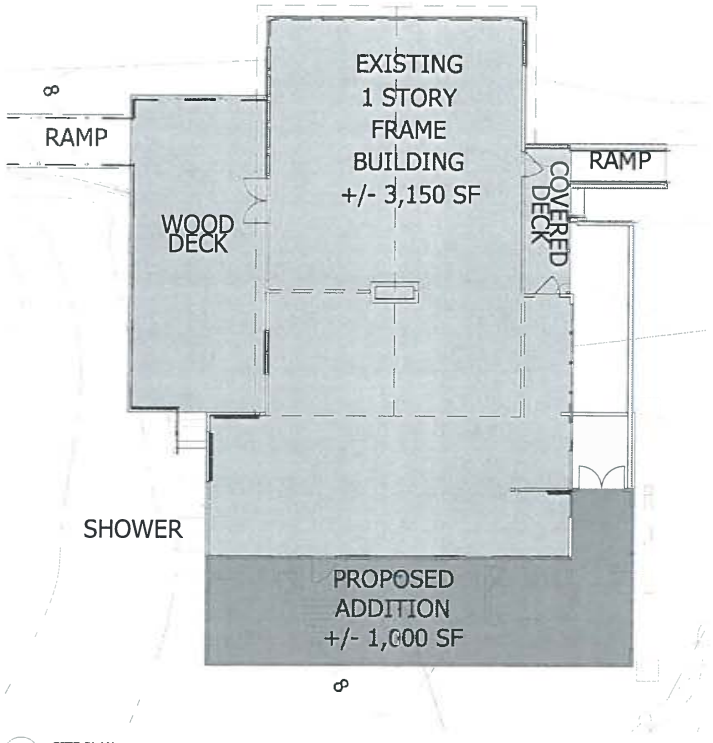
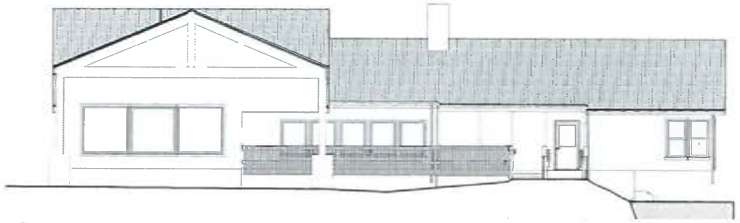


1 SITE PLAN
SCALE: 1/8" = 1'-0"

2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



3 EAST ELEVATION
SCALE: 1/8" = 1'-0"

4 Option B - First Floor Addition

ADDITIONS AND ALTERATIONS TO
QUOGUE WILDLIFE REFUGE
PROPOSED ADDITION - OPTION B

apda
8/11/2021

C. Storage structure building rendering

Project Description:

This garage was erected in Rye, NH in the High-Country style. The white pine board and batten siding is painted red with Haley's Paint. The 8- pitch roof was shingled with Pewter Gray BP shingles. Attic trusses were manufactured by Triple D Truss Company. The B-48 Boston series cupola was manufactured by Creative Cupolas. The garage has black Silver Line vinyl double hung windows manufactured by Ply Gem. The wooden custom-made stairs were crafted by Lezzer Lumber. Three black insulated service doors were provided by Keystone Door Solutions. The Homestead style garage doors will be installed at a later time.

Benefits:

This garage features a large open concept accessed by (2) 10'x10' garage doors in the front. There are (3) insulated service doors providing added access to the garage. Custom made wooden stairs are located in the rear of the garage to provide access to a full upstairs loft. The garage has a 10' lean-to overhang off of the right side offering additional protected space for storage.

D. Applicant’s petition

Quogue Wildlife Refuge

Southampton Township Wildfowl Association

December 3, 2021

Central Pine Barrens Joint Planning & Policy Commission
624 Old Riverhead Road
Westhampton Beach, NY 11978

Re: Quogue Wildlife Refuge Hardship Permit Application

Dear Members of the Central Pine Barrens Joint Planning & Policy Commission:

In furtherance of the Quogue Wildlife Refuge's (QWR) mission to serve as a responsible land steward of the Refuge and to promote, implement, and support environmental education, QWR must undertake two projects that are integral to improving its ability to maintain the Refuge property and to serve the general public (Projects). To that end, in accordance with the Long Island Pine Barrens Protection Act (Act)[1] and the Core Preservation Area Hardship Application Checklist, QWR hereby submits to the Central Pine Barrens Joint Planning & Policy Commission (Commission) the following hardship permit application, which includes the following elements:

1. Descriptions of the Projects;
2. Descriptions of how the Projects satisfy the Act's requirements;
3. Part 1 of a Full Environmental Assessment Form (Appendix A); and
4. Notarized Owner's Affidavit Completed by the Village of Quogue (Appendix A).

As described herein, granting a hardship permit for the Projects (1) will not be materially detrimental or injurious to other property or improvements in the area, (2) will not be inconsistent with the purposes, objectives, or the general spirit and intent of the Act, and (3) is the minimum relief necessary to satisfy a compelling public need.[2]

QWR respectfully requests that this hardship application be included on the agenda for the Commission's December 15, 2021 meeting.

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1 NY CLS ECL § 57-0121(10).
2 NY CLS ECL § 57-0121(10)(c)(i)–(iii).

3 Old Country Rd., PO Box 492 Quogue, NY 11959 • Phone: (631) 653-4771 • Fax: (631) 653-8069
www.QuogueWildlifeRefuge.org

I. PROJECT DESCRIPTIONS

A. The Nature Center Addition Project

The QWR Nature Center is available for use by the general public for numerous recreational activities and educational programs, including events and presentations for Girl Scout and Boy Scout troops. Given population increases and an uptick in use, QWR has continuously increased its programming and over recent years hired more staff. As a result, it has become necessary to construct a modest expansion to the Nature Center to enable QWR to continue to fulfill its mission and provide an irreplaceable service to the public.

As Exhibit 1 shows, the Nature Center Addition Project involves a small addition to the south end of the Nature Center that would increase the building's footprint by approximately 1,000 square feet. The project was deliberately designed to have the least possible amount of disturbance and environmental impacts. It will involve very little clearing activities and will only require the removal of three small trees.[3] Upon completion, additional native plantings will be made in the Project area.

QWR will utilize the additional square footage for program, exhibit, and meeting space. Currently, the Nature Center does not have a designated meeting area, which is very much needed—especially during times when the Center is open to the public. For example, the additional space would be particularly useful when QWR hosts Scout and Merit Badge programs, which are often on Saturdays during public hours. Having a designated meeting space would allow staff, volunteers, Scouts, other organized groups, and non-profit organizations to gather while not being interrupted by public visitation.

B. The Storage Structure Project

To house equipment necessary to maintain the 300-acre Refuge property, as well as kayaks, canoes, and other recreational and educational equipment QWR uses as part of its programming, QWR needs ample storage space. As its primary storage mechanisms, QWR currently uses a number of temporary, open structures with aluminum roofs and a small barn that has been onsite since the 1940s. Given the expansion in programming, visitation, and increases in staff, these storage areas no longer meet QWR's needs.

Given the current lack of suitable storage space, QWR will construct a new storage structure that will replace and/or supplement the existing storage areas. Exhibit 2 displays the size and type of structure QWR will build. The structure is 1,980 square feet and will be constructed in a manner to minimize environmental impacts. Similar to the Nature Center Addition Project, the Storage Structure Project will require very little clearing activities and will not require the removal of trees. Upon completion, additional native plantings will be made in the Project area.

[3] Notwithstanding Nature Center Addition Project, consideration has already been given to removing one of these trees since it leans towards the Nature Center and is decaying at its base.

II. THE PROJECTS HAVE A COMPELLING PUBLIC NEED.

Pursuant to the Act, one manner an applicant may obtain a hardship permit is by showing that a project has a "compelling public need," which requires the applicant to demonstrate the following:

1. The Project "will serve an essential health or safety need of the municipalities in the Central Pine Barrens such that the public health and safety require the requested waiver;"[4]
2. "[T]he public benefits from the proposed use are of a character that overrides the importance of the protection of the core preservation area as established in [the Act];"[5] and
3. "[T]he proposed use is required to serve existing needs of the residents, and that no feasible alternatives exist outside the core preservation area to meet the established public need and that no better alternatives exist within the county."[6]

The 300-acre Refuge property is comprised of a number of land parcels owned by the Village of Quogue, the Southampton Town, and STWA. STWA owns the Nature Center building and the Village of Quogue owns the property on which it is located. Both the Nature Center and Refuge are used to provide education, programming, and recreational activities to the general public. The following sections describe why both Projects have a compelling public need.[7]

A. The Nature Center Addition Project

The Nature Center Addition Project will serve an essential health need for the community which necessitates the issuance of a hardship permit. As stated above, the Nature Center is open to the general public and is used for activities which educate citizens about nature and the environment and encourage them to recreate outside. By providing additional space for these activities, the Nature Center Addition Project will allow QWR to reach even more individuals and encourage them to make healthy lifestyle choices involving the outdoors. These activities are central to QWR's purpose and the Nature Center is integral for QWR to provide the services which make it a vital community attribute. Since January 2019, QWR has hosted nearly 1,200 programs taught by QWR environmental educators and staff. The additional space will allow QWR to provide even more programming and serve a greater number of residents. Based on these factors, the Nature Center Addition Project satisfies the first compelling need element.

In addition, the public benefits of the vital services for which the Nature Center is used undeniably outweigh the *de minimis* impacts the Nature Center Addition Project may have. As

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4 NY CLS ECL § 57-0121(10)(b)(i).
5 *Id.* § 57-0121(10)(b)(ii).
6 *Id.* § 57-0121(10)(b)(iii).
7 Exhibit 3 includes statements of support from several community leaders which highlight the importance of the Refuge and the Necessity of the Projects.

described above, the Nature Center Addition Project will have a nominal impact on the environment and will involve very little clearing activities and the removal of only a handful of trees. Accordingly, the Nature Center Addition Project satisfies the second compelling need element.

Further, the Nature Center Addition Project is required to serve existing needs of the residents. Additionally, no feasible alternatives exist outside the core preservation area to meet the established public need, and no better alternatives exist within the county. The Refuge is believed to be the oldest sanctuary on Long Island and it is a unique, one-of-a-kind place in the core preservation area. As a result, there is no place better suited—and no alternative place available on the Refuge property—for the public to learn about and experience nature than the Refuge and Nature Center. As a result, the Nature Center Project satisfies the third compelling need requirement.

B. The Storage Structure Project

Maintaining the 300-acre Refuge property as well as providing suitable recreational equipment for visitors and for educational programming are critical for QWR to provide the essential public health benefit of teaching individuals about nature and giving an opportunity to experience it firsthand. Each year, thousands of citizens visit the Refuge and utilize it for recreational and educational purposes. For the Refuge to continue to be accessible and accommodating, QWR must maintain the land and provide recreational equipment for the general public to use. Because the Storage Structure Project will play a vital role in ensuring this equipment stays in good condition, it is intrinsically tied to the public use and benefits QWR provides. Accordingly, the Storage Structure Project satisfies the first compelling need element.

In addition, the public benefits from the Storage Structure will provide undeniably outweigh the *de minimis* impacts the Storage Structure Project may have. The 1,980 square feet Storage Structure will be constructed in a manner to minimize environmental impacts. The Storage Structure Project will not involve the removal any trees, and upon completion, additional native plantings will be made in the Project areas. Further, the Storage Structure will be located in an area already utilized for similar purposes, which further mitigates any potential impacts. In light of these factors, the Storage Structure Project satisfies the second compelling need element.

Lastly, the Storage Structure Project satisfies the third compelling need element given the Refuge's unique characteristics and the importance of having suitable storage in a location that is convenient for maintaining the 7 miles of nature trails and various natural habitats on Refuge property and making recreational equipment easily accessible for visitors during programs.

In summary, given the exponential growth in visitors, staff, and educational programming, QWR is simply out of proper space suitable for offices, staff workspace, meetings, and program and maintenance storage. These Projects will help QWR meets its expansion needs while creating the least amount of disturbance possible to the surrounding area and continuing to protect the

precious resources of the Refuge property. Accordingly, the Projects satisfy all three compelling public need elements.

III. ENVIRONMENTAL ASSESSMENT FORM AND NOTARIZED OWNER'S AFFIDAVIT

Pursuant to Item 3 of the Core Preservation Area Hardship Application Checklist, QWR has completed Part 1 of a Full Environmental Assessment Form (EAF). In addition, pursuant to Item 6 of the Core Preservation Area Hardship Application Checklist, the Village of Quogue has completed a Notarized Owner's Affidavit. These documents are included in Appendix A.

QWR appreciates your consideration of this application and respectfully requests the Commission to include it on the agenda for the Commission's December 15, 2021 meeting.

Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Michael J. Nelson
Executive Director
Quogue Wildlife Refuge

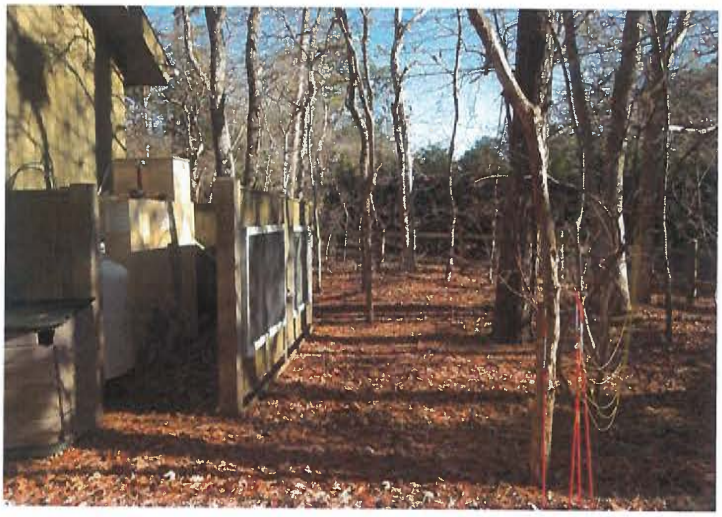
E. Map/aerial photograph (2020)

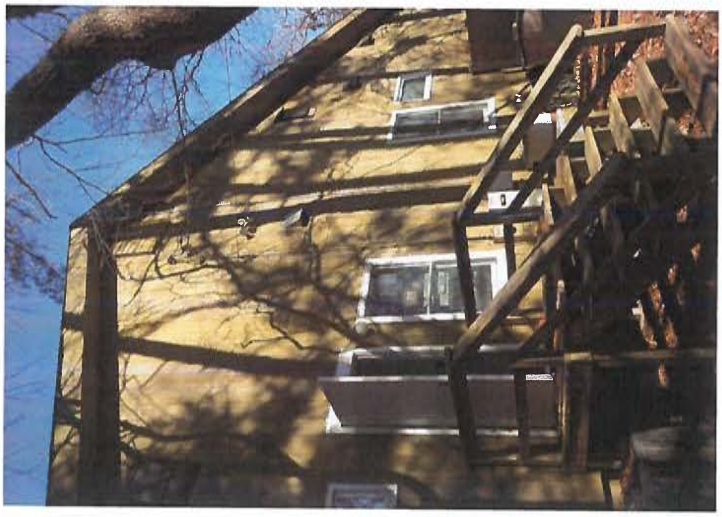
Quogue Wildlife Refuge
Core Preservation Area
SCTM # 902-1-1-23.1

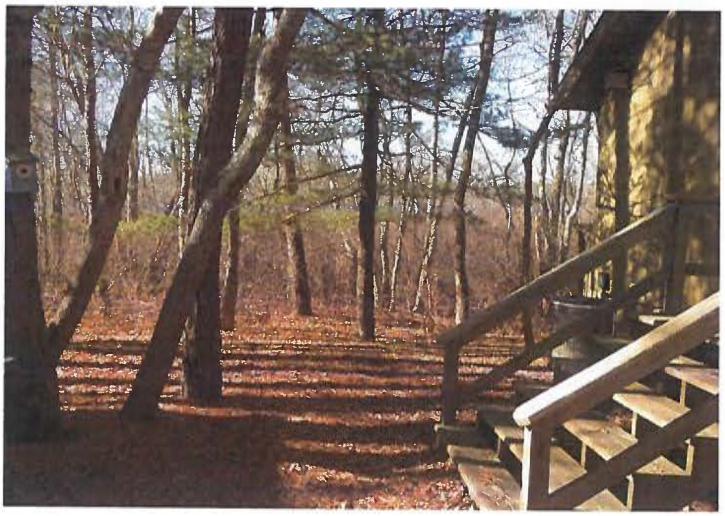
0 125 250 500 750 1,000
Feet

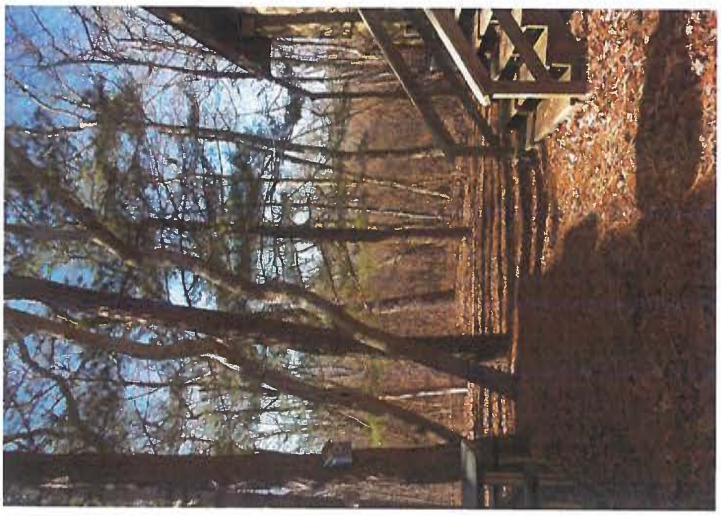
2020 aerial

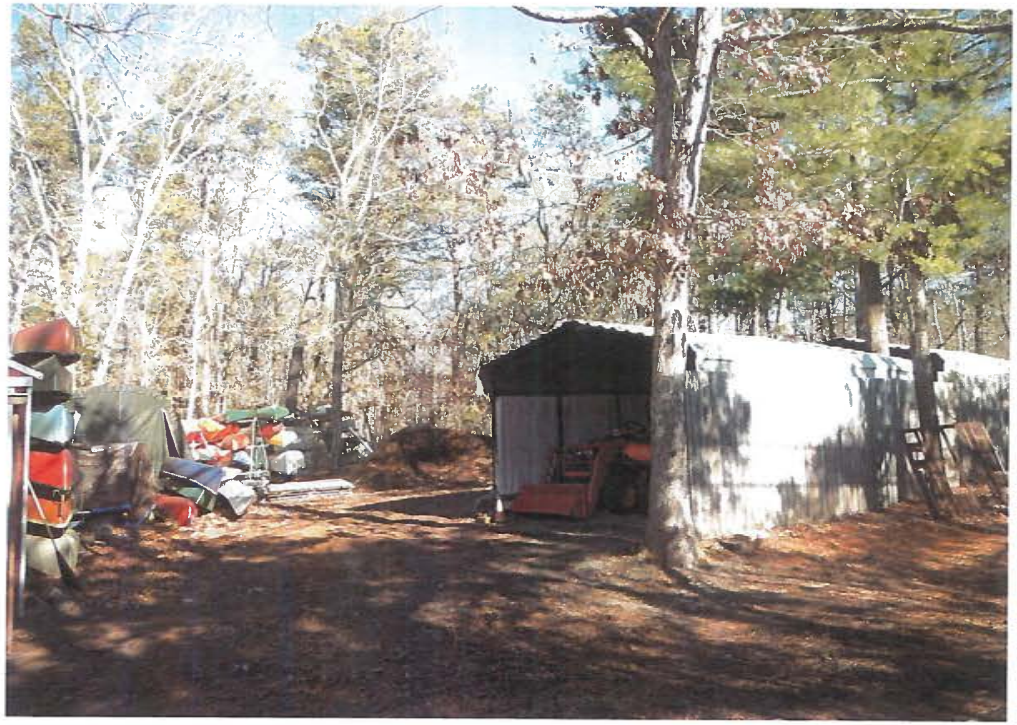
F. Photographs of the site

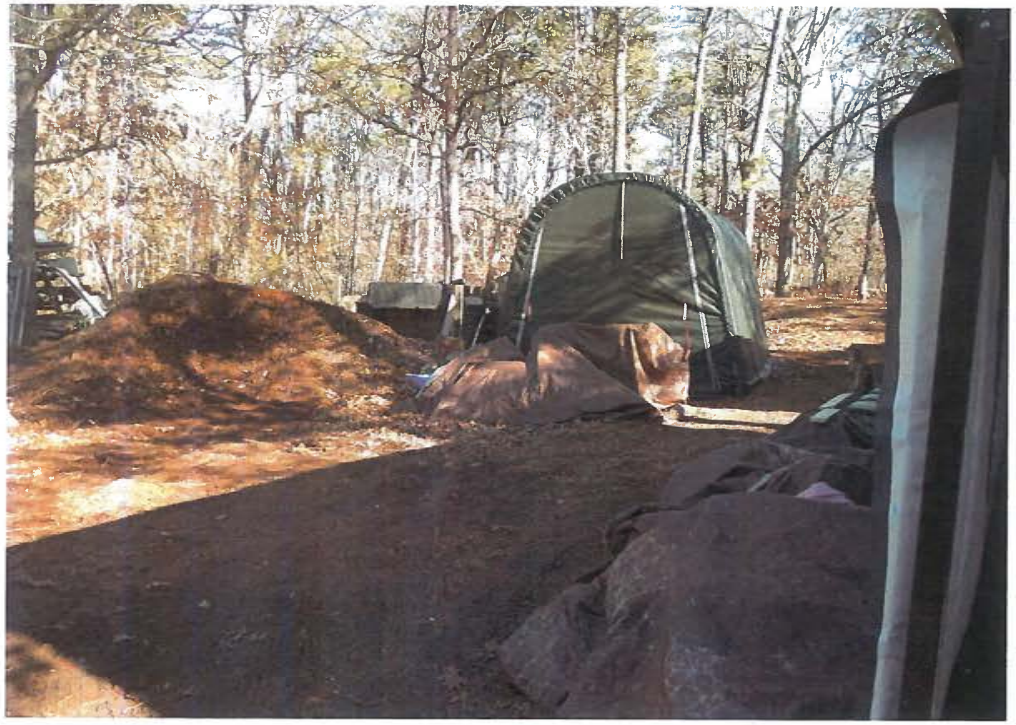


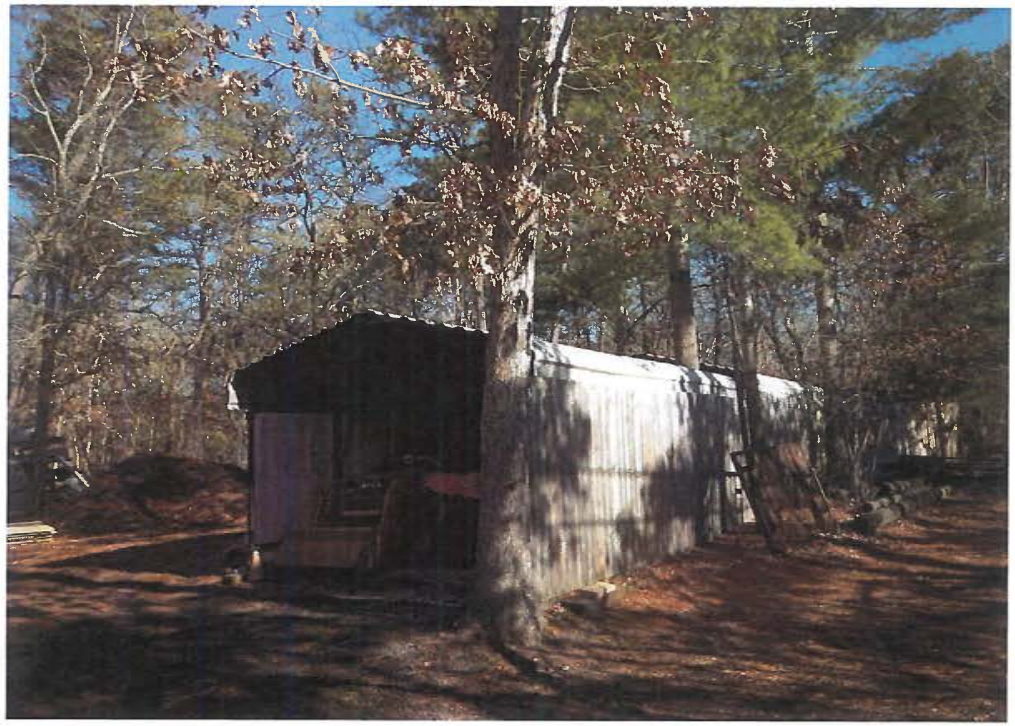












G. Natural Heritage Program Conservation Guides for Chuck-will's-widow and Pine Barrens Underwing

Chuck-will's-widow *Antrostomus carolinensis* (Gmelin, 1789)

(/media/i5389.jpg)

Chuck-will's-widow (Caprimulgus carolinensis)

Barry Cherriere

Class

Aves (Birds)

Family

Caprimulgidae (Nighthawks, Nightjars, and Goatsuckers)

State Protection

Protected Bird ℹ

Defined as a Protected Bird by New York State law, and the species may not be hunted or taken at any time in New York. Includes birds also defined as a game species, but for which no open seasons are set.

Federal Protection

Migratory Bird Treaty Act ℹ

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The Migratory Bird Treaty Act implements various treaties and conventions between the U. S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under this Act, taking, killing, or possessing migratory birds, including nests or eggs, is unlawful unless specifically permitted by other regulations.

State Conservation Status Rank
S1B

Critically Imperiled in New York - Especially vulnerable to disappearing from New York due to extreme rarity or other factors; typically 5 or fewer populations or locations in New York, very few individuals, very restricted range, very few remaining acres (or miles of stream), and/or very steep declines. (A migratory animal which occurs in New York only during the breeding season.)

Global Conservation Status Rank
G5

Secure globally - Common in the world; widespread and abundant (but may be rare in some parts of its range).

Contents

Summary

Did you know?

Chuck-will's-widows are noctural foragers with some unique feeding habits. They mostly consume insects out of the air by catching them with their whisker-like bristles, and scooping them into their bills. They have, on occasion, been observed to chase down a smaller bird or bat and swallow them whole, if the opprotunity presents itself!

State Ranking Justification

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The Chuck-will's-widow is at its northern range extent in New York and is a relatively recent addition to the state's avifauna with the first nest discovered in 1975. New York's population is restricted to pine and oak barrens, shrublands, maritime dunes, and barrier beaches on the southern half of Long Island and Staten Island (McGowan and Corwin 2008, NY Natural Heritage 2010). Global climate change is a threat to this species as the resulting sea-level rise and increased storm frequency is expected to reduce the availability of barrier beach habitat. Its coastal shrubland and oak-pine barren habitat are also under threat from increasing urbanization and fragmentation. The combination of factors including restricted habitat availability, occurring at the northern extent of its range, and pervasive threats, all may contribute to the recent decline and small population numbers in the state.

Short-term Trends

The distribution in New York declined by 62% in New York between the First (1980-85) and the Second (2000-05) Breeding Bird Atlas (McGowan and Corwin 2008). There are currently only four known summer locations in the state and breeding has only been confirmed at one of them.

Long-term Trends

Despite recent declines, the long-term trends of Chuck-wills-widow's in New York have increased since historical times. The northern range extent previously was in southern Maryland (Davis 1972). They were first documented in New Jersey in 1922 and the first specimen was taken in New York in 1933 (Bull 1964). There were just three records of the species in the state until 1969 and then a rapid increase with 16 records between 1969-1975 (including some returning individuals) (Davis 1975, McGowan and Corwin 2008). Breeding was not confirmed in the state until 1975 when the first nest was found (Davis 1975, Andrle and Carroll 1988). Numbers are thought to have peaked during the first breeding bird atlas in the mid-1980s and subsequently declined (Levine et al 1998).

Conservation and Management

Threats

Although Chuck-will's-widows occupy a few different habitat types on Long Island, all are subject to threats. Global climate change is a threat to this species, as the resulting sea-level rise is expected to reduce the availability of barrier beach habitat. The only known breeding population was noted to have vacated an area where stands of exotic Japanese black pines (*Pinus thunbergii*) on Long Island have not been maintained. Declines of this exotic tree species that provide habitat for Chuck-will's-widows, have likely contributed to the decline of the species elsewhere on Long Island (McGowan and Corwin 2008). Chuck-will's-widows natural pitch pine barrens habitat and coastal shrublands are also threatened by fragmentation and increasing urbanization on Long Island. Because the population exists in low numbers over a limited distribution with few nesting locations, it is also subject to random, or stochastic, environmental threats such as flooding, or random biological events such as a low year of productivity or high year of mortality due to disease. This species is also at risk of being struck by cars while landing on roads, especially dirt roads when dust-bathing at night. Also range overlap with Whip-poor-wills may cause some degree of competition for nesting sites and foraging opportunities, although there does appear to be separation of the two species by habitat; Chuck-will's-widows preferring more open locations and Whip-poor-wills more forested (Carrie et al. 2000, Cooper 1982). Declines in insect food sources due to pesticides and biological control are also a plausible concern.

Conservation Strategies and Management Practices

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Management for this species should consider the perpetuation and protection of native pitch pine barrens and coastal shrubland habitats on Long Island. Of particular importance, would be preventing further fragmentation of the pine barrens located in central-eastern Long Island. Because Chuck-will's-widows occur in so few locations in the state, best management practices may include maintaining Japanese black pines stands in some locations that are known to be occupied by Chuck-will's-widows, until sufficient natural habitats are available. Limiting development on barrier beaches, coastal shrublands and pine barrens will help ensure habitat remains on Long Island for this species in the future. The use of fire may be explored to perpetuate successional habitats and pine barrens but should be used with caution to maintain enough cover and foraging resources in occupied sites. Research into best management practices for this species is greatly needed.

Research Needs

There are many gaps on the general biology, life history and demographic characteristics of Chuck-will's-widows throughout their range. Although molt characteristics, breeding and defensive behaviors and vocalizations have been well-documented most aspects needs further study (Straight and Cooper 2000). More information is needed on survival rates, fecundity, territory sizes, population sizes, diet, habitat requirements, threats limiting populations, and species response to changing landuse and climate (Straight and Cooper 2000). Due to this species' method of foraging over agricultural fields and pastures (Straight and Cooper 2000), research into toxin loads that could be accumulated from invertebrate prey sources are warranted. Further inventory and monitoring including demographic studies to determine nesting success are needed. These will be useful to determine long-term trends in survival, population size, and productivity. Studies on best mangement practices for this species are also greatly needed.

Habitat

Habitat

Chuck-will's-widows inhabit dry and open pine and oak woods, pine barrens, and barrier beaches on Staten Island and Long Island (Levine 1998, McGowan and Corwin 2008). Where Chuck-will's-widows and Whip-poor-wills co-occur the latter is found in more forested habitat while the Chuck--will's-widows prefer more open habitats (Cooper 1982, Straight and Cooper 2000). One individual on Long Island was heard calling from oak woods with a greenbrier (*Smilax sp.*) understory. The first NY nest was found on the ground in a grove of Japanese black pines.

Associated Species

- Whip-poor-will (*Antrostomus vociferus*) (guide(/whip-poor-will/))

Range

New York State Distribution

The range of the Chuck-will's-widow in New York is limited to the southern half of Staten Island and Long Island in pine oak barrens, mairtime dunes and beaches, and coastal shrubland habitats.

Global Distribution

Breeding: Chuck-will's-widows are primarily restricted to the southeastern coastal plain and the Mississippi river valley reaching their northern limit in New York (McGowan and Corwin 2008). They occur in eastern Kansas east to central Indiana and Long Island (and probably Martha's Vineyard), south to eastern Oklahoma, southern Texas, the Gulf Coast, and southern Florida (AOU 1998). Nonbreeding: Chuck-will's-widows overwinter in southeastern Texas, southern Louisiana, and coastal Alabama south through Middle America to Colombia; and from central Florida and the Bahamas south through the Greater Antilles to the northern Lesser Antilles (Saba, St. Martin, and Barbuda) (AOU 1998).

Best Places to See

- Oak Beach (Suffolk County)

Identification Comments

General Description

The Chuck-will's-widow is the largest North American nightjar. It is 12" in length, cinnamon brown in color, and cryptically patterned.

Identifying Characteristics

Chuck-will's-widows are buff to reddish cinnamon brown with a cryptic, or camoflouged mottled pattern including some black and mottled brown colorings on the upperparts. This coloration allows them to blend in to their surroundings when roosting on the ground. Males have a whitish throat, while in females and juveniles it appears pale buff. Both sexes and ages have a white collar going halfway around the neck and have an olive and blackish-colored breast with the rest of the underparts appearing reddish brown, to buff, to dark brown. Their tails are long and rounded. (Straight and Cooper 2000, National Geographic 1999) The song is a loud whistled "chuck-will's-wid-ow or chuck wee-O, wee-O" with the first note inaudible at a distance. Songs are primarily given at dawn or dusk or during moonlit nights.There are numerous calls reported, the most common is the growl and cluck which may be given separately or in a short sequence by either the male and female (Mendel and Jenkinson 1971). They are given in sequence in social interactions involving more than one individual, while growls may be given separately during defensive interactions or during flight. Chuck-will's-widows do not construct a nest. Instead, the female typically lays 2 eggs (range 1 to 4) on the ground in leaf litter, pine needles, or on the bare ground. The eggs are white to very pale grey with variable light drab brown to grey markings. (Straight and Cooper 2000)

Characters Most Useful for Identification

Because this cryptic species is most often heard rather than seen, its song is the most useful character for identification. It is a loud whistled "chuck-will's-wid-ow or chuck wee-O, wee-O" with the first note inaudiable at a distance. (Straight and Cooper 2000, National Geographic 1999)

Best Life Stage for Proper Identification

The adults are easiest to identify by both sight and sound. Since Chuck-will's-widows are nocturnal, they are easiest identified aurally, by the males song. They sing most frequently at dawn or dusk or on moonlit nights.

Behavior

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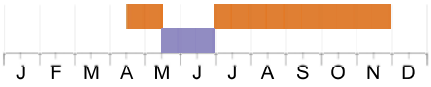
Chuck-will's-widows are both nocturnal and crepuscular. They are active at night and frequently forage at dawn and dusk. They can sometimes be found on dirt roads at night, presumably dust-bathing. Individual territory sizes have not be recorded but it is known that both males and females may respond to taped song playback indicating some degree of territoriality (Straight and Cooper 2000). This species does not build a nest. Instead, the female typically lays 2 eggs (range 1 to 4) on the ground in leaf litter, pine needles, or on the bare ground (Straight and Cooper 2000). Females typically incubate but males have been noted to as well (Ayers and Ayers 1970, Straight and Cooper 2000). Chuck-will's-widows display some unique defensive and mating behaviors as well. Males may chase other males during territorial disputes while emiting a low growling sound. They take up a defensive posture by opening mouth, hissing and drooping their wings and fanning their tail. (Straight and Cooper 2000, Mengel and Jekinson 1971) When flushed from the nest, females may try to confuse predators with a distraction display by flying low away from the nest and dropping to the ground several times or by walking away hissing with drooped wings and fanned tail (Ayers and Ayers 1970, Harper 1938, Wilson 1959, Straight and Cooper 2000). Males perform a courtship display by puffing themselves up (a combiniation of ruffling feathers and air intake), dropping their wings, fanning their tail and moving in a quick jerking fashion while calling (Straight and Cooper 2000).

Diet

Chuck-will's-widows are aerial foragers using their "whiskers" to capture a variety of insects such as moths, beetles, and winged ants while flying low a few feet above ground vegetation (Straight and Cooper 2000). They may also jump up quickily from the ground to catch an insect flying overhead. Occasionally, they consume small birds such as warblers, flycatchers, wrens, hummingbirds, and sparrows or even bats as well (Straight and Cooper 2000).

Best Time to See

Males sing with greatest intensity and are therefore, easiest to detect early in the season before the nesting stage (May in New York) (Straight and Cooper 2000). They continue to sing throughout incubation but taper off during the fledgling stage and may start up again late in the season before migration. Most records in New York have been from May and June. Extreme dates are April 29th and July 22 (Levine 1998).



Active Reproducing

The time of year you would expect to find Chuck-will's-widow active and reproducing in New York.

Similar Species

- Whip-poor-will (*Antrostomus vociferus*) (guide(/whip-poor-will/))

  Chuck-will's-widows appear similar to the more common Whip-poor-will but are larger and more reddish-brown in color. Chuck-will's-widows have a dark breast while Whip-poor-wills have a dark throat. Whip-poor-wills also have more white on the tail.

Chuck-will's-widow Images

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Chuck-will's-widow (Caprimulgus carolinensis)

Barry Cherriere

(/media/i5389.jpg)

Taxonomy

Chuck-will's-widow

Antrostomus carolinensis (Gmelin, 1789)

- **Kingdom** Animalia
  - **Phylum** Craniata
    - **Class** Aves (Birds)
      - **Order** Caprimulgiformes (Nightbirds)
        - **Family** Caprimulgidae (Nighthawks, Nightjars, and Goatsuckers)

Additional Resources

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Links

- Google Images(http://images.google.com/images?q=CAPRIMULGUS+CAROLINENSIS)

- NatureServer Explorer(http://natureserve.org/explorer/servlet/NatureServe?searchName=CAPRIMULGUS+CAROLINENSIS)

About This Guide

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Herodias or Pine Barrens Underwing *Catocala herodias gerhardi*

Barnes and Benjamin, 1927

(/media/i5398.jpg)

Herodias Underwing Moth http://mothphotographersgroup.msstate.edu

Jim Vargo at Moth Photographers Group

Class
Insecta (Insects)
Family
Erebidae

State Protection
Special Concern

Listed as Special Concern by New York State: at risk of becoming Threatened; not listed as Endangered or Threatened, but concern exists for its continued welfare in New York; NYS DEC may promulgate regulations as to the taking, importation, transportation, or possession as it deems necessary.

Federal Protection
Not Listed

State Conservation Status Rank
S1S2

Critically Imperiled or Imperiled in New York - Especially or very vulnerable to disappearing from New York due to rarity or other factors; typically 20 or fewer populations or locations in New York, very few individuals, very restricted range, few remaining acres (or miles of stream), and/or steep declines. More information is needed to assign either S1 or S2.

Global Conservation Status Rank
G3T3

Vulnerable globally - Both the species as a whole and the subspecies/variety are at moderate risk of extinction due to rarity or other factors; typically 80 or fewer populations or locations in the world, few individuals, restricted range, few remaining acres (or miles of stream), and/or recent and widespread declines.

Contents

Summary

Did you know?

This species inhabits pitch pine-scrub oak communities with sandy soil, but may also be present in habitat with an acidic rock substrate.

State Ranking Justification

This species is probably still somewhat widespread on Long Island, but it is unknown how many populations remain there, but at least one globally significant occurrence still remains. Similarly, it is possible that additional occurrences could be found in the southeastern mainland counties. There are possibly 5 to 20 populations left in New York, but only two or three of these have been recently documented.

Short-term Trends

Short-term trends indicate that the population is stable.

Long-term Trends

Long-term trends indicate that the population has undergone a substantial to large decline (50% to 90% decline).

Conservation and Management

Threats

The threats are difficult to assess since some habitats are more management dependent than others. This species should do well with any reasonable fire management program as long as all of the habitat is not burned at once. However, wild fires that could consume the entire occupied habitat are a threat, especially on ridgetops and in small isolated habitats. Gypsy moth (Lymantria dispar) spraying could be a threat. It would be with chemical biocides and potentially would be with Bt (Bacillus thuringiensis - a bacterial biological control used on gypsy moth

caterpillars). The closely related Scarlet Underwing (Catocala coccinata) is very sensitive to Bt, but many Catocala are not (Peacock et al. 1998). However, unusually early defoliation, before about 10 June, of scrub oaks on hilltops and ridges could itself annihilate a population (see Schweitzer 2004).

Conservation Strategies and Management Practices

Substantial refugia (unburned patches) are needed when fires burn the habitat, since survival in burned areas is minimal. Habitats supporting this species should be protected from gypsy moth (Lymantria dispar) spraying. However, if severe defoliation is likely before about 10 June, then starvation is a risk and it might be prudent to use Bt to reduce defoliation on a portion of the habitat. Starvation of the entire brood is possible if all of the scrub oak foliage is consumed during May. Such early defoliation is not common and is unlikely to occur widely on coastal barrens, but it can occur on outcrops and ridgetops. It is unlikely Bt would kill all of the larvae, but it seems likely it would kill a majority of them.

Research Needs

It would be useful to know how sensitive larvae are to Bt and exactly when most of the larvae finish feeding, so that risks from starvation as compared to Bt applications could be better evaluated in severe gypsy moth outbreaks.

Habitat

Habitat

This species is exclusively found in pitch pine-scrub oak communities, usually on sand, but sometimes on acidic rocks in the lower Hudson Valley. In some other parts of the range there may be few enough pitch pines that sites could be be considered shrublands rahther than wooded.

Associated Ecological Communities

- Chestnut oak forest (guide(/chestnut-oak-forest/))

  A hardwood forest that occurs on well-drained sites in glaciated portions of the Appalachians, and on the coastal plain. This forest is similar to the Allegheny oak forest; it is distinguished by fewer canopy dominants and a less diverse shrublayer and groundlayer flora. Dominant trees are typically chestnut oak and red oak.

- Dwarf pine plains (guide(/dwarf-pine-plains/))

  A woodland community dominated by dwarf individuals of pitch pine and scrub oak that occurs on nearly level outwash sand and gravel plains in eastern Long Island. The soils are infertile, coarse textured sands that are excessively well-drained.

- Pitch pine-oak forest (guide(/pitch-pine-oak-forest/))

  A mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridgetops. The dominant trees are pitch pine mixed with one or more of the following oaks: scarlet oak, white oak, red oak, or black oak.

- Pitch pine-oak-heath rocky summit (guide(/pitch-pine-oak-heath-rocky-summit/))

  A community that occurs on warm, dry, rocky ridgetops and summits where the bedrock is non-calcareous (such as quartzite, sandstone, or schist), and the soils are more or less acidic. This community is broadly defined and includes examples that may lack pines and are dominated by scrub oak and/or heath shrubs apparently related to fire regime.

- Pitch pine-oak-heath woodland (guide(/pitch-pine-oak-heath-woodland/))

  A pine barrens community that occurs on well-drained, infertile, sandy soils. The structure of this community is intermediate between a shrub-savanna and a woodland. Pitch pine and white oak are the most abundant trees.

Associated Species

- Yankee Dart (*Abagrotis brunneipennis*)

- Spiny Oakworm Moth (*Anisota stigma*) (guide(/spiny-oakworm-moth/))
- The South Jersey Caripeta (*Caripeta* sp. 1)
- Jersey Jair Underwing (*Catocala jair* ssp. 2) (guide(/jersey-jair-underwing/))
- An Underwing Moth (*Catocala umbrosa*)
- None (*Panthea furcilla*)
- Pink Sallow (*Psectraglaea carnosa*) (guide(/pink-sallow/))
- Edwards' Hairstreak (*Satyrium edwardsii*) (guide(/edwards-hairstreak/))
- Gray-banded Zale (*Zale squamularis*)

Range

New York State Distribution

This underwing was at least formerly widespread on Long Island and probably still occurs in most extensive pitch pine-scrub oak communities in Suffolk County. This species has been documented in Orange County, although it probably does not occur on many sites on the mainland, but it could turn up in a few more nearby counties.

Global Distribution

This moth is found mostly in four main areas: the Cape Cod region and adjacent islands of Massachusetts, the Long Island, New York pine barrens, the core of the New Jersey Pine Barrens in Ocean, Burlington, and extreme northern Atlantic Counties (one specimen from Cape May County), and in the mountains from eastern West Virginia to far western North Carolina. Isolated populations are known on two ridgetops in Berkshire County, Massachusetts (Wagner 1998, McCabe 1998) and at least one such ridgetop in the lower Hudson Valley, New York. The extent and continuity of the Appalachian range is unknown. There is a gap in the range across Pennsylvania, but the species could turn up in the shale barrens areas of southcentral Pennsylvania and adjacent Maryland.

Identification Comments

General Description

The adult is distinctive and can be identified from a specimen or a photograph. See any illustration, such as shown in Covell (1984). When the moth is at rest under a bush, it appears as a clump of dead pine needles on white sand. The larva are very similar to the Scarlet Underwing (Catocala coccinata).

Characters Most Useful for Identification

The forewing pattern is unique and the reddish hindwing is similar to only a few species of moths. On the forewing, note the poorly developed normal lines, strongly contrasting whitish costa (leading edge), and the dark and whitish linear striations on the outer portion of the wing.

Best Life Stage for Proper Identification

The adult is best for identification.

Behavior

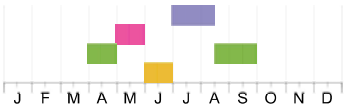
The adults rest near the base of scrub oak (Quercus ilicifolia) or other bushes or on the sand underneath these bushes. A Catocala flushed off the ground in a barrens community will almost always be this species.

Diet

The larvae feed almost exclusively on spring growth of scrub oak (Quercus ilicifolia) in the wild, except that blackjack oak (Quercus marilandica) might also be used on Long Island.

Best Time to See

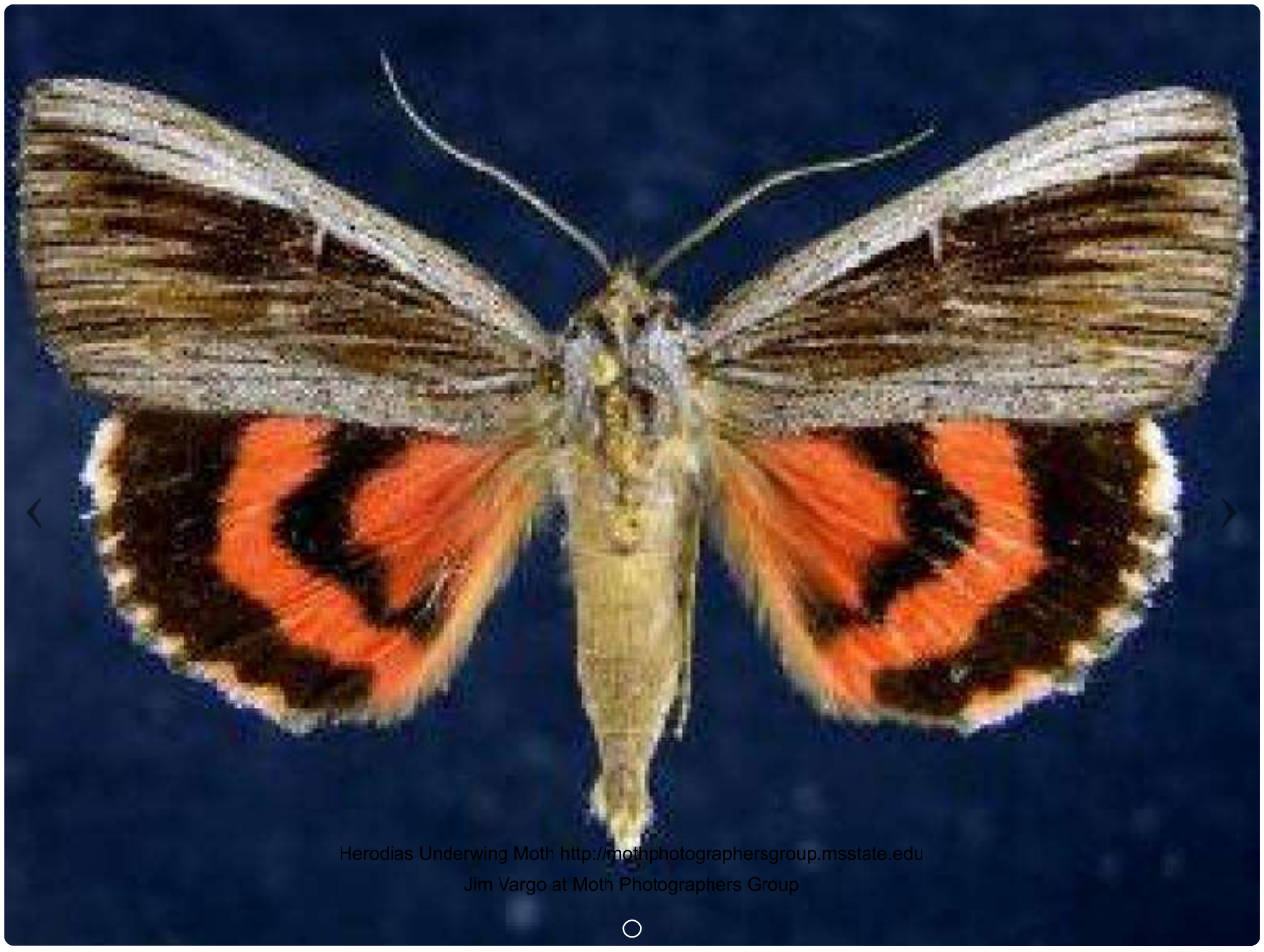
This is one of the earlier flying Catocala. The adults occur primarily from mid-July into August, probably about the same time in all parts of the New York range, and it is likely that a few adults persist into the second half of August in most years. Catocala have notably long pupal periods, often about as long as the larval period, and pupae are present into July.



Reproducing Larvae present and active Eggs present outside adult Pupae or prepupae present

The time of year you would expect to find Herodias or Pine Barrens Underwing reproducing, larvae present and active, eggs present outside adult, and pupae or prepupae present in New York.

Herodias or Pine Barrens Underwing Images



(/media/i5398.jpg)

Taxonomy

Herodias or Pine Barrens Underwing
Catocala herodias gerhardi Barnes and Benjamin, 1927

- Kingdom Animalia
  - Phylum Arthropoda (Mandibulates)
    - Class Insecta (Insects)
      - Order Lepidoptera (Butterflies, Skippers, and Moths)
        - Family Erebidae

Additional Resources

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Links

- Google Images(http://images.google.com/images?q=CATOCALA+HERODIAS+GERHARDI)
- NatureServer Explorer(http://natureserve.org/explorer/servlet/NatureServe?searchName=CATOCALA+HERODIAS+GERHARDI)

About This Guide

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H. Wetlands

U.S. Fish and Wildlife Service

National Wetlands Inventory

Quogue Wildlife Refuge wetland habitats

December 16, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

I. Flood zone

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Data of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations and Transect Data tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations and Transect Data tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New York State Plane FIPSZONE 3104. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the New York State Office of Cyber Security and Critical Infrastructure Coordination. This information was derived from digital orthophotography produced at a 1.0-foot pixel resolution from photography dated 2004.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for the Northeast Branch Nissequogue River in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LiMWA)**. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action

~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)—(A)	Cross section line
[3]—[3]	Limited detail cross section line
(23)- - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
76 N	1000-meter Universal Transverse Mercator grid values, zone 18
600000 FT	5000-foot grid values: statename State Plane coordinate system, spzone (FIPSZONE fipszone), spheroname projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 4, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 25, 2009 - to change Special Flood Hazard Areas, to incorporate Primary Frontal Dune analysis, to reflect revised shoreline, to change zone designations, to update the effects of wave action, to change Base Flood Elevations, to update map format, to reflect the effects of coastal erosion, and to reflect updated topographic information

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0778H

FIRM
FLOOD INSURANCE RATE MAP

for SUFFOLK COUNTY, NEW YORK
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
QUOGUE, VILLAGE OF	360806
SOUTHAMPTON, TOWN OF	365342

PANEL 778 OF 1026
MAP SUFFIX: H
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
36103C0778H

MAP REVISED
SEPTEMBER 25, 2009

Federal Emergency Management Agency

J. Soils

Soil Map—Suffolk County, New York

Map Scale: 1:1,520 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Suffolk County, New York
Survey Area Data: Version 19, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 23, 2019—Nov 4, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bd	Berryland mucky sand	0.6	14.4%
CpA	Carver and Plymouth soils, 0 to 3 percent slopes	3.4	85.4%
W	Water	0.0	0.2%
Totals for Area of Interest		**4.0**	**100.0%**

K. Study Area

Quogue Wildlife Refuge
Core Preservation Area
January 19, 2021 Public Hearnig

Project areas
nature center expansion and storage building

1/2 mile Study Area

0 625 1,250 2,500 3,750 5,000
Feet

2020 aerial