

Natural & Cultural Resources

Monomoy enjoys an abundance of wildlife, a variety of wetland features, upland habitats, and important vegetation communities. These natural and cultural resources establish a sense of place that is of the utmost importance to the residents who serve as their stewards. It is a precious and irreplaceable environment that the Monomoy community is committed to defend and protect.

Photo: Neil Foley



THE CREEKS

The Creeks at Monomoy are protected wetlands and wildlife habitat that is owned and managed by a mosaic of entities consisting of the Nantucket Land Bank (19.11 acres), Town (18.03 acres) and the Nantucket Conservation Foundation (5.80 acres). This network of salt marshes is one of the most productive ecosystems on Earth.

Each day incoming tides deliver a wash of fresh nutrients and tiny marine organisms to feed the unique plants and animals inhabiting The Creeks, a salt marsh that serves as a buffer against coastal erosion.

The greatest threat posed to The Creeks, being bordered by residences both in Monomoy and on commercial properties closer to Town, include human-generated noise and harmful runoff from impervious surfaces, fertilized lawns and gardens.

The Creeks are also home to vulnerable populations of globally rare Saltmarsh Sparrows, which is currently under review by the US Fish and Wildlife Service for protection under the Endangered Species Act. Other Species of Greatest Conservation Need (SGCN) found at The Creeks in Monomoy include Willets, American Black Ducks, Egrets and Virginia Rails.



PROTECTED WETLANDS WITHIN MONOMOY

The Monomoy neighborhood is comprised of other vulnerable natural features that require our sensitivity and awareness to protect.

The Creeks and a majority of Monomoy's shoreline along the inner harbor present a mix of sensitive wetland features that include land under the ocean, land containing shellfish, coastal beach, coastal dunes, barrier beach systems, salt marsh, coastal banks, and shrub swamp. Vegetated wetlands can also be found among the undeveloped upland habitat and residences of Monomoy. These features are all protected under both state and local Wetland Protection Regulations.

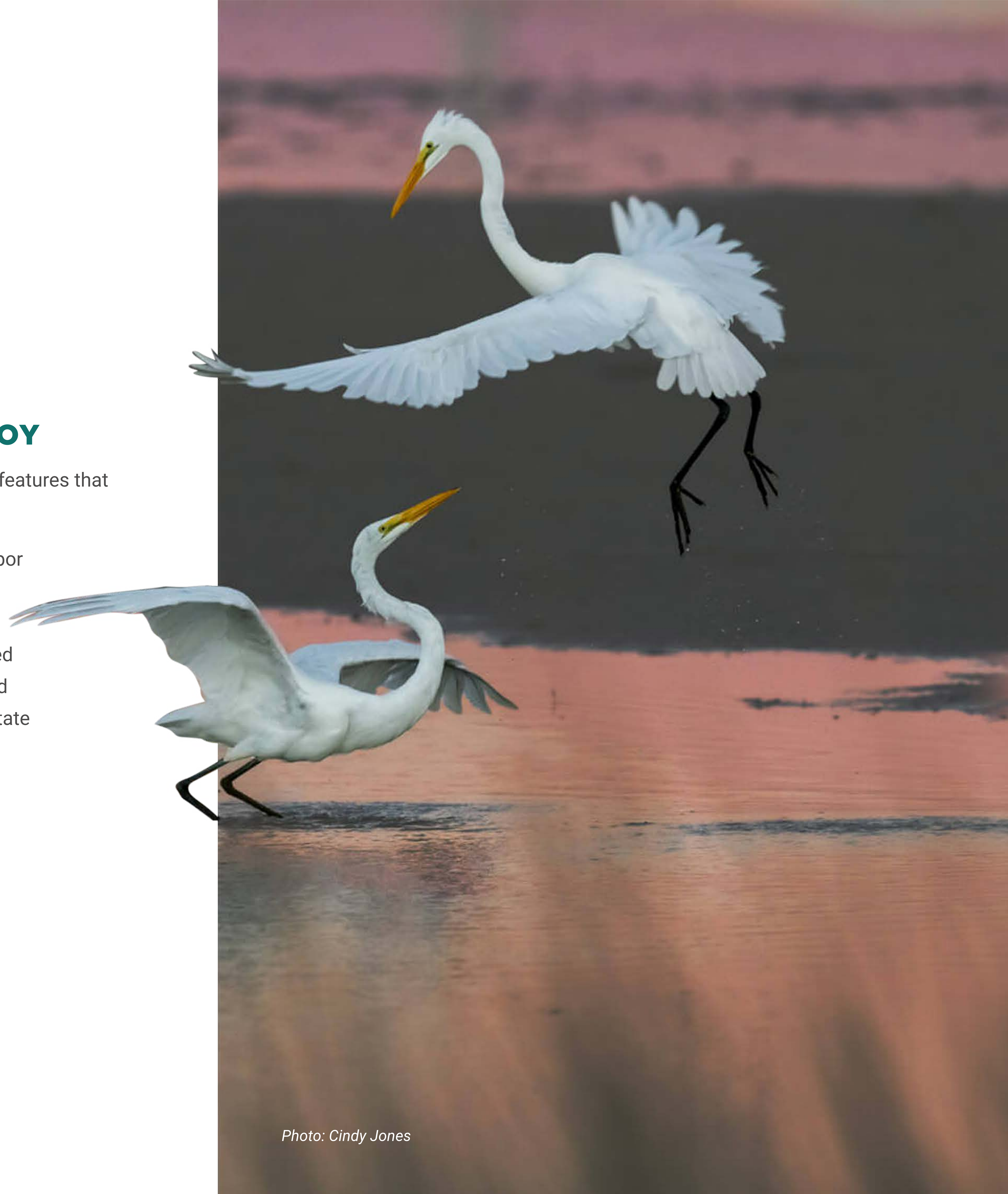
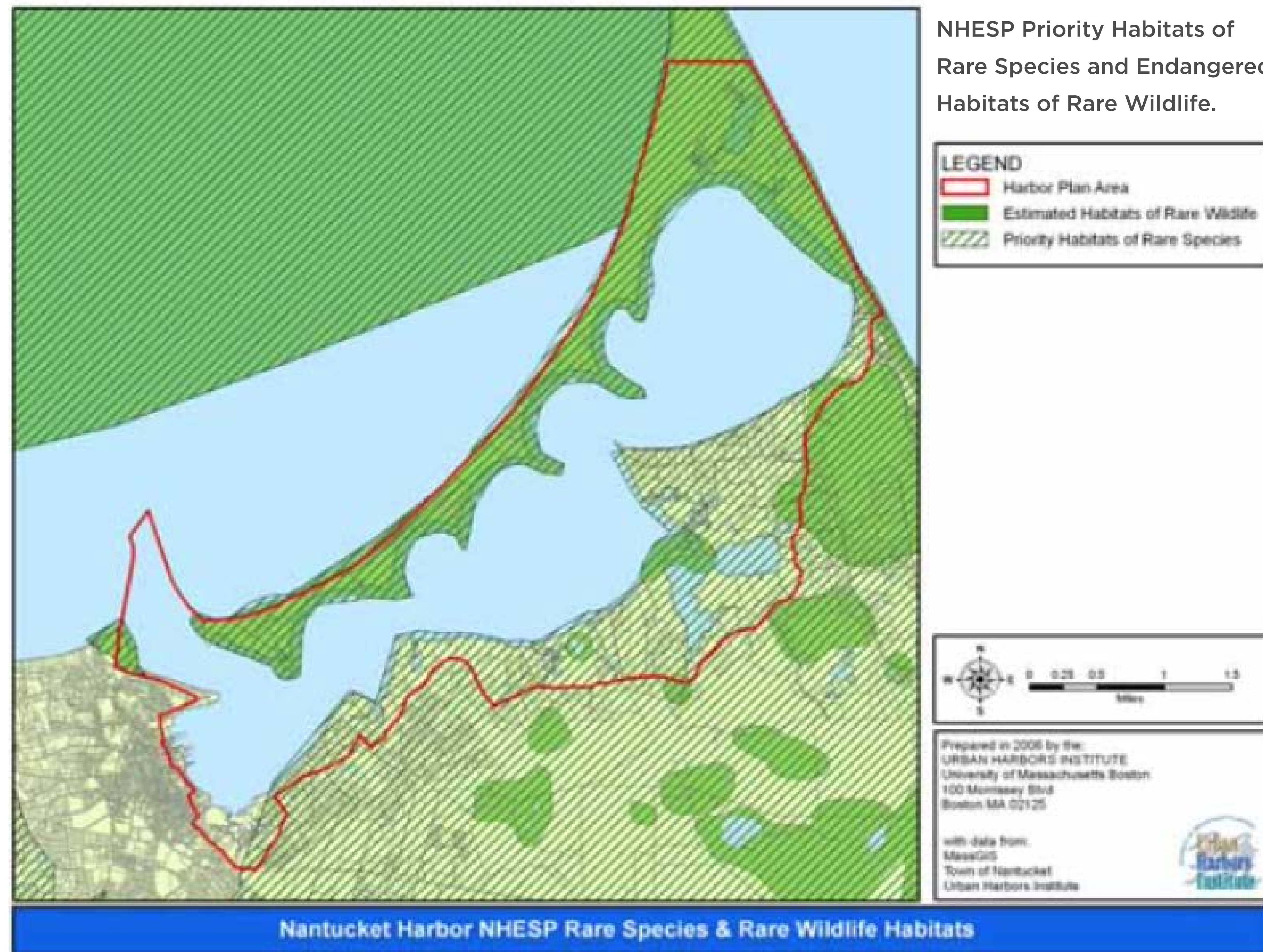
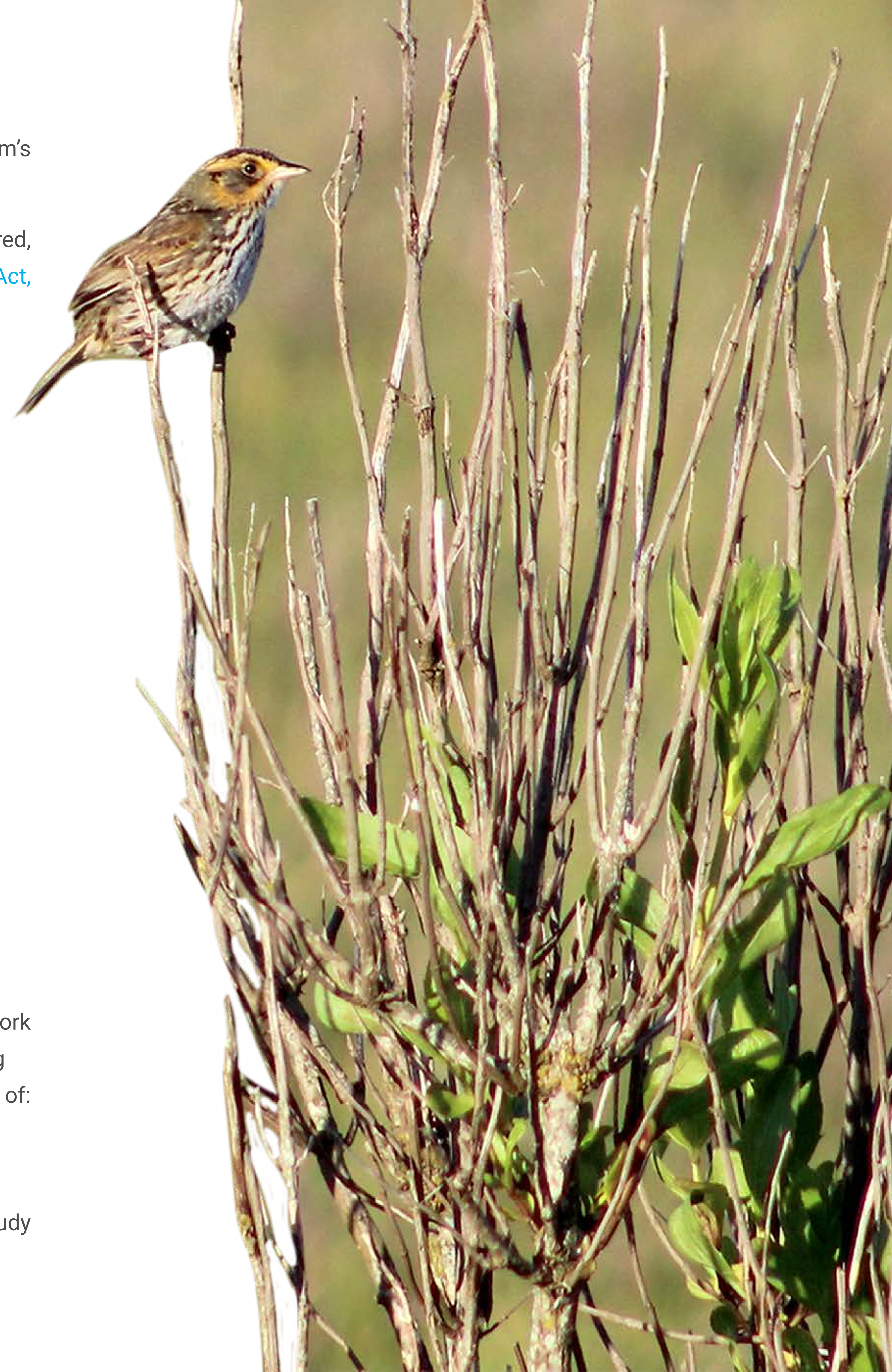


Photo: Cindy Jones

PRIORITY HABITAT FOR STATE LISTED RARE SPECIES

All land under the Monomoy Area Plan falls under the Natural Heritage Endangered Species Program's (NHESP) Priority Habitats of Rare Species and Endangered Habitats of Rare Wildlife.

The Massachusetts Division of Fisheries and Wildlife maintains a regularly-updated list of Endangered, Threatened and Special Concern species protected under the [Massachusetts Endangered Species Act](#), and Monomoy is mapped due to confirmed habitat for some of these rare species.



Portions of Monomoy are also mapped under the state's BioMap2 Program which serves as framework for the protection and stewardship of those areas prioritized as the most important for conserving biological diversity in the state of Massachusetts. Within the Monomoy Area are designated areas of: Core Habitat (including for Species of Conservation Concern), and Critical Natural Landscape (including for Coastal Adaptation and Tern Foraging).

To determine the extent of endangered flora and fauna within Monomoy, a full biological field study and assessment is required.

THE HARBOR

The sheltered environment and natural resources of Nantucket Harbor provides important habitat for many different fish and shellfish species. Recognizing the region's importance in this regard, the National Marine Fisheries Service has designated areas in and around Nantucket Harbor as essential fish habitat (EFH) for federally managed species.

One of the greatest threats to our Harbor resources is water quality. The primary concern is excessive nutrient concentrations, which can lead to algae blooms, reduction in photic depth, reduction in oxygen, influx of invasive aquatic plant species, and a reduction in eelgrass coverage.⁷ The management and fate of stormwater, wastewater and fertilizer on the island greatly affect water quality by contributing contaminants and nutrients to the Harbor watershed. Areas such as The Creeks are especially susceptible to environmental impacts due to their natural resource value and fragility.

As a live plant, eelgrass provides a sheltered habitat for many organisms, including the bay scallop which attaches itself to the eelgrass leaves. Eelgrass also stabilizes sediment in the Harbor, helps to improve water clarity, and acts as an important carbon sink. The loss of eelgrass that Nantucket Harbor has seen in its eelgrass beds over the last decade is likely due to nutrient loading, or eutrophication.

Continued rapid growth on the island is seen to contribute to a declining water quality: Increased development, significantly additional moorings, increased use of fertilizers from lawns, and more vehicles and boats all generate pollution.



⁷ Nantucket & Madaket Harbors Action Plan, Town of Nantucket, May 2009.

SURFACE RUNOFF AND EROSION

Nantucket's soil structure is porous and loose, with only a thin layer of topsoil. Because of the relatively flat terrain of the island, only about 2 percent of annual precipitation becomes surface runoff. The rest runs quickly through our highly permeable soils down to the groundwater and aquifer, and into the various bodies of surface water around Monomoy, including The Creeks and Harbor.

Beneath the topsoil are varying layers of sand, gravel and clay, held tenuously in place by the roots of trees and other plants, which prevent erosion caused by rain, wind and waves.

Our natural, native vegetation in Monomoy is our best defense against rain runoff and coastal erosion. As more land is cleared for new buildings and hardscape, however, more rainwater is carried as run-off straight into the Harbor and The Creeks. These new impermeable surfaces prevent the natural percolation of water down into the ground.

Many native trees, shrubs, grasses and wildflowers growing in Monomoy play a key role in holding our island together and at the same time filtering out harmful pollutants. The Creeks serve as Nature's sponge, mopping up excess runoff flowing toward the Harbor, and cleansing it of its toxins, while serving as a buffer to storm surges and waves. Protection of these natural habitats is crucial to good environmental health in Monomoy.



DARK SKIES INITIATIVE

The dark skies movement is a campaign to reduce light pollution. The advantages of reducing light pollution include an increased number of stars visible at night, reducing the effects of electric lighting on the environment, improving the well-being, health and safety of both people and wildlife, and cutting down on energy usage.

Like all Monomoy's natural resources, the dark night skies of this piece of island paradise must be conserved and protected. The dark-sky movement encourages the use of full-cutoff fixtures that cast little or no light upward in public areas and generally to encourage communities to adopt lighting regulations.



Light Pollution on Nantucket, as seen from Space, 2021

MONOMOY'S HISTORIC ARCHITECTURAL HERITAGE

Monomoy has a rich architectural history, and 46 of its homes and out-buildings, some of which date to 1900, are registered and listed as significant historical assets by the Massachusetts Historical Commission. Many other historic structures can be found in Monomoy, which are not yet listed or registered. The MHC's Massachusetts Cultural Resource Information System has these structures listed as historically and architecturally significant, with the aim to protect this heritage for future generations. Many of these structures, however, have been significantly altered over time through redevelopment and expansion, as approved by the Historic District Commission (HDC). See Appendix IV for details.



MONOMOY NEIGHBORHOOD SURVEY HIGHLIGHTS: NATURAL AND CULTURAL RESOURCES

1. Top Three Concerns

A majority of respondents are either extremely or very concerned about these three top issues related to Natural & Coastal Resources:

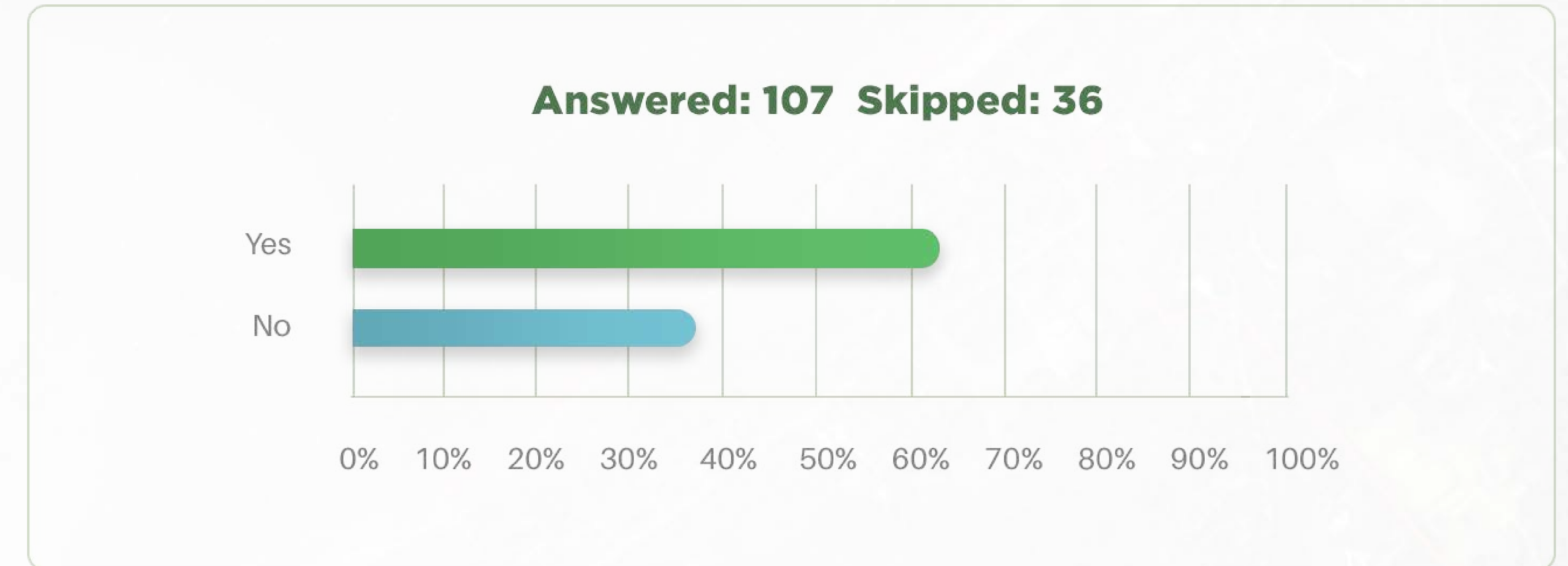
- 1. **Water quality in the Harbor: 78% (91 respondents)**
- 2. **Environmental impacts of fertilizer: 67% (71 respondents)**
- 3. **Invasive plant species: 58% (68 respondents)**

Following closely thereafter are similar concerns regarding the protection endangered species in The Creeks (47%, 54 respondents), and eelgrass health and restoration (6% (42 respondents).

	EXTREMELY CONCERNED	VERY CONCERNED	SOMEWHAT CONCERNED	NOT VERY CONCERNED	NOT AT ALL CONCERNED	TOTAL
Sea level rise & coastal erosion	32.76% 38	24.14% 28	24.14% 28	13.79% 16	5.17% 6	116
Water Quality in the harbor	48.28% 56	30.17% 35	12.07% 14	6.00% 7	3.45% 4	116
Eel grass health & restoration	24.14% 28	12.07% 14	24.14% 28	23.28% 27	16.38% 19	116
Environmental impacts of fertilizer	43.10% 50	24.14% 28	11.21% 13	12.90% 15	8.62% 10	116
Invasive plant species	41.38% 48	17.24% 20	16.38% 19	16.38% 19	8.62% 10	116
Protecting endagngered species in the Creeks	23.28% 27	23.28% 27	27.59% 32	19.83% 23	6.03% 7	116
Light Pollution	23.28% 27	29.31% 34	30.17% 35	11.21% 13	6.03% 7	116

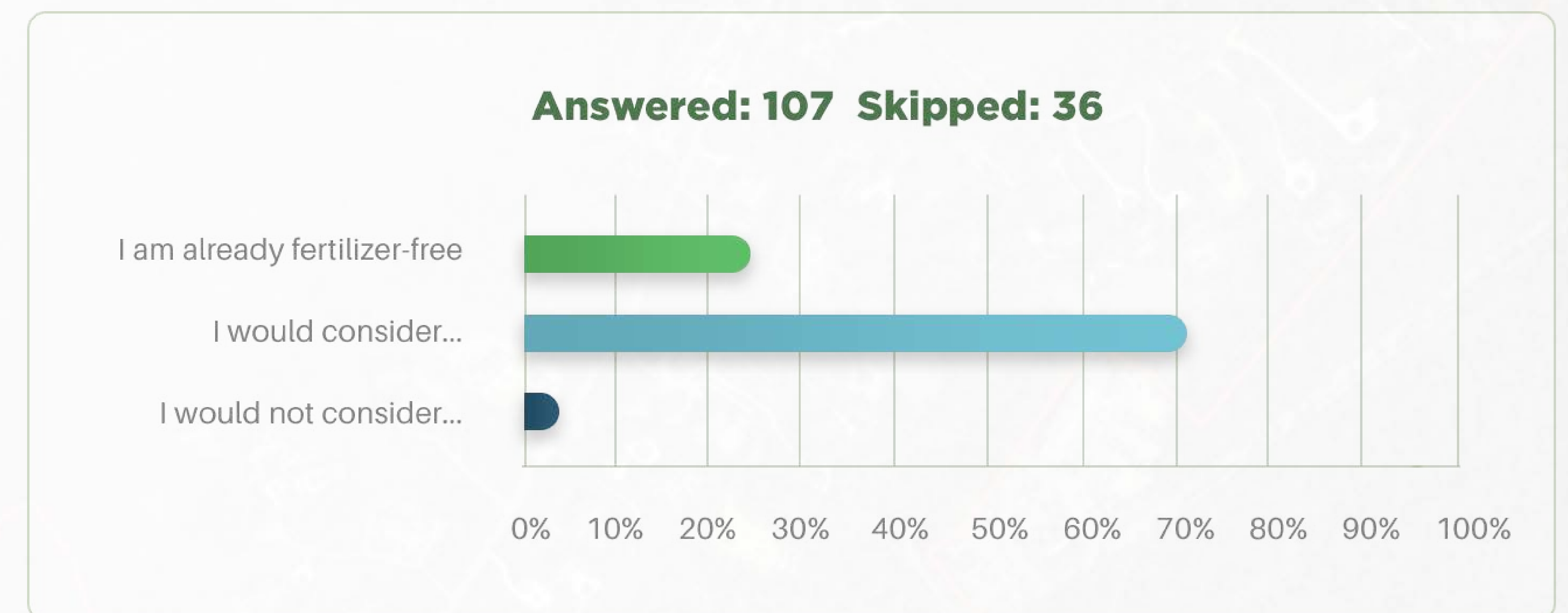
Answered: 107 Skipped: 36

2. Cataloging Endangered Species



Given the lack of data available, 63% of respondents are in support of a full biological field study to study and assess the extent of endangered flora and fauna in Monomoy, and particularly The Creeks.

3. Reducing Fertilizer Use



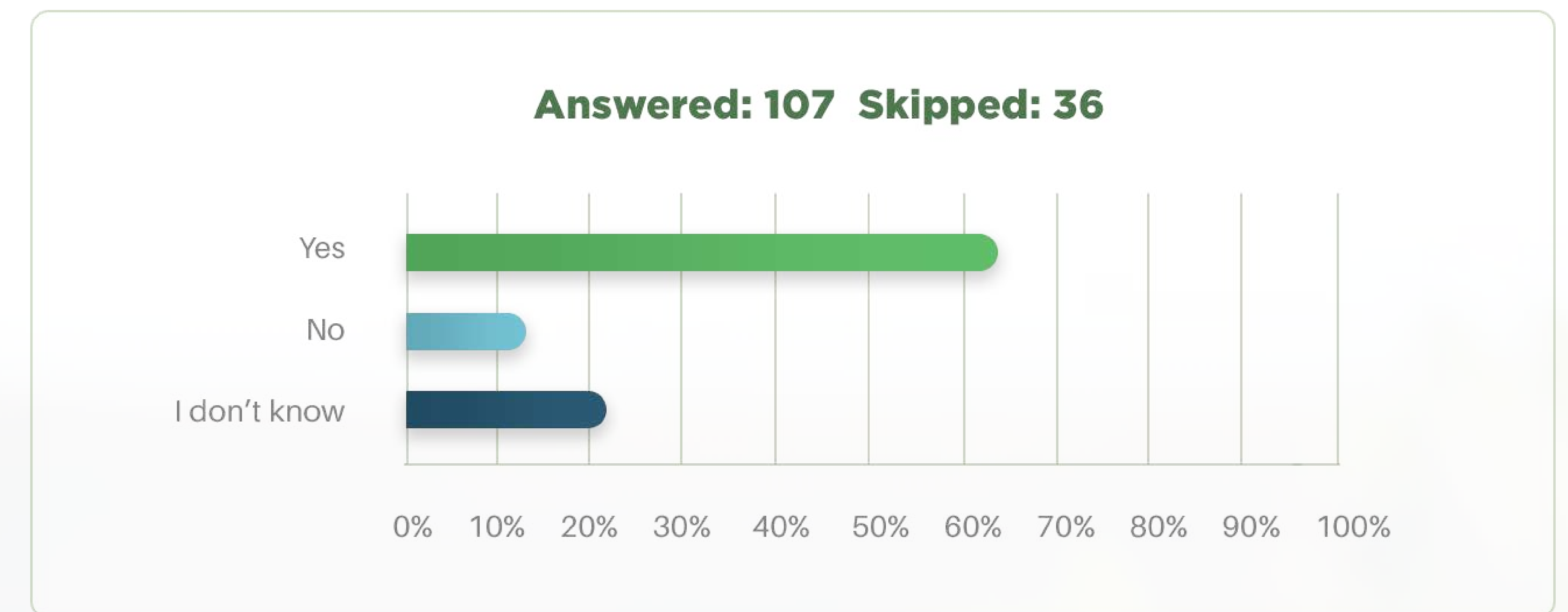
Monomoy residents are particularly concerned with water quality in the Harbor, eelgrass health and restoration, and the environmental impacts of fertilizer. Based on the survey results, 25% of respondents are already fertilizer free, while 75% would consider eliminating or reducing fertilizer use (and which may be mandated by the Town in the near future, if a recent home rule petition is approved by the State of Massachusetts).

4. Preventing Runoff and Erosion

ANSWER CHOICES	RESPONSES	
None of the above	9.35%	10
Decreasing lawn size in favor of natural landscape	32.71%	35
Decreasing asphalt/concrete in favor of natural landscape	42.99%	46
Planting more native species	71.96%	77
Removing invasive species	65.42%	70
Adding butterfly and bee-friendly species	58.88%	63
Installing vegetative swales, berms and basin to collect run-off	23.36%	25
Planting vegetative buffers adjacent to wetlands and other coastal resource areas	38.32%	41
Surrounding new construction with hay-bales and slit-fencing	36.45%	39
Total Respondents: 107		

The vast majority of respondents (91%) are in favor of taking measures to prevent runoff and erosion, primarily through an increase in native vegetation and a decrease in non-native species, lawn sizes, and concrete/asphalt coverage.

5. Supporting the Dark Skies Movement

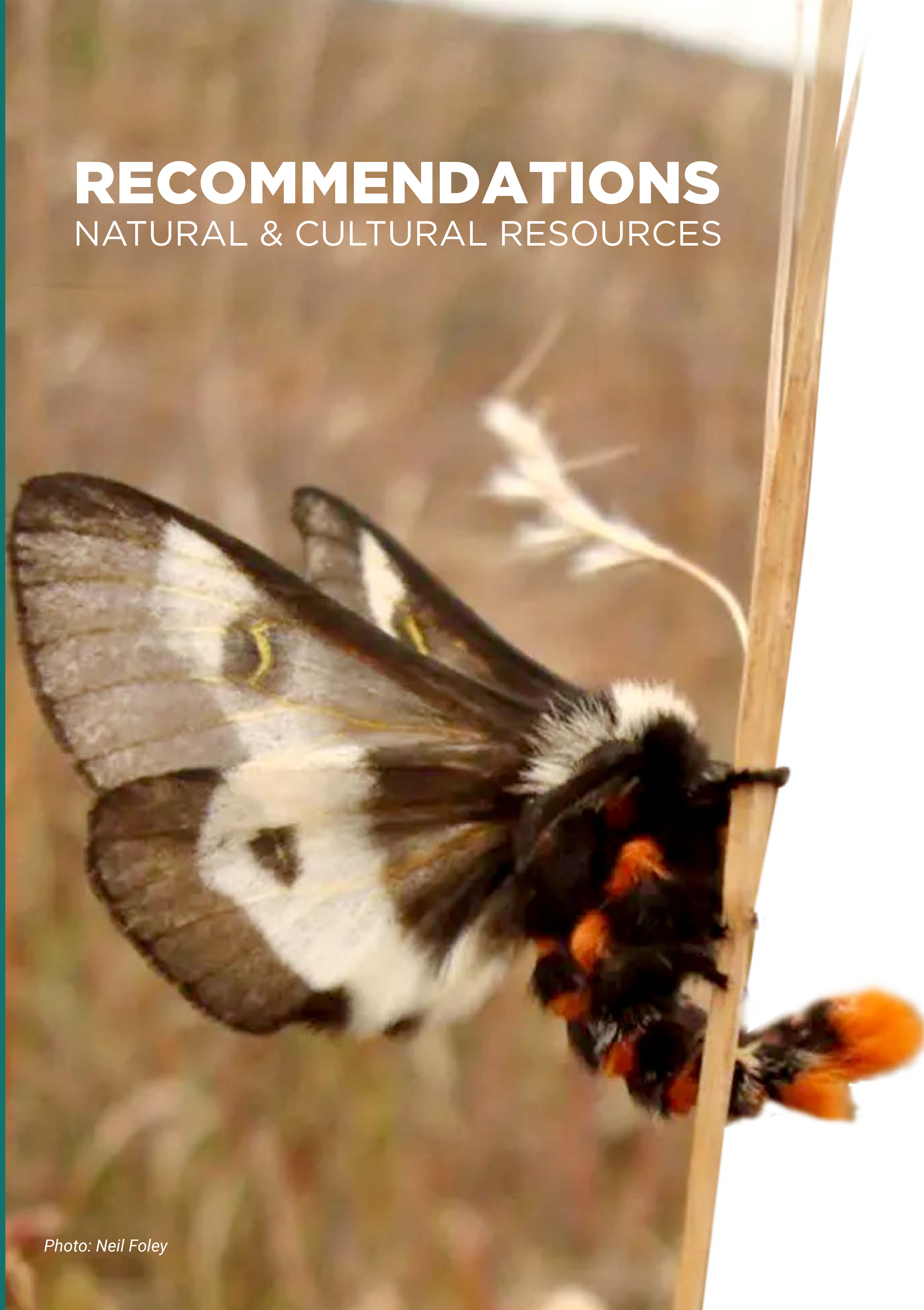


64% of survey respondents support the Dark Skies initiative, while 22% don't know enough to have a view, which suggests a need for greater education and advocacy.



RECOMMENDATIONS

NATURAL & CULTURAL RESOURCES

**1**

Undertake a biological field survey of endangered flora and fauna in Monomoy

Work with the State, Town and non-profits to take steps to document and assess the extent of threatened and endangered wildlife within habitats in Monomoy, to ensure their protection and preservation of their fragile habitats.

2

Support reduction / elimination of fertilizers used for residential landscaping

Provide greater education and advocacy on fertilizer reduction to protect water quality and habitats, as well as preserve and protect critical eelgrass, in The Creeks and Harbor.

3

Support community-wide efforts to reduce runoff and erosion

Provide greater education and advocacy for a range of steps that can help reduce runoff and erosion, though an increase in native vegetation, a decrease in non-native species, lawn sizes, and concrete/asphalt coverage, and other measures.

4

Provide education and outreach on the value of the Dark Skies Initiative

Promote greater awareness of the impact of light pollution in the community through education, advocacy and outreach to encourage the community to adopt less-intensive lighting practices.