Appendix I
Seascape, Landscape, and Visual Impact Assessment

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Abbreviations and Acronyms

ADLS	aircraft detection lighting system
AMSL	above mean sea level
APE	area of potential effects
BOEM	Bureau of Ocean Energy Management
COP	Construction and Operations Plan
ESP	electrical service platform
ft	feet
FOV	field of view
KOP	key observation point
m	meter
m^2	square meters
MLLW	mean lower low water
NA	not applicable
ND	no data
RI/MA Lease Areas	Rhode Island and Massachusetts Lease Areas
SLIA	seascape and landscape impact assessment
SLVIA	seascape, landscape, and visual impact assessment
SWDA	Southern Wind Development Area
VIA	visual impact assessment
WTG	wind turbine generator

I Seascape, Landscape, and Visual Impact Assessment

I.1 Introduction

I.1.1 Overview

Park City Wind, LLC (applicant) proposes to construct, operate, and eventually decommission the New England Wind Project (proposed Project), which would consist of wind energy facilities generating at least 2,036 megawatts and up to 2,600 megawatts within the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area (Lease Area) OCS-A 0534 and a portion of Lease Area OCS-A 0501. Figure I-1 shows the location of the proposed Project, as well as other approved or planned offshore wind projects within the other BOEM Renewable Energy Lease Areas offshore Rhode Island and Massachusetts (RI/MA Lease Areas).

This appendix describes the seascape, landscape, and visual impact assessment (SLVIA) methodology and key findings that BOEM used to identify the potential impacts of offshore wind structures (wind turbine generators [WTG] and electrical service platforms [ESP]) on scenic and other visual resources within the geographic analysis area. This SLVIA methodology applies to any offshore wind energy development proposed for the outer continental shelf and incorporates by reference BOEM's SLVIA methodology (Sullivan 2021). The contents of the SLVIA include:

- Section I.1, Introduction;
- Section I.2, Method of Analysis: This section describes the specific methodology used to apply the SLVIA methodology to the proposed Project;
- Section I.3, Existing Seascape, Landscape, and Visual Characteristics;
- Section I.4, Results: This section summarizes the relevant characteristics of the proposed Project that contribute to the determination of seascape and landscape impacts as well as visual impacts;
- Section I.5, References;
- Attachment I-1: Map showing the extent of potential views of proposed Project WTGs;
- Attachment I-2: Visual simulations of the proposed Project alone, other offshore wind projects without the proposed Project, and other offshore wind projects in combination with the proposed Project;
- Attachment I-3: Maps showing the field of view (FOV) of the proposed Project WTGs from selected viewpoints; and
- Attachment I-4: Intervisibility maps showing the number of combined WTGs (including the proposed Project and other offshore wind projects) potentially visible.

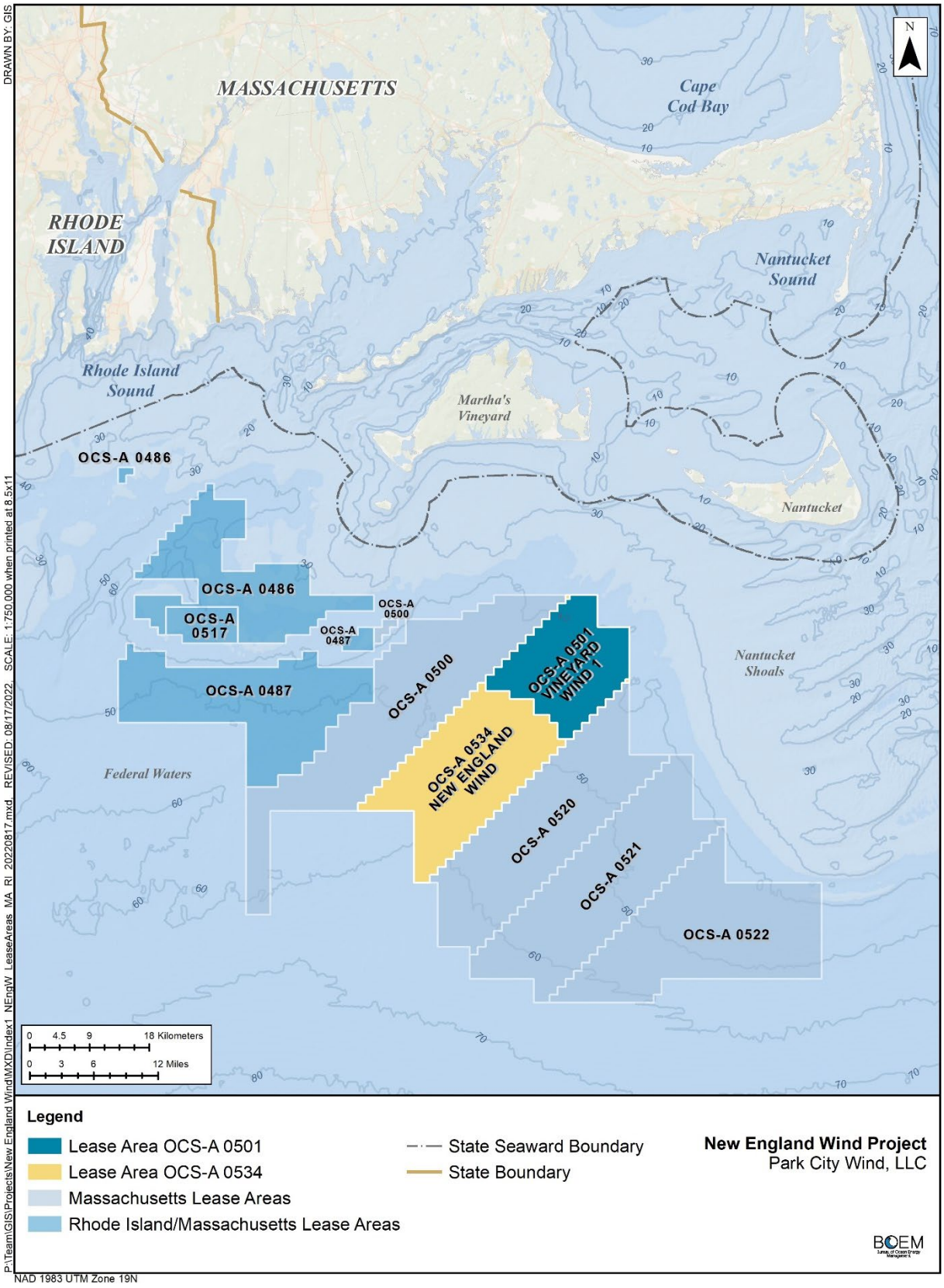


Figure I-1: Location of Offshore Wind Energy Projects in the Rhode Island and Massachusetts Lease Areas

I.1.2 Description of the Proposed Project

The proposed Project would be offshore Martha's Vineyard and Nantucket, Massachusetts, and would be developed in two phases with a maximum of 130 WTGs and ESPs on foundation support structures. The portion of the lease areas developed by the applicant, referred to as the Southern Wind Development Area (SWDA) would occupy 101,590 to 111,939 acres, depending on whether unused WTG and ESP positions in Lease Area OCS-A 0501—currently assigned to the Vineyard Wind 1 Project (Vineyard Wind 1)—are assigned to the proposed Project. As defined in the Project design envelope for the proposed Project (Appendix C, Project Design Envelope and Maximum-Case Scenario), Phase 1 would be constructed immediately adjacent to Vineyard Wind 1 and would include 41 to 62 WTGs and one or two ESPs. Phase 2 would be constructed immediately south of Phase 1 and could potentially include up to 88 foundations supporting WTGs and up to 3 ESPs (Phase 2 ESP equipment could be mounted on WTG platforms; therefore, Phase 2 would not necessarily have any dedicated ESP positions). The distances between the nearest points on land on Martha's Vineyard and Nantucket and the closest and farthest proposed Project WTGs would be as follows:

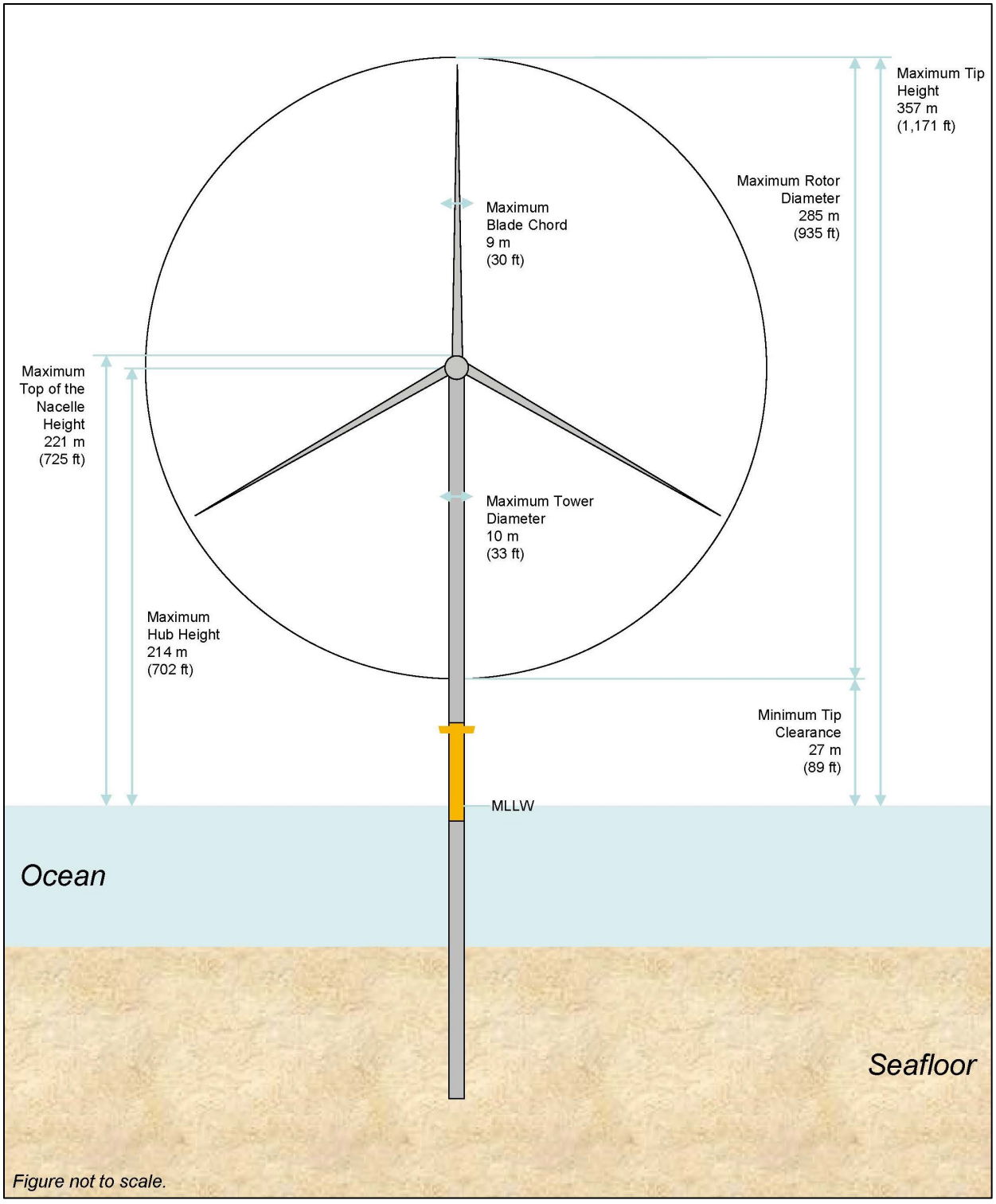
- Martha's Vineyard (Squibnocket Point), closest WTG: 21.3 miles;
- Martha's Vineyard (Squibnocket Point), farthest WTG: 38.3 miles;
- Nantucket (Madaket Beach), closest WTG: 25.2 miles; and
- Nantucket (Madaket Beach), farthest WTG: 45.4 miles.

Figure I-2 shows the maximum dimensions of the WTGs that could be constructed in both phases of the proposed Project. Figure I-3 shows the maximum dimensions of ESPs for the proposed Project. Five offshore export cables—two cables for Phase 1 and three cables for Phase 2—would transmit electricity from the WTGs and ESPs to shore. The applicant has not selected a specific WTG design for the proposed Project. To capture the maximum seascape, landscape, and visual impacts of the proposed Project, this appendix evaluates the maximum-case scenario for WTG dimensions—725 feet above mean lower low water (MLLW) to the top of the WTG nacelle (the housing located at the top of the WTG column, where the hub and blades are attached), and a maximum vertical blade tip extension of 1,171 feet above MLLW.

I.2 Methodology

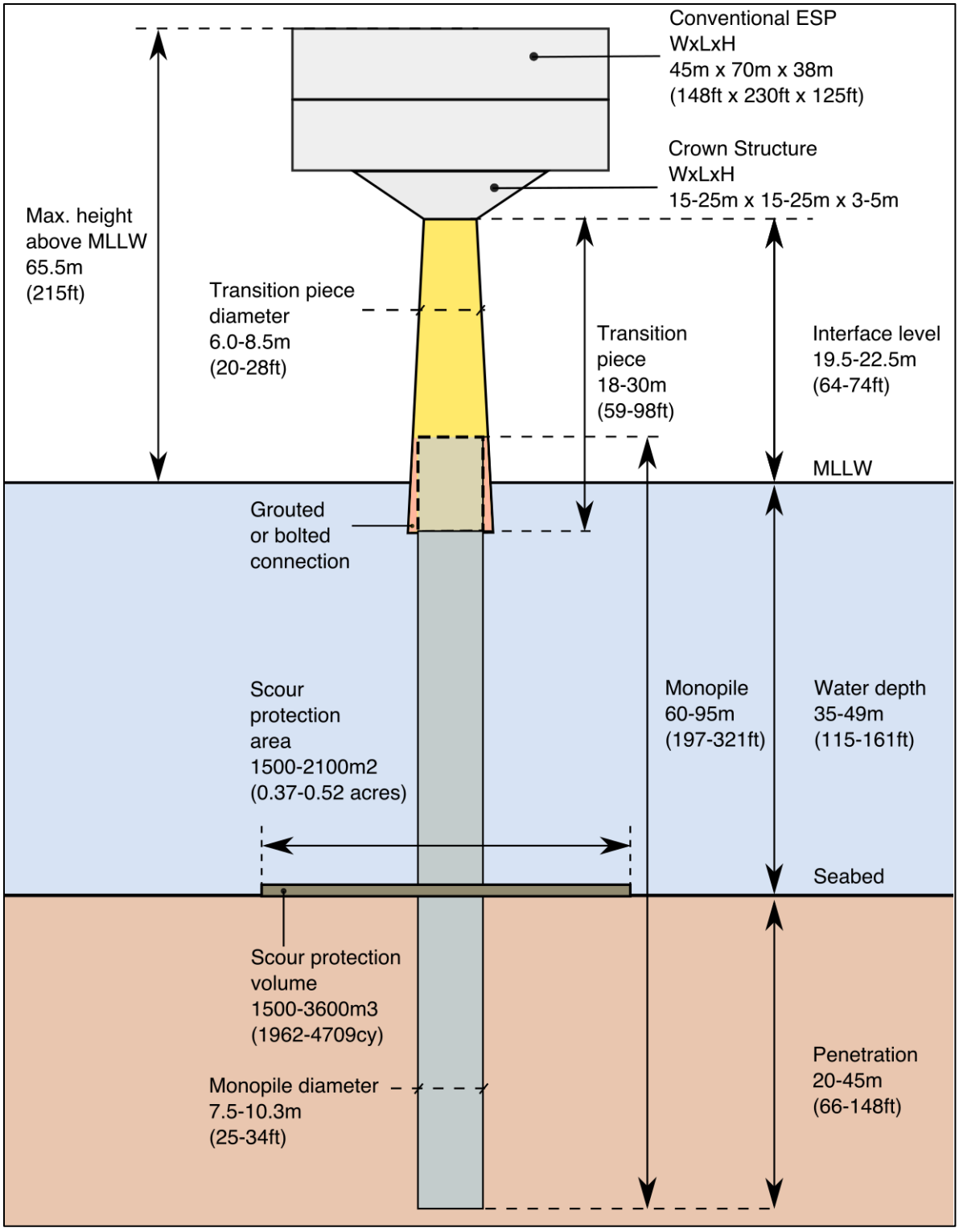
The SLVIA has two separate but linked parts: the seascape and landscape impact assessment (SLIA) and the visual impact assessment (VIA), as described in detail in BOEM's SLVIA guidance (Sullivan 2021). SLIA analyzes and evaluates impacts on both the physical elements and features that make up a landscape, seascape, or open ocean; and the aesthetic, perceptual, and experiential aspects of the landscape, seascape, or open ocean that make it distinctive. These impacts affect the "feel," "character," or "sense of place" of an area of landscape, seascape, or open ocean, rather than the composition of a view from a particular place. In SLIA, the impact receptors (the entities that are potentially affected by the proposed Project) are the seascape/open ocean/landscape itself and its components, both its physical features and its distinctive character.

VIA analyzes and evaluates the impacts on people of adding the proposed development to views from selected viewpoints. VIA evaluates the change to the composition of the view itself and assesses how the people who are likely to be at that viewpoint may be affected by the change to the view. Enjoyment of a particular view is dependent on the viewer; the impact receptors for VIA are people. The inclusion of both SLIA and VIA in the BOEM SLVIA methodology is consistent with BOEM's requirement under National Environmental Policy Act to consider all potentially significant impacts of development.



Source: COP Volume I, Figure 3.2-1; Epsilon 2022
ft = feet; m = meter; MLLW = mean lower low water

Figure I-2: Proposed Project Maximum Wind Turbine Generator Size

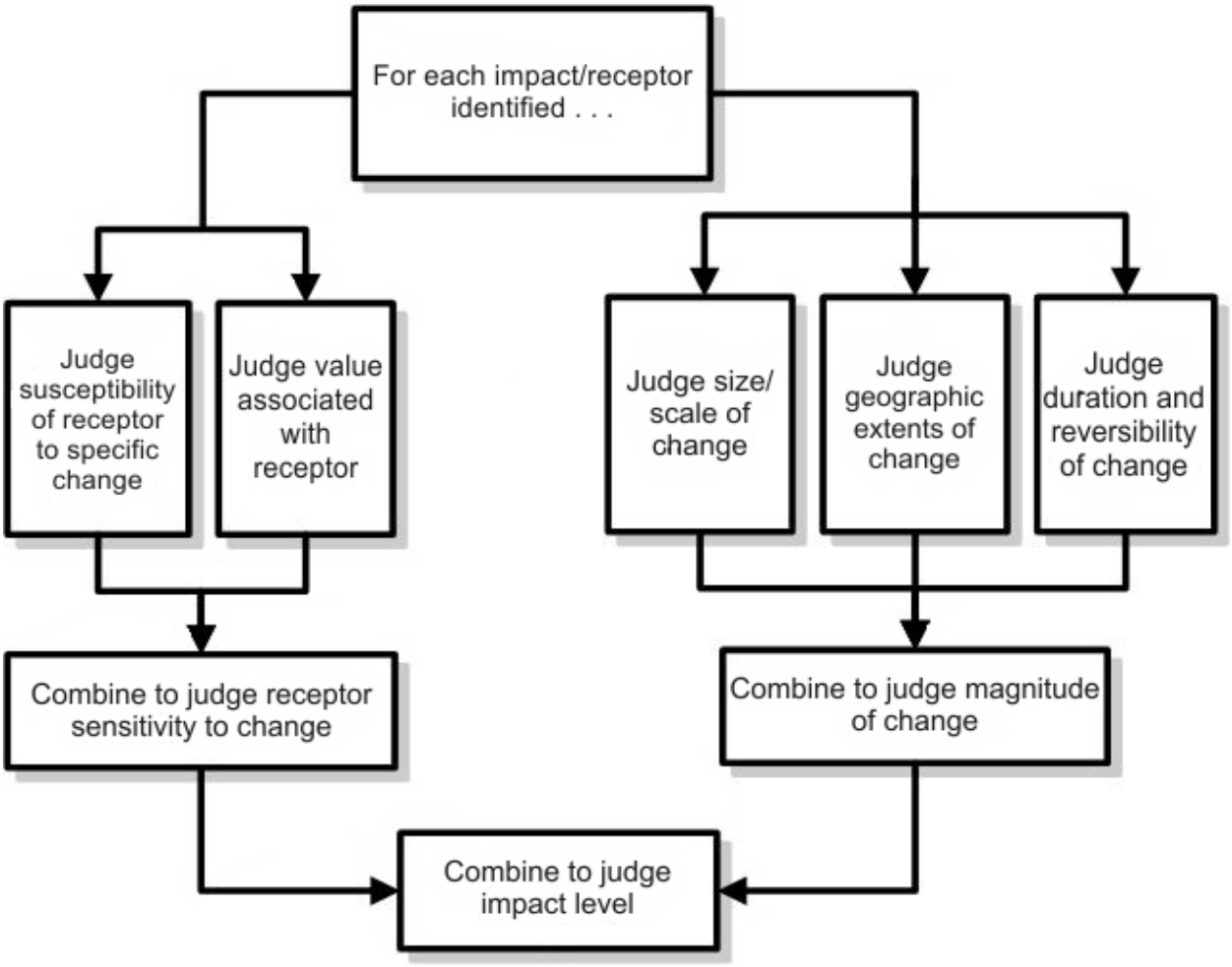


Source: COP Volume I, Figure 3.2-6; Epsilon 2022
ESP = electrical service platform; ft = feet; m = meter; m^2 = square meters; MLLW = mean lower low water; W×L×H = width × length × height

Figure I-3: Proposed Project Maximum Electrical Service Platform Size

The SLVIA methodology and parameters assessed consider local stakeholders' identity, culture, values, and issues, and their understanding of existing visual conditions. This SLVIA assesses the proposed Project's operations and maintenance (operations) stage against the environmental baseline. Table I-1 provides the impact levels used in this SLVIA.

The magnitude of effect in a seascape, open ocean, landscape, or view depends on the nature, scale, prominence, and visual contrast of the change and its experiential duration. Figure I-4 depicts this relationship, while Tables I-2 through I-4 summarize BOEM's recommended approach to determining ratings for sensitivity, magnitude, and impact for both SLIA and VIA. These tables are recommendations; some deviation is allowed based on "consideration of individual project circumstances" (Sullivan 2021).



Source: Sullivan 2021

Figure I-4: Generalized Assessment Methodology for Seascape/Landscape and Visual Impacts

Table I-1: Definitions of Potential Adverse Impact Levels

Impact Level	Definition
Negligible	SLIA: Very little or no effect on seascape/landscape unit character, features, elements, or key qualities either because the unit lacks distinctive character, features, elements, or key qualities; values for these are low; or proposed Project visibility would be minimal. VIA: Very little or no effect on viewers' visual experience because view value is low, viewers are relatively insensitive to view changes, or proposed Project visibility would be minimal.
Minor	SLIA: The proposed Project would introduce features that may have low to medium levels of visual prominence within the geographic area of an ocean/seascape/ landscape character unit. The proposed Project features may introduce a visual character that is slightly inconsistent with the character of the unit, which may have minor to medium negative effects on the unit's features, elements, or key qualities, but the unit's features, elements, or key qualities have low susceptibility or value. VIA: Where viewer receptor sensitivity/susceptibility/value is low, the visibility of the proposed Project would introduce a small but noticeable to medium level of change to the view's character; have a low to medium level of visual prominence that attracts but may or may not hold the viewer's attention; and have a small to medium effect on the viewer's experience. If the value, susceptibility, and viewer concern for change is medium or high, the nature of the sensitivity is evaluated to determine if elevating the impact to the next level is justified. For instance, a KOP with a low magnitude of change but a high level of viewer concern (combination of susceptibility/value) may justify adjusting to a moderate level of impact.
Moderate	SLIA: The proposed Project would introduce features that would have medium to large levels of visual prominence within the geographic area of an ocean/seascape/landscape character unit. The proposed Project would introduce a visual character that is inconsistent with the character of the unit, which may have a moderate negative effect on the unit's features, elements, or key qualities. In areas affected by large magnitudes of change, the unit's features, elements, or key qualities have low susceptibility or value. VIA: Where viewer receptor sensitivity/susceptibility/value is medium to low, the visibility of the proposed Project would introduce a moderate to large level of change to the view's character; may have moderate to large levels of visual prominence that attracts and holds but may or may not dominate the viewer's attention; and has a moderate effect on the viewer's visual experience. Moderate impacts are typically associated with medium viewer receptor sensitivity (combination of susceptibility/value) in areas where the view's character has medium levels of change, or low viewer receptor sensitivity (combination of susceptibility/value) in areas where the view's character has large changes to the character. If the value, susceptibility, and viewer concern for change is high, the nature of the sensitivity is evaluated to determine if elevating the impact to the next level is justified.
Major	SLIA: The proposed Project would introduce features that would have dominant levels of visual prominence within the geographic area of an ocean/seascape/landscape character unit. The proposed Project would introduce a visual character that is inconsistent with the character of the unit, which may have a major negative effect on the unit's features, elements, or key qualities. The concern for change (combination of susceptibility/value) to the character unit is high. VIA: The visibility of the proposed Project would introduce a major level of character change to the view; attract, hold, and dominate the viewer's attention; and have a moderate to major effect on the viewer's visual experience. The viewer receptor sensitivity/susceptibility/value is medium to high. If the magnitude of change to the view's character is medium but the susceptibility or value at the KOP is high, the nature of the sensitivity is evaluated to determine if elevating the impact to major is justified. If the sensitivity (combination of susceptibility/value) at the KOP is low in an area where the magnitude of change is large, the nature of the sensitivity is evaluated to determine if lowering the impact to moderate is justified.

KOP = key observation points; SLIA = seascape and landscape impact assessment; VIA = visual impact assessment

Table I-2: Sensitivity Rating Matrix

	Susceptibility Rating		
Value Rating	**High**	**Medium**	**Low**
High	High	High	Medium
Medium	High	Medium	Low
Low	Medium	Low	Low

Source: Sullivan 2021

Table I-3: Magnitude Rating Matrix

Size and Scale Rating	Geographic Extent Rating								
	Large	**Large**	**Large**	**Medium**	**Medium**	**Medium**	**Small**	**Small**	**Small**
Large	Large	Large	Large	Large	Large	Medium	Large	Medium	Small
Medium	Large	Large	Medium	Medium	Medium	Small	Medium	Small	Small
Small	Large	Medium	Small	Medium	Small	Small	Small	Small	Small
	Duration/Reversibility Rating								
	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good

Source: Sullivan 2021

Table I-4: Impact Rating Matrix

Sensitivity Rating	Magnitude Rating		
	Large	**Medium**	**Small**
High	Major	Major	Moderate
Medium	Major	Moderate	Minor
Low	Moderate	Minor	Negligible[a]

Source: Sullivan 2021

a Sullivan (2021) identifies the combination of low sensitivity with low magnitude as having "minor" impacts. For analysis of the proposed Project, the "negligible" rating (as defined in Table I-1) is more appropriate.

The SLVIA offshore geographic analysis area consists of the "zone of theoretical visibility"[1] and zone of visual influence (Construction and Operations Plan [COP] Appendix III-H.a; Epsilon 2022). This includes the SWDA, plus a 40-nautical-mile (46-mile) buffer. Beyond this distance, seascape, landscape, and visual effects from WTGs would likely be negligible (Sullivan 2021). Based on the Draft Environmental Impact Statement for the Ocean Wind Project in Lease Area OCS-A 0498), ESPs are likely to be visible from up to approximately 25 miles (BOEM 2022).

The map in Attachment I-1 shows areas on Martha's Vineyard and Nantucket where the proposed Project's WTGs would be theoretically visible, based on topography, vegetation, structures, and refraction of the earth's atmosphere. WTG visibility would vary throughout the day depending on view angle, sun angle, and atmospheric conditions. Visual contrast of WTGs would vary depending on the visual character of the horizon's backdrop and whether the WTGs are backlit, side-lit, or front-lit. For example, if less visual contrast is apparent in the morning hours, then visual contrast may be more pronounced in the afternoon. These effects would also be influenced by varying atmospheric conditions, direction of view, distance between the viewer and the WTGs, and elevation of the viewer. At distances of approximately 12 miles or closer, the WTGs form may be the dominant visual element creating visual contrast, regardless of color. At greater distances, color may become the dominant visual element creating visual contrast under certain visual conditions that gives visual definition to the WTG's form and line. The prevailing viewing direction from land within the zone of theoretical visibility would be to the south (from Martha's Vineyard) and southwest (from Nantucket and adjacent islands). All view directions are conceivable when viewing from a water vessel while at sea.

[1] Sullivan (2021) defines the zone of theoretical visibility as "the viewshed that results from ignoring all screening elements except topography." The applicant did not define a zone of theoretical visibility, but instead identified a "zone of visual influence" that identifies portions of the offshore geographic analysis area, where all or a portion of the nacelles for the proposed Project's WTGs would be visible above the horizon from land-based vantage points.

Depending on sun angle, time of day, and the presence of cloud cover, the backdrop sky color may have different intensities and hues. The visual interplay and contrast of the form, line, color, and texture of WTG components would vary with the changing character of the backdrop. For example, front-lit WTGs may have strong color contrast against a darker sky, giving definition to the WTG vertical form and line contrast to the ocean's horizontal character and the line where the sea meets sky. WTG components would be more likely to visually dissipate against a lighter sky backdrop. Variable cloudiness or passing clouds can change lighting conditions and effects, placing some WTGs in the shadow and making them appear darker and less conspicuous while highlighting others with a bright color contrast. The level of noticeability would be directly proportional to the degree of visual contrast and scale of change between the WTGs and the backdrop.

Landfall sites, offshore export cable routes, and grid interconnection cables would be installed entirely underground within road and existing utility rights-of-way and would not be visible once construction is complete. As a result, these components are not evaluated. The applicant did not prepare a viewshed map for construction and installation (construction), operations, and conceptual decommissioning (decommissioning) of the Phase 1 onshore substation sites at 6 and 8 Shootflying Hill Road and at Parcel #214-001 adjacent to the existing West Barnstable Substation (COP Appendix III-H.a; Epsilon 2022). The COP (Appendix III-H.a; Epsilon 2022) includes simulations of the substation from various locations with and without potential future vegetative screening added by the applicant. The location of the Phase 2 onshore substation (if the Phase 1 substation location cannot be used for Phase 2) has not been identified (COP Appendix III-H.a; Epsilon 2022). The onshore geographic analysis area includes areas potentially within view of the Phase 1 onshore substation, based on BOEM's generalized understanding of topography and vegetation.

In addition to identifying a zone of visual influence rather than a zone of theoretical visibility (as described above), the applicant's evaluation of the proposed Project's visual impacts did not fully implement BOEM's SLVIA methodology. Specifically, the applicant defined seascape, open ocean, and landscape "units" rather than character areas, and did not calculate the geographic extent of those units or the geographic extent of the proposed Project's visibility within those units. This appendix applies the SLVIA methodology to the proposed Project and other offshore wind projects in the RI/MA Lease Areas to the degree possible, based on information provided in the applicant's COP (Volume III, Section 7.4 and Appendix III-H.a; Epsilon 2022).

I.3 Existing Seascape, Landscape, and Visual Character

I.3.1 Overview

Martha's Vineyard and Nantucket were formed by the last period of continental glaciation and the rise in sea level that followed. This created islands that are generally characterized by low elevations, with undulating hills and shallow depressions. Elevations range from sea level to an average of approximately 110 feet above mean sea level (AMSL), with specific locations rising above 200 feet AMSL. Most of the oceanfront on these islands is fringed by barrier beaches and sand dunes. The western and northwestern parts of Martha's Vineyard are marked by ridges and hills that extend southwesterly and end at the high cliffs of Aquinnah (Gay Head), Nashaquitsa, and Squibnocket. The elevation of these hills averages approximately 200 feet AMSL but extends as high as 300 feet AMSL in some areas (COP Appendix III-H.a; Epsilon 2022).

The overall aesthetic character of Martha's Vineyard and Nantucket can generally be described as small-town landscapes with minimal urban development. Vegetation is characterized by a mix of scrub forest, upland heaths, sand plain grasslands, salt marshes, and open fields (agricultural and successional). Developed features include village centers, year-round and vacation homes, roads, and harbors/ports.

The horizon looking south toward the SWDA from the various coasts is typically defined by a view of the open ocean. Development and infrastructure at some of the viewpoints includes artificial lighting, which results in some light pollution; however, most daytime and nighttime views are typical of beaches and natural areas with little development. Lights from vessels can be seen from all coastal locations along the ocean horizon on most nights except in foggy conditions (COP Appendix III-H.a; Epsilon 2022).

Proposed Project visibility factors—the "variables affecting the actual visibility of an object in the landscape" or seascape (Sullivan 2021) can vary from day to day and throughout a single day. These factors include viewer characteristics, viewshed limiting factors (e.g., topographic and vegetative screening), lighting (e.g., weather and sun position), atmospheric conditions, viewing angles, the viewing backdrop, and the visual characteristics of the objects being viewed (e.g., size, scale, color, form, line, texture, and motion) (Sullivan 2021). BOEM conducted a meteorological study in 2017 to assess typical visibility conditions near the RI/MA Lease Areas at varying distances (BOEM 2017). Table I-5 summarizes these data at the Nantucket and Martha's Vineyard airports; however, the BOEM meteorological study did not assess or address visibility of WTGs, and Table I-5 does not imply that the proposed Project's WTGs would or would not be visible beyond the average visibility distances.

Atmospheric conditions offshore and near the shoreline limit views more than the typically drier-air conditions in inland areas. Visual simulations from representative viewpoints included in Attachment I-2 indicate that the proposed Project's WTGs and in some cases ESPs would be visible to the casual observer from beach viewpoints. The minimum distances from observers on land to the closest proposed Project WTG would be approximately 21.3 miles at Squibnocket Point on the southwestern tip of Martha's Vineyard and 25.2 miles at Madaket Beach on Nantucket.

Table I-5: Visibility Conditions at the Nantucket and Martha's Vineyard Airports, 2017

Measure of Visibility	Martha's Vineyard Airport	Nantucket Airport
Average visibility distance in clear conditions	20 nautical miles (23 miles)	17 nautical miles (20 miles)
Number of days when visibility extends to 20 nautical miles (23 miles) for 50% or more of daylight hours	113 days/year	80 days/year
Days when visibility extends to 30 nautical miles (34.5 miles) for 50% or more of daylight hours	32 days/year	14 days/year

Source: BOEM 2017

I.3.2 Seascape, Open Ocean, and Landscape

Whereas BOEM's SLIA methodology (Sullivan 2021) includes identification of landscape character areas and seascape character areas (in addition to the open ocean), the applicant classified the geographic analysis area according to "landscape units," defined as "areas with common characteristics of landform, water resources, vegetation, land use, and land use intensity…a landscape unit is a relatively homogenous, unified landscape (or seascape) of visual character. Landscape units are established to provide a framework for comparing and prioritizing the differing visual quality and sensitivity of visual resources" (COP Appendix III-H.a, Section 2.1; Epsilon 2022).[2] Table I-6 defines the landscape units (which also include ocean and shoreline areas).

[2] BOEM has determined that, while the applicant's visual analysis did not follow the SLVIA guidance (Sullivan 2021), the applicant's information was sufficient to support analysis of seascape, landscape, and visual impacts for the proposed Project.

Table I-6: Seascape, Open Ocean, and Landscape Units within the Geographic Analysis Area

Seascape Units	Description
Ocean Beach Unit	Miles of sand beaches are a defining aesthetic feature of Martha's Vineyard, Nantucket, and Cape Cod. Beaches are a significant attraction for sunbathers, surfers, fishermen, and beachcombers. During the summer season, certain stretches of the beach setting are at capacity. At other times of the year, beaches can be nearly deserted and appear in a seemingly pristine natural condition. As a daytime destination, visitors bring brightly colored umbrellas, coolers, folding chairs, towels, and recreational watercraft. Southerly views from the beach encompass views of the open water landscape across the Open Ocean Unit. The beaches are both sandy (primarily on Nantucket, along the south coast of Cape Cod, the perimeters of the Elizabeth Islands, and the eastern portion of Martha's Vineyard) and rocky (primarily on the western portion of Martha's Vineyard). Breaking surf is a continuous and unique visual condition. Viewer activity is primarily recreational in nature including passive sunbathing, swimming, walking/beach combing, surf fishing, and surfing. Beaches are also used by recreational and commercial fishermen. Views are almost always unobstructed and considered highly scenic. Views extend up and down the coast and across open water as one looks out to sea. Inland views include grassy dunes and coastal scrub vegetation. Man-made structures are frequently visible from beach locations, although extended stretches of beachfront on Martha's Vineyard and Nantucket are located within protected open space areas with little to no man-made development within immediate view.
Coastal Bluff Unit	Portions of the coastal area are defined by a distinctive topographic rise in elevation from the beach below, with coastal scrub vegetation at the top of the bluffs. Dramatic coastal bluffs occur at the eastern end of Martha's Vineyard at Gay Head, Aquinnah, and Chilmark where the land rises steeply from sand or rocky beaches to elevation of 30 meters (100 feet) or more. Notable bluffs in this area include Gay Head Cliffs, Zacks Cliffs, Squibnocket Ridge, Nashaquitsa Cliffs, and Wequobsque Cliffs. Less dramatic bluffs are found at Wasque Point at the southern end of Chappaquiddick Island where topography steeply rises 15-30 meters (50-100 feet) above beach elevation. The Coastal Bluff Unit is defined by scenic open vistas of the ocean and distant landscape from an elevated vantage point. Viewers frequently visit these areas specifically to enjoy scenic vistas over the ocean and long-distance views up and down the coastline. Bluff vistas also commonly include man-made development including roads and vehicles, overhead utility lines, and residential development.
Open Ocean Unit	
Open Ocean Unit	The Open Ocean Unit includes the open water of the Atlantic Ocean, Nantucket Sound, Vineyard Sound, Buzzards Bay, and Rhode Island Sound more than 3 nautical miles (3.5 miles) from shore. This unit is characterized by broad expanses of open water that forms the dominant foreground element in all directions. From all vantage points, the proposed Project will be viewed over open water. In general, the waters of the Atlantic Ocean appear dark bluish-gray typical of northeastern U.S. oceanic water (as compared to the light greenish blue colors common to southeastern waters of the U.S.). Cloud cover, wind, sun reflectance, and surface glare affect the color of the water and often create patterns of color variation over the water surface. The visible texture of the water is affected by the action of waves, which can include flat water, rolling swells, and/or choppy white cap conditions. These factors contribute to an amalgam of shimmering colors and patterns of light that are of aesthetic interest and may command the attention of observers. The waters off Cape Cod, Martha's Vineyard, and Nantucket support a wide variety of human activities including water sports, recreational boating (sail and power craft), recreational and commercial fishing, ferry services, and commercial shipping, among others uses. Navigation through the area includes ocean-going vessels headed to or from major ports (e.g., New York and Boston), commercial fishing vessels, ferry transport (Nantucket and Martha's Vineyard ferries), pleasure craft, and sport fishing boats. The ocean, sound, channels, harbors, and bays are marked with maritime aids (e.g., buoys, channel markers, warning lights).

Seascape Units	Description
Landscape Units	
Coastal Dunes Unit	The inland edge of the Ocean Beach Unit is defined by undulating sand dunes typically ranging in height from 3-6 meters (10-20 feet). Dunes are typically vegetated with low grasses and low shrubs. Coastal dunes typically occur along the shoreline between the ocean beaches and more inland landforms and are present throughout the study area on Cape Cod, especially in the easterly limit of the proposed APE, as well as on Martha's Vineyard and Nantucket. The dunes are typically traversed by narrow enclosed footpaths through the beach grass that provide public access to the beaches from inland roads and parking areas. Ocean views from the back side of the Coastal Dune Unit are largely restricted by the dune terrain. Viewer activity is almost exclusively recreational, focused on walking/sight-seeing and beach access from inland roads and parking areas.
Salt Pond/Tidal Marsh Unit	Salt ponds and tidal marshes inland of the Ocean Beach Unit are common throughout the coastal area. Disconnected from the ocean except during flooding events, or connected to the ocean by narrow tidal channels, these water features are defined by shallow open water and buffered by herbaceous grasses and other salt-tolerant vegetation. In those with hydraulic connections to the ocean, water levels rise and fall with the tide, exposing mud flats. Views over the water body and flat marshland extend until interrupted by adjacent dunes and/or scrub vegetation. Residences often are present along the edges of the ponds, many with associated docks and boats. Recreational activities in this unit include walking, boating, clam digging, and bird watching.
Coastal Scrub Brush Unit	At varying distances inland from the Coastal Beach, Coastal Dunes, and Salt Pond/Tidal Marsh units, the coastal landscape transitions into a more heavily vegetated scrub brush and low forest condition. The Coastal Scrub Brush Unit (and the Forest Unit described below) is characterized by low dense woody and herbaceous vegetation—the dominant forest is Pitch Pine-Oak forest, which occurs on Cape Cod, Martha's Vineyard, and Nantucket. Scrub vegetation is commonly found on upland dunes and plains above tidal conditions. Landform is often comprised of small hills and eroded hollows. Vegetation is often thick and nearly impenetrable, and views are frequently obstructed by dense foliage. Distant vistas may be limited to view corridors along roadways or where scrub brush transitions to open meadow. Viewer activity is typically limited to local travel and recreational use, such as walking and biking.
Forest Unit	Inland from various coastal units are extended wooded areas including both deciduous and coniferous species (e.g., oaks, hickories, and white pine). The understory is comprised of mixed shrubs, vines, and saplings. In areas exposed to coastal winds, trees are often irregular in form and stunted; trees located in better shielded inland areas are taller and more regular in form. Although this landscape type once dominated the interior of Martha's Vineyard, Nantucket, and Cape Cod, various forms of human development extensively encroach upon this area, and only a patchwork of mature forest remains. A variety of land use activities exist in the Forest Unit, including residential development, roads, small open yards and fields, and other land uses. Such conditions are not specifically identified as separate units due to the visual dominance of the surrounding forest. Topography in the Forest Unit is typically level to rolling with distinct ridges and gullies. Views are frequently restricted to openings in the forest canopy and axial views along roadways. Viewer activity includes residential uses and local travel. Recreational uses include walking and bicycling through the woods along local roads and trails.
Shoreline Residential Unit	Shoreline (or near shoreline) residential development is common in coastal areas not currently protected by public and private land conservation initiatives. Residential development ranges from small bungalow-style beach houses to large well-maintained vacation homes. The developments are a mix of densely developed areas, such as Falmouth Heights and Popponnesett (Mashpee) and Nantucket harbor, and low-density developments on the south shores of Martha's Vineyard and Nantucket. Although sometimes screened by coastal scrub vegetation, shoreline residences typically have panoramic views of the ocean, salt ponds/tidal marshes, and/or dune landscape. Architecture is a mixture of old and new construction and traditional/historic and contemporary styles. The local landscape is gently rolling with a mix of coastal scrub, heath, and dunes surrounding maintained residential landscapes. Larger trees are generally not present in beachfront locations. Shoreline residential homes are often used seasonally by owners or offered as vacation rentals. Visitors to these properties enjoy views of the ocean or beachfront landscape and frequently walk or drive from the residential property to the beach and other scenic coastal locations as part of their vacation routine.

Seascape Units	Description
Village/Town Center Unit	The Village/Town Center Unit includes clearly identifiable population centers including Vineyard Haven, Oak Bluffs, and Edgartown on Martha's Vineyard; Woods Hole and West Falmouth on Cape Cod; and Nantucket Village on Nantucket. This zone is comprised of moderate to high density residential and commercial development in a village setting. Vegetation most commonly includes street trees and residential landscaping yard trees. Buildings (typically two to three stories tall) and other man-made features dominate the landscape. Architecture is highly variable in size, style, and arrangement. Each town center on Martha's Vineyard and Nantucket maintains an individual and distinctive New England character. Village/town centers are widely recognized as quaint small town destinations and highly scenic places. On Martha's Vineyard and Nantucket, village and town centers are small coastal seaports with clusters of historic buildings focused around clearly defined and thriving downtown commercial districts. Side streets are characterized by well-maintained residential structures adjacent to the village center. Buildings are most commonly of a traditional New England architectural style and arranged in an organized pattern focusing views along the streets. Buildings, street trees, and local landscaping enclose and prevent long-distance views.
Rural Residential Unit	The Rural Residential Unit is found along the frontage of rural roads through Cape Cod, Martha's Vineyard, and Nantucket, outside of the Village/Town Center Unit and the Suburban Residential Unit and inland from coastal areas. Structures are typically single family homes that vary widely in age and architectural style, from the traditional Cape style house to modern modular homes and historic farm houses. Residences tend to be larger and well-maintained, often with a traditional New England character. Rural residences on Cape Cod vary in size from small Cape or ranch style homes to larger farm houses, and are generally located on paved roads. On Martha's Vineyard and Nantucket, the older homes vary in size, while newer seasonal homes are larger estates and located on large lots. Many rural roads on the islands are unpaved. Residential structures are often set back from the road and interspersed with hedgerows and small woodlots. Topography is characterized by relatively level to gently rolling landform typical of inland on Martha's Vineyard and Nantucket. Extended distance views are often restricted to open fields and axial views along residential uses are not typically oriented toward ocean views. Viewer activity includes common residential uses, recreation, and local travel.
Suburban Residential Unit	Suburban residential development includes medium- to high density single family residential neighborhoods that typically occur on the outskirts of villages and town centers, along secondary roads and cul-de-sacs. The Suburban Residential Unit is most commonly located on Cape Cod and around the perimeter of Village/Town Center Units on Martha's Vineyard and Nantucket. Buildings are most often one- and two-story wood framed structures with peaked roofs and clapboard or shingle siding. House styles are primarily capes, ranches, bungalows, salt boxes, and colonial residential structures. Suburban Residential Units are also found in coastal areas in relatively new clusters of homes designed for year-round, seasonal, or vacation use in areas proximate to beaches and other scenic and recreational resources. Suburban residential developments generally have regularly spaced homes surrounded by landscaped yards. Residential subdivisions are commonly located within forest areas or have pockets of remnant forest vegetation within developed areas. Streets are well-organized in layout, and are often curvilinear in form with well-defined access to collector streets. Activities include normal residential uses and local travel. Views are often limited by surrounding vegetation or adjacent structures. Suburban Residential Units are not typically oriented toward ocean views.
Agricultural/Open Field Unit	Agricultural land uses within the APE are limited to several small, generally level to gently sloping pastures and crop fields. Livestock and working farm equipment add to the visual interest of the open fields. This unit occurs primarily in inland portions of the APE as a minor component of the landscape on both Martha's Vineyard and Nantucket. Many of the agricultural landscapes are protected open space, either by public agencies, private land trusts, or non-profit organizations. Agricultural lands may offer long-distance views. Adjacent forest, coastal scrub, and structures commonly frame/enclose views and provide significant screening. Because this unit largely inland, views to the ocean are relatively rare, with the exception of Bartlett's Farm on Nantucket and the Allen Farm on Martha's Vineyard.

Source: COP Appendix III-H.a; Epsilon 2022

APE = area of potential effects

I.3.3 Key Observation Points and Simulations

The applicant identified 21 key observation points (KOP) on Martha's Vineyard and Nantucket to evaluate the potential visual and scenic impacts of the proposed Project (KOPs 1 to 21 in Table I-7). The KOPs for the proposed Project, which included many of the KOPs identified for and evaluated as part of the Final Environmental Impact Statement for Vineyard Wind 1 (BOEM 2021), were selected to be representative of important individual resources and the diverse views of the proposed Project available from Martha's Vineyard and Nantucket. The KOPs were identified to avoid (to the degree possible) duplication of similar views, seascape or landscape units, and distances to the nearest WTG (John McCarty, Pers. Comm., May 18, 2022). In addition to the 21 KOPs identified by the applicant, KOP 22 represents a theoretical observer on a vessel offshore (not at any specific location) between the southern coasts of Martha's Vineyard or Nantucket and the SWDA. KOPs 23 through 25 were not listed in the COP (Appendix III-H.a; Epsilon 2022) as KOPs but provide potential views of the Phase 1 onshore substation and are thus included as KOPs in this analysis. Because KOPs 23 through 25 have no views of WTGs or ESPs, this appendix does not further evaluate visual impacts from these viewpoints.

Table I-7 lists the KOPs and the corresponding seascape, open ocean, and landscape units; representative resource types; the type of simulation prepared by the applicant; and distance to the nearest proposed Project WTG. Based on discussions with BOEM, the applicant prepared full panoramic simulations (124 by 55-degree FOV) from six KOPs, and single-frame photographic simulations from three additional KOPs (COP Appendix III-H.a; Epsilon 2022). The remainder of this appendix focuses on the KOPs for which simulations were prepared (i.e., KOPs 1 through 8 and 21) and the theoretical offshore viewer represented by KOP 22.

Table I-7: Key Observation Points

KOP	Seascape, Open Ocean, and Landscape Units	Resource Types	Simulation Type	Distance to Closest WTG (miles)
1. Aquinnah Cultural Center	Coastal Bluff	National Natural Landmark, National Register of Historic Places	Panoramic	25.4
2. Long Point Beach	Ocean Beach, Coastal Dunes, Salt Pond/Tidal Marsh	Wildlife Refuge, Recreation, Historic Resources	Single Frame	22.8
3. South Beach	Ocean Beach, Coastal Dunes	Recreation	Panoramic	23.1
4. Wasque Reservation	Ocean Bluffs, Coastal Bluff, Forest	Recreation, Open Space, Conservation	Panoramic	24.1
5. Madaket Beach	Ocean Beach, Coastal Dunes, Shoreline Residential	Recreation, Historic Resources	Panoramic	25.1
6. Miacomet Beach and Pond	Ocean Beach, Coastal Dunes, Salt Pond/Tidal Marsh	Recreation, Historic Resources	Single Frame	26.8
7. Bartlett's Farm	Agriculture/Open Field	Historic Resources	Single Frame	26.9
8. Tom Nevers Field	Coastal Bluff, Coastal Scrub, Maintained Recreation	Recreation	Panoramic	30.9
9. Gay Head Cliffs Overlook	Coastal Bluff	National Natural Landmark, National Register of Historic Places	None	25.5
10. Gay Head Lighthouse	Coastal Bluff	National Natural Landmark, National Register of Historic Places	None	25.5
11. Squibnocket Beach	Ocean Beach	Recreation, Historic Resources	None	22.2
12. Lucy Vincent Beach	Ocean Beach, Coastal Dunes	Recreation, Historic Resources	None	22.9
13. Barn House/Skiff-Mayhew-Vincent House	Agriculture/Open Field	National Register of Historic Places	None	23.1
14. Chappy Point, Gardner Beach	Village/Town Center	Recreation, Historic Resources	None	26.3
15. Cisco Beach	Ocean Beach, Coastal Dunes, Salt Pond/Tidal Marsh	Recreation	None	26.0
16. Surfside Beach	Ocean Beach, Coastal Dunes	Recreation, Historic Resources	None	28.0
17. Nobadeer Beach Pond Road	Ocean Beach, Coastal Dunes	Recreation, Historic Resources	None	28.4
18. Green Point Lighthouse	Ocean Beach, Coastal Dunes	National Register of Historic Places, Recreation	None	36.5
19. Rock Landing	Ocean Beach, Coastal Bluff	National Register of Historic Places, Recreation	None	38.1
20. Dowse's Beach	Ocean Beach, Coastal Dunes	National Register of Historic Places, Recreation	None	43.4
21. Peaked Hill Reservation	Coastal Scrub Brush, Forest	Recreation	Panoramic	24.2

KOP	Seascape, Open Ocean, and Landscape Units	Resource Types	Simulation Type	Distance to Closest WTG (miles)
22. Representative Offshore View	Open Ocean	Recreation	None	Varies
23. Shootflying Hill Road (Existing Hotel)	Village/Town Center	Commercial	Single Frame	NA
24. Shootflying Hill Road (Right-of-Way #343)	Coastal Scrub Brush, Forest	Utility Infrastructure	Single Frame	NA
25. Exit 6 Park and Ride/ Highway Rest Area	Village/Town Center	Commercial	Single Frame	NA

Source: COP Appendix III-H.a, Tables 8 and 9; Epsilon 2022

KOP = key observation point; NA = not applicable (KOPs focused on Phase 1 onshore substation); WTG = wind turbine generator

I.4 Results

This section discusses the characteristics of the proposed Project that would contribute to seascape and landscape impacts, as well as visual impacts. Alternative C, Habitat Impact Minimization Alternative, would not affect the number, placement, or other characteristics of WTGs, ESPs, or onshore components of the proposed Project. Therefore, only Alternative B, Proposed Action, is evaluated in this SLVIA.

I.4.1 Proposed Project Elements

Table I-8 lists the noticeable daytime and nighttime elements of the proposed Project's WTGs and ESPs. Each WTG would have two L-864 flashing red obstruction lights on the top of the nacelle. WTGs would have at least three additional intermediate lighting on the tower using low-intensity red flashing (L-810) obstruction lights on the tower approximately midway between the top of the nacelle and the surface of the water (COP Volume I, Section 3.2.1; Epsilon 2022). All obstruction lights would use an aircraft detection lighting system (ADLS). ADLS would only activate Federal Aviation Administration hazard lighting when aircraft enter a predefined airspace; studies for the proposed Project assumed a horizontal buffer of 3 nautical miles (4.1 miles) and a vertical buffer of 3,500 feet from any WTG (COP Appendix III-K; Epsilon 2022). Under these parameters, ADLS would be activated for the proposed Project less than 13 minutes per year, substantially less than 0.1 percent of annual nighttime conditions (COP Appendix III-K; Epsilon 2022).

Table I-8: Heights of Noticeable Wind Turbine Generator and Electrical Service Platform Elements

Element	Height in Feet (MLLW)
WTG rotor blade tip at maximum vertical extension	1,171
Federal Aviation Administration hazard light (top of nacelle)	725
Hub	702
Mid-tower lights (approximate height)	363
ESP lights (maximum height of ESP topside)	230
Navigation Light (WTG and ESP)	148
Yellow Foundation Base Color (WTG and ESP)	148

ESP = electrical service platform; MLLW = mean lower low water; WTG = wind turbine generator

I.4.2 Seascape and Landscape Impact Assessment

Table I-9 summarizes the noticeable proposed Project elements within each seascape, open ocean, and landscape unit. The horizontal FOV from any single viewpoint within a seascape, open ocean, or landscape unit can vary based on the location. In analyzing the seascape and landscape impact of the Ocean Wind Project, BOEM grouped visibility characteristics of WTGs similar in size to those included in the proposed Project by distance as follows (BOEM 2022):

- 0 to 5 miles from the observer: unavoidably dominant features in the view;
- 5 to 12 miles from the observer: strongly pervasive features between;
- 12 to 28 miles from the observer: clearly visible features;
- 28 to 31 miles from the observer: low on the horizon, but persistent features; and
- 31 to 40 miles: intermittently noticed features.

Impacts on high-sensitivity seascape and open ocean character would be major. The daytime and nighttime (lighting) presence of the WTGs, ESPs, and construction and operations vessel traffic would change perception of this area from natural, undeveloped seascape to a developed wind energy environment characterized by visually dominant WTGs and ESPs.

Table I-9: Proposed Project Noticeable Elements by Seascape, Open Ocean, and Landscape Unit

Seascape, Open Ocean, and Landscape Unit	Noticeable Elements[a, b]
Ocean Beach	B, E, N, OL, T
Coastal Bluff	B, E, N, OL, T
Open Ocean[b]	B, E, N, NL, OL, T, Y
Coastal Dunes	B, E, N, OL, T
Salt Pond/Tidal Marsh	B, E, N, OL, T
Coastal Scrub Brush	B, E, N, OL, T
Forest	B, OL, T, S
Shoreline Residential	B, E, N, OL, T
Village/Town Center	B, OL, T, S
Rural Residential	B, OL, T
Suburban Residential	B, OL, T, S
Agricultural/Open Field	B, OL, T

ADLS = aircraft detection lighting system; B = WTG blades; E = electrical service platform; N = nacelle; NL = navigation light; OL = nacelle-top obstruction lights; S = Phase 1 onshore substation; T = WTG tower; WTG = wind turbine generator; Y = yellow foundation transition piece

[a] Impacts of nacelle-top obstruction lights and mid-tower lights would be negligible until the ADLS activates nacelle-top and mid-tower obstruction lights.

[b] Noticeable elements from the Open Ocean Unit would vary based on the location relative to the offshore wind projects. Based on the likely sizes of WTGs (Table I-8), all elements of an individual WTG would be visible within approximately 14.6 miles of that WTG position (COP Appendix III-H.a, Section 3.2; Epsilon 2022).

Maintenance activities would cause minor effects on seascape character due to increased operations vessel traffic to and from the SWDA. Increased vessel activity would be noticeable to offshore viewers but would be indistinguishable from most other offshore vessel activity, and thus would not have a significant visual effect. Decommissioning would involve the removal of all offshore structures and is expected to follow the reverse of the construction activity. Decommissioning activities would therefore cause visual effects similar to those of construction activities but of shorter duration.

Viewshed analyses (COP Appendix III-H.a; Epsilon 2022) determined that clear-weather visibility of the WTG blade tips would potentially occur from approximately 3,004 acres on Martha's Vineyard (about

2.8 percent of the island's land area) and approximately 4,062 acres on Nantucket and associated islands (7.3 percent of the land area of those islands). The proposed Project would be most frequently visible along south-facing shorelines and south-facing elevated areas of Martha's Vineyard and Nantucket. WTG blades in motion would be more readily perceptible than static elements such as WTG towers and would, thus, be more easily noticed at greater distances than towers.

When ADLS is not activated (all but a few minutes per year), there would be no nighttime lighting impacts. When activated by ADLS, nighttime lighting of proposed Project WTGs would have major nighttime impacts resulting from continuously flashing lights, the sky light dome, and reflections on clouds during those limited times. U.S. Coast Guard-required navigation warning lights would be mounted at the top of the foundation for each WTG and ESP, at an elevation of no more than 148 feet MLLW (COP Section 3.2.1, Volume I; Epsilon 2022). The lighting is designed to be visible to at least 5 nautical miles (5.8 miles) during low visibility conditions and would be visible from further away under clear conditions (COP Appendix III H.a; Epsilon 2022). This lighting could be visible to observers in elevated locations onshore in clear conditions. Lights on ESPs, when lit for maintenance, would potentially be visible from beaches and adjoining land and built environment during hours of darkness. The nighttime sky light dome and cloud lighting caused by reflections from the water surface may be seen even if individual lights are not visible, depending on variable ocean surface and meteorological reflectivity.

Due to its location, the Phase 1 onshore substation would not affect Open Ocean or Seascape units and would only affect a limited area within portions of the Forest Unit, Village/Town Center Unit (in and around the U.S. Route 6 Rest Area), and Suburban Residential units, all of which have low sensitivity to change. The substation would cause minor effects on landscape character in these units. While substation infrastructure would be distinct and could differ in character from typical suburban development, it would typically be visible among other human-made structures such as roads, commercial structures (at the rest stop), and existing electrical transmission line corridors.

In summary, SLIA considers impacts on the physical elements and features that make up a seascape, open ocean, or landscape and the aesthetic, perceptual, and experiential aspects of the seascape, open ocean, or landscape that contribute to its distinctive character. These impacts affect the "feel," "character," or "sense of place" of an area of seascape, open ocean, or landscape. Table I-10 summarizes the effects of the proposed Project's visible elements on the aspects that contribute to the distinctive character of the seascape, open ocean, and landscape areas from which the proposed Project would be visible.

I.4.3 Visual Impact Assessment

Visibility, character-changing effects, and visual contrasts reduce steadily with distance from the observation point. Visibility, character-changing effects, scale, prominence, and visual contrasts increase with elevated observer position relative to the proposed Project. Distance and observer elevation considerations are informed by the VIA simulations (COP Appendix III-H.a; Epsilon 2022) and the horizontal FOV. The horizontal FOV occupied by the proposed Project is defined as the extent of the visible horizon the project occupies as seen from a specified location, usually measured in degrees. Table I-11 provides horizontal FOVs for selected KOPs (Attachment I-3 provides maps documenting these view angles). Typical human perception extends to 124 degrees in the horizontal axis. The applicant did not provide an estimate of the percentage of the vertical FOV (approximately 55 degrees for human perception) occupied by proposed Project WTGs on the horizon; however, based on the analysis of the Ocean Wind Project, WTGs are likely to occupy less than 1 percent of the vertical FOV (BOEM 2022).

To support the VIA for the proposed Project, three Environmental Resources Management visual resource subject matter experts reviewed the simulations and applied a visibility rating system (Sullivan et al. 2012; Table I-12) to assess the visibility of the proposed Project (as well as other offshore wind projects,

as described in Section I.4.4), based on the applicant's simulations, assuming clear conditions. The subject matter experts reviewed each simulation, assigned a rating, and reviewed as a group to reach consensus.

Table I-13 lists key proposed Project characteristics and visual contrasts from each KOP. The analysis considers the introduction of WTGs and ESPs to an open ocean baseline. The scale, size, contrast, and prominence of change focuses on the:

- Arrangement of WTGs and ESPs in the view;
- Horizontal FOV scale of the proposed Project WTG array (as well as the vertical FOV scale, which was not calculated by the applicant);
- Position of the array in the open ocean;
- Position of the array in the view, including the extent of natural or human-made elements in the foreground, such as vegetation or structures;
- WTG blade motion; and
- The array's distance from the viewer.

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Table I-10: Seascape, Open Ocean, and Landscape Character and Impact Levels

Seascape, Open Ocean, or Landscape Unit	Receptor Sensitivity			Impact Magnitude[a]			
	Susceptibility and Rationale	Value and Rationale	Sensitivity and Rationale	Geographic Extent	Size and Scale and Rationale	Magnitude and Rationale	SLIA Impact Level and Rationale
Ocean Beach	High Views are considered highly scenic. They are concentrated out to sea with secondary views extending up and down the coast and across open water. Inland views include grassy dunes, coastal scrub vegetation, and human-made structures. Extended stretches of beachfront on Martha's Vineyard and Nantucket are located within protected open space areas with little to no development within the view. This unit abuts and is adjacent to multiple other units, creating unique edge conditions.	High Part of the unit is located within a National Seashore and contains elements listed on or eligible for the National Register of Historic Places. It contains large tracts of apparently undisturbed land valued for recreation. It is heavily visited during peak season with few opportunities for solitude, while the opposite occurs during off season with a seemingly unending expanse of untouched natural area.	High There is importance placed on beachfronts by residents and visitors, as well as the presence of multiple special designation areas.	Large There is a large, linear area within this unit with unobstructed views of the proposed Project area.	Medium The proposed Project would add human-made elements visible from portions of the unit that currently have unobstructed ocean views; however, signs of human intervention surround the open and otherwise undisturbed ocean view. The visible extent of human influence varies by season and exact location.	Medium The proposed Project would affect a small portion of the overall geographic area of the unit and would be small in scale where visible but would be distinctly different from the unobstructed ocean horizon.	**Major** The scale and size of the proposed Project would make it a minor element in the large geographic extent of the overall unit. However, the Ocean Beach Unit is highly sensitive. Although some views within this unit have human-made elements, the proposed Project would be clearly distinct and would detract from the character of the open ocean horizon.
Coastal Bluff	High The Coastal Bluff area is defined by scenic open vistas of the distant ocean and foreground landscape from an elevated vantage point. Views are oriented toward the ocean and often include human-made development such as roads and vehicles, historic structures, and residential development.	High Discrete, elevated views along a visually variable seascape are highly valued. The Gay Head/ Aquinnah area on Martha's Vineyard has strong historic, cultural, and tribal significance.	High Dynamic views are visible from an iconic eastern shoreline with associated cliffs and bluffs. The setting includes the adjacent open ocean with long-distance views.	Small The unit has a small visual geographic extent relegated to specific conditions found as an interstitial space between other, larger units. However, elevation associated with the unit allows for longer-distance views than other units.	Medium Although the proposed Project would appear small on the horizon from this location, the elevated character of the unit enhances the apparent size and scale compared to sea level views.	Large Magnitude rationale is similar to Ocean Beach but more significant because the elevated views available from this unit would increase the apparent scale of the proposed Project.	**Major** The Coastal Bluff Unit is highly sensitive because of the associated elevated open views. The proposed Project would be clearly distinct in areas that have historic, cultural, and tribal significance.
Open Ocean	Medium Open water with a generally flat horizon (depending on sea state, weather, and atmospheric conditions) dominates the view and is the focal element in all directions. Away from the shore, the unit has minimal human intrusion, nearly all of which is temporary, in the form of vessel traffic. Closer to shore, human-made features such as jetties, buoys, and other coastal infrastructure are more common but not dominant. The only adjacent unit is the Ocean Beach, resulting in limited views from adjacent units or contrasting edge conditions.	High Special designation locations are present in Nantucket Sound, Vineyard Sound, Buzzards Bay, and the Atlantic Ocean south of Martha's Vineyard and Nantucket. Portions of the unit with and without special designations have biological, commercial, and spiritual character and values.	High This unit has a dominant presence of relatively flat, open ocean and a horizon free of human-made interruptions, along with extensive special designation areas.	Large There is a large area within this unit with unscreened views of the proposed Project.	Large The proposed Project would add an obvious human-made element to otherwise undisturbed natural-appearing views.	Large Impact magnitude would vary based on exact position within this unit. Impacts would be highest close to or within the SWDA, where WTGs and ESPs would be dominant and entirely out of character but would diminish with distance.	**Major** The Open Ocean Unit is highly sensitive, and the proposed Project would be clearly noticeable over a large area.
Coastal Dunes	Low Ocean views from the inland side of the Coastal Dune Area are largely bounded by the dune terrain itself. This creates an internal, compressed experience, compared to the open, long-distance views available from the surrounding areas.	Medium Coastal dunes are often strictly regulated ecological communities, valued for their biological function more so than their landscape character.	Low Coastal Dunes are primarily valued for biological function. Views toward the open ocean are limited due to the terrain of the dunes themselves, although dune tops are more exposed to ocean views.	Small The unit has a small visual geographic extent, with Project area views limited to upper slopes and ridges of dunes. Coastal dunes are found between other units and are mostly linear in the landscape.	Small The proposed Project would be a minimal change to landscape and views.	Medium Dunes could block some views of the proposed Project, but views from atop dunes would be more noticeable due to the elevated views (similar to but less elevated than the Coastal Bluff Unit).	**Minor** The Coastal Dunes Unit has a low sensitivity to aesthetic change. While the proposed Project would be noticeable in portions of the unit with ocean views, these views are not universal within this unit.
Salt Pond/Tidal Marsh	Low Salt ponds and tidal marshes are common throughout the coastal area and are characterized by shallow open water, buffered by herbaceous grasses and other salt-tolerant vegetation, along with a mix of wildlife. Views over the waterbody and flat marshland extend to adjacent dunes and/or	Medium This unit is more valued for its functional uses (boating, fishing, and clamming) than its landscape character, although the distinctive character of this unit makes it emblematic of the region as a whole.	Medium This setting is valued for its uses and localized views, including views of the open ocean.	Moderate This unit has moderate geographic extent. Salt ponds/tidal marshes are found as interstitial spaces between other units.	Medium The proposed Project would be a noticeable, albeit not large, change to landscape and views. Internal views of the foreground are the focal point of this area, but where seaward views exist, the proposed Project would be noticeable.	Medium Visible from the majority of this unit due to open water and limited topographic relief. Vegetation at the edges of the salt ponds would provide some screening. While this unit is further inland than others, the	**Moderate** The Salt Pond/Tidal Marsh Unit provides areas with some susceptibility to change, where open views toward the ocean and the proposed Project are available.

Seascape, Open Ocean, or Landscape Unit	Receptor Sensitivity			Impact Magnitude[a]			
	Susceptibility and Rationale	Value and Rationale	Sensitivity and Rationale	Geographic Extent	Size and Scale and Rationale	Magnitude and Rationale	SLIA Impact Level and Rationale
	scrub vegetation. Residences and associated docks and boats are often present along the edges of ponds, many with associated docks and boats.					proposed Project would be easily discernable in seaward views.	
Coastal Scrub Brush	Low Vegetation is predominantly thick and nearly impenetrable, resulting primarily in internal, compressed views of low-growing dense foliage. More distant vistas may exist as view corridors along roadways or where scrub brush transitions to open meadow.	Medium Viewer activity is primarily local travel and recreational trail use, where landscape character is a component of the overall value.	Low Views are constrained within immediate area with most ocean views obscured by vegetation.	Small A small geographic extent of this unit is relegated to specific conditions found as an interstitial space between other, more abundant units.	Small The proposed Project would be a minimal change to landscape and views.	Small Foreground vegetation dominates this character area and dictates the available views. Small view corridors break up the scale and overall geographic extent of the proposed Project	**Minor** The Coastal Scrub Brush Unit has a low sensitivity to changes in the available views. The scale and size of the proposed Project would make it a minor element in the view.
Forest	Low Internal views of trees and understory foliage dominate, except for occasional openings in the forest canopy and axial views along roadways. Many other land uses and human activities occur within the forest area and are part of the majority of potential views.	Low Variable vegetation characteristics in relation to typical ocean and seascape environments. This provides for a more enclosed setting for users. Various locally conserved forest stands and state forests are located on both Martha's Vineyard and Nantucket.	Low Views are constrained to the immediate area with ocean views obscured by vegetation.	Small A small geographic extent of this unit has unobstructed views of the Project area, relegated to specific inland conditions. Many views are screened by vegetation. Areas within this unit can be made up of one large forest or a collection of adjacent stands.	Small The proposed Project would be a minimal change to landscape and views.	Small Restricted views available along narrow corridors limit discernibility of proposed Project size, WTG scale, and geographic extent.	**Negligible** The Forest Unit provides very limited options for views toward the ocean and the proposed Project.
Shoreline Residential	Medium The local landscape is gently rolling with a mix of coastal scrub, heath, and dunes surrounding maintained residential landscapes. Views are often prescribed to take advantage of the scenic qualities available. This unit adjacent to multiple other units creating unique edge conditions. At these edges views change drastically from inland to offshore.	High Properties in this unit have often been created specifically because of views of the ocean or beachfront landscape. Although human-made structures are common, the value of landscape character is similar to the Ocean Beach and Coastal Bluff units.	High There are visually sensitive areas where open ocean views are integral components of character.	Large There is a large, linear area within this unit with unobstructed views of the Project area.	Medium Although the proposed Project would be small along the horizon from this location, the perceived importance of the scenic view increases the perceived scale of change.	Large This unit experiences static views, often from locations specifically designed to capture views outward over the ocean. Depending on the exact view, the proposed Project magnitude would be similar to the Ocean Beach Unit or Coastal Bluff Unit for elevated areas.	**Major** The Shoreline Residential Unit is highly sensitive, and the proposed Project would be clearly noticeable in available views toward the ocean from static residential viewers. Although WTGs would be a minor element on the horizon, the proposed Project would often be seen in its entirety.
Village/Town Center	Low Human-made structures, streets, utilities, and landscaping such as street trees and lawns dominate nearly the entire view, except where this unit transitions to residential or other areas.	Medium Visitors to the population centers are often focused on shopping, dining, and viewing historic features. The entirety of Nantucket Island is within a National Register of Historic Places district.	Low While landscape character is highly valued, this unit offers few ocean views.	Small A small visual geographic extent of area within this unit has unobstructed views of the proposed Project area, relegated to specific inland conditions. Many views are screened by structures or vegetation.	Small The proposed Project would be a minimal change to landscape and views. Structures create small view corridors, offering limited views of the proposed Project as a whole.	Small Restricted views along narrow corridors would limit discernibility of proposed Project size, WTG scale, and geographic extent.	**Negligible** The Village/Town Center Unit provides limited ocean views and has limited susceptibility to changes in the seascape.
Rural Residential	Medium Views center on human-made structures such as rural homesteads and limited transportation and utility infrastructure, set amid landscaped or natural vegetation such as lawns, open fields, and forest stands. Views of the seascape or open ocean are rare, due to the inland location of this unit.	Low Rural residences are often inland and are valued for the relative sparseness of human activity and the proximity to natural or natural-appearing inland areas. Views of the seascape or open ocean are not typically expected or sought in this unit.	Low The views are constrained within the immediate area, with ocean views obscured by vegetation.	Small There is a limited geographic extent due to the unit's inland location.	Small The proposed Project would be a minimal change to landscape.	Small The proposed Project would affect a small portion of the overall geographic area of the unit, would be small in scale where visible, and would exist among substantial human-made elements within the existing view.	**Minor** The Rural Residential Unit provides limited ocean views and has limited sensitivity to changes in the seascape, except closer to the coastline where open ocean views are more integral to the landscape character.
Suburban Residential	Low Human-made structures, streets, utilities, and landscaping dominate the view and are interspersed with landscaped yards and more natural components such as forest stands. Views of the seascape or open ocean are rare, due to the inland location of this unit.	Low The primary value is the area's residential function, with attention focused inward (i.e., to individual homes and properties).	Low There are localized views and influence of built residential environment.	Small There is a small visual geographic extent relegated to specific inland conditions.	Small The proposed Project would be a minimal change to landscape and views.	Small Restricted views available along narrow corridors would limit discernibility of proposed Project size, WTG scale, and geographic extent.	**Negligible** The Suburban Residential Unit provides limited options for views toward the ocean and the proposed Project and has limited sensitivity to changes in those views.

Seascape, Open Ocean, or Landscape Unit	Receptor Sensitivity			Impact Magnitude[a]			
	Susceptibility and Rationale	Value and Rationale	Sensitivity and Rationale	Geographic Extent	Size and Scale and Rationale	Magnitude and Rationale	SLIA Impact Level and Rationale
Agricultural/Open Field	Low Views are dominated by open, flat, or rolling terrain with low vegetation (i.e., pasture or field crops) and active agricultural or livestock activity depending on time of year. Long-distance views are often available, although these views rarely stretch to the ocean due to the unit's largely inland location.	High Many agricultural landscapes are protected open space, either by public agencies, private land trusts, or non-profit organizations. These areas are a scenic draw for local residents and tourists alike.	Low Although highly valued, the unit's setting is not typically influenced by views of the ocean; instead, pastoral and agricultural character dominates.	Small There is a small visual extent in most cases except for moderate visual extent for some large plots of agricultural or open land with ocean views.	Small The proposed Project would be a minimal change to landscape. Views would be partially screened by foreground vegetation breaking the horizontal occupancy of the proposed Project and limiting overall perceived size/scale.	Small Views of the proposed Project's extent, size, and scale are limited in most of this unit due to different varieties and sizes of vegetation.	**Minor** The Agricultural/Open Field Unit has low sensitivity to changes in the open ocean due to the limited extent of such views. Where visible from this unit, the proposed Project would be clearly noticeable but would be a minor element of the overall character.

ESP = electrical service platform; SLIA = seascape and landscape impact assessment; SWDA = Southern Wind Development Area; WTG = wind turbine generator

[a] The SLIA methodology includes a component for duration and reversibility. For all seascape, open ocean, and landscape units, the proposed Project's duration would be long term (30 years), and the proposed Project's visual characteristics would be fully reversible.

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Table I-11: Horizontal Field of View Occupied by the Proposed Project

KOP or Location	Distance (miles)[a]	Horizontal FOV (Percent of Human FOV[b])
1. Aquinnah Cultural Center	25.4	35° (28)
3. South Beach (Martha's Vineyard)	20.6	28° (22)
5. Madaket Beach	24.7	19° (15)
8. Tom Nevers Field	30.9	16° (13)
East Beach (Martha's Vineyard)	26.9	25° (20)
Squibnocket Point[c]	21.3	39° (32)

FOV = field of view; KOP = key observation point; WTG = wind turbine generator
[a] This is the distance to nearest proposed Project WTG.
[b] The human FOV is 124 degrees (Sullivan 2021).
[c] Squibnocket Point is approximately 1 mile southwest of KOP 11, Squibnocket Beach.

Table I-12: Visibility Rating Form and Instructions

Visibility Rating	Description
VISIBILITY LEVEL 1: visible only after extended, close viewing; otherwise, invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was not aware of it in advance and looking for it. Even under those circumstances, the object can only be seen after looking at it closely for an extended period of time.
VISIBILITY LEVEL 2: visible when scanning in general direction of study subject; otherwise, likely to be missed by casual observer.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by a casual observer; however, most people would not notice it without some active looking.
VISIBILITY LEVEL 3: visible after brief glance in general direction of study subject and unlikely to be missed by casual observer.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape elements.
VISIBILITY LEVEL 4: plainly visible, could not be missed by casual observer, but does not strongly attract visual attention, or dominate view because of apparent size, for views in general direction of study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of the observer's visual field.
VISIBILITY LEVEL 5: strongly attracts visual attention of views in general direction of study subject. Attention may be drawn by strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not of large size, but that contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately, and tending to hold viewer attention. In addition to strong contrasts in form, line, color, and texture, bright light sources (such as lighting and reflections) and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape elements.
VISIBILITY LEVEL 6: dominates view because study subject fills most of visual field for views in its general direction. strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is of such large size that it occupies most of the visual field, and views of it cannot be avoided except by turning the head more than 45 degrees from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape elements.

Source: Sullivan et al. 2012

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Table I-13: Proposed Project Characteristics and Visual Impact Factors

KOP	Distance (miles)[a]	FOV, Degrees (% of Human FOV)[b]	Noticeable Elements	Components of VIA								Impact Magnitude
				Form	Line	Color	Texture	Scale	Contrast	Motion	Visibility[c]	
1. Aquinnah Cultural Center	25.4	35° (28)	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
2. Long Point Beach	22.8	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
3. South Beach	20.6	28° (22)	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
4. Wasque Reservation	24.1	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
5. Madaket Beach	24.7	19° (15)	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	1	Small
6. Miacomet Beach and Pond	26.8	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
7. Bartlett's Farm	26.9	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	1	Small
8. Tom Nevers Field	30.9	16° (13)	B, N, OL	Weak	Weak	Weak	Weak	Small	Weak	Weak	2	Small
21. Peaked Hill Reservation	24.2	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Weak	Moderate	2	Small
22. Representative Offshore View[d]	Varies	Varies	B, E, N, NL, OL, T, Y	Strong	Strong	Strong	Strong	Large	Strong	Strong	6	Large
23. Shootflying Hill Road (Existing Hotel)	0.0	124° (100)	S	Strong	Strong	Strong	Strong	Large	Strong	None	6	Large
24. Shootflying Hill Road (Right-of-Way #343)	0.1	ND	S	Weak	Weak	Weak	Weak	Medium	Weak	None	4	Small
25. Exit 6 Park and Ride/ Highway Rest Area	0.1	ND	S	Weak	Moderate	Weak	Moderate	Small	Weak	None	3	Small

B = WTG blades; E = electrical service platform; FOV = field of view; KOP = key observation point; N = nacelle; ND = no data; NL = navigation light; OL = nacelle-top obstruction lights; S = Phase 1 onshore substation; T = WTG tower; VIA = visual impact assessment; WTG = wind turbine generator; Y = yellow foundation transition piece

[a] This is the distance to nearest proposed Project WTG.

[b] The human FOV is approximately 124 degrees (Sullivan 2021).

[c] This is as defined in Table I-8 (Sullivan et al. 2012).

[d] Noticeable elements for offshore viewers would vary based on the location of the viewer relative to the offshore wind projects. Based on the likely sizes of WTGs (Table I-8), all elements of an individual WTG would be visible within approximately 14.6 miles of that WTG position (COP Appendix III-H.a, Section 3.2; Epsilon 2022). Visibility rating reflects closest possible views (i.e., adjacent to or within the WTG array), but could range from 1 to 6 depending on the viewer's location.

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Visual contrast determinations involve comparisons of characteristics of the seascape, open ocean, and landscape before and after proposed Project implementation. The range of potential contrasts includes strong, moderate, weak, and none (Sullivan 2021). The strongest daytime contrasts would result from tranquil and flat seas combined with sunlit WTG towers, nacelles, rotating and flickering rotors, and a yellow tower base color against a dark background sky and an undifferentiated foreground. There would be daily variation in WTG color contrast as sun angles change from backlit to front-lit (sunrise to sunset) and the backdrop would vary under different lighting and atmospheric conditions. The weakest daytime contrasts would result from turbulent seas combined with overcast daylight conditions on WTG towers, nacelles, and rotors against an overcast background sky and a foreground occupied by varied landscape elements. The strongest nighttime contrasts would result from dark skies (absent moonlight) combined with navigation lights; activated lighting on the ESPs, mid-tower lights, and nacelle-top lights (with ADLS activation) reflecting off of low clouds and calm (reflective) surf; and the dark-sky light dome. The weakest nighttime contrasts would result from moonlit, cloudless skies; tranquil (reflective) seas; ADLS activation; and only mid-tower lights.

Higher impact levels would stem from the unique, extensive, and long-term appearance of strongly contrasting, large, and prominent vertical structures in the otherwise horizontal seascape environment. In these locations, structures are an unexpected element and viewers are accustomed to open views of high-sensitivity seascape and landscape; and from high-sensitivity view receptors.

The gray, metallic structures of the Phase 1 onshore substation would have strong vertical and horizontal lines from perimeter fencing, electrical conductors, and other equipment at the site. These structures would contrast in form, line, color, and texture with the surrounding wooded areas and nearby suburban residential structures. The substation would cause moderate visual impacts from KOP 23 (immediately adjacent to the substation site on Shootflying Hill Road) but minor impacts from KOPs 24 and 25, due to the presence of existing electrical transmission infrastructure (which reduces contrast) and the effects of post-construction vegetative screening.

Construction, operations, and decommissioning of the proposed Project would involve moving and stationary visual features that would contrast in form, line, color, and texture, scale, and prominence in formerly open seascape. Construction activities may have a larger impact on viewers than operations and decommissioning because the construction viewing context of the SWDA would be an undeveloped portion of the open ocean, whereas the context for operations and decommissioning would be existing WTGs and substations. Construction impacts would be temporary and would include:

- Daytime and nighttime movement of installation vessels, cranes, and other equipment visible in the seascape in and around the SWDA;
- Dawn, dusk, and nighttime construction lighting on WTGs and ESPs;
- Onshore and offshore (i.e., from vessels) views of WTGs and ESPs under construction; and
- Activities at onshore landfall sites along export cable routes, and at the Phase 1 substation.

Operational impacts would be similar to those of end-stage construction and would be long term and fully reversible.

Decommissioning impacts would be the same as construction, with WTG and ESP infrastructure progressively removed over time.

The VIA considers the characteristics of the view receptor and the characteristics of the view toward the proposed Project facilities, and experiential impacts of the proposed Project. The characteristics of the view receptor (i.e., an observer) depends on who the viewer is, their activity, and their expectations and

sensitivity to change. In particular, the applicant identified four user groups, as described below (COP Appendix III-H.a; Epsilon 2022):

- **Tourists, seasonal residents, vacationers, and recreational users (Tourists):** These individuals are commonly involved in outdoor recreational activities offshore and at beaches, parks, and conservation areas within the geographic analysis area. Typical activities include sunbathing, beach combing, swimming, walking, bicycling, recreational boating, fishing, and other passive recreation. While the sensitivity of these viewers would vary, tourists could be the most sensitive to changes in the landscape and seascape because quality views of the ocean are likely a primary reason for their visit and an integral part of their recreational experience.
- **Year-round local residents (Residents):** These individuals live, work, and travel in the geographic analysis area. They generally view the landscape from their yards, homes, local roads, and places of employment. The highest population of local residents is in and around town center areas, but many live in more rural portions of the geographic analysis area. Local residents would likely have the best understanding of the aesthetic character and existing conditions of the coastal area. Except when involved in local travel, these viewers are likely to be stationary and may have frequent and/or prolonged views of the proposed Project. They may be sensitive to changes in particular views that are important to them.
- **Through travelers (Travelers):** This group includes non-local viewers with views of the ocean. Through travelers are typically moving, have a relatively narrow FOV oriented along the axis of the roadway, and are destination oriented. Drivers would generally be focused on the road and traffic conditions but do have the opportunity to observe roadside scenery. Passengers in moving vehicles would have greater opportunities for prolonged views and, therefore, may be more aware of the quality of surrounding scenery. Also included in this group are travelers that may transit the ocean on ferries from the mainland. Unlike automobile users, ferry passengers could view the proposed Project for an extended period of time (1 hour or more). Through travelers on vessels include those engaged in passive enjoyment of the ocean ambiance, as well as those who pass the travel time occupying themselves with business or other personal activities. At its closest point, the Hyannis-Nantucket ferry passes within 20 miles of the SWDA. Views of the proposed Project from the Hyannis-Nantucket ferry would occur within a narrow view corridor between Nantucket, Tuckernuck Island, Muskeget Island, and Martha's Vineyard.
- **Commercial mariners, fishermen, and seamen (Commercial Mariners):** Individuals transiting the ocean for commercial purposes would typically have low visual sensitivity to the presence of the offshore facilities of the proposed Project. These viewers would be engaged in activities associated with their jobs with minimal focus on the aesthetic character of their surroundings. Moreover, commercial mariners would be more accustomed to the presence of industrial activities and ocean-going vessels within their daily environment than other viewer types.

Table I-14 summarizes the viewer sensitivity, view receptor susceptibility, view value, and summary of the measures of effects from the visible character and magnitude of the offshore and onshore components of the proposed Project (Sullivan 2021). The size and scale component of magnitude in Table I-14 accounts for the motion of the WTG blades, as well as the overall mass of the WTGs from the proposed Project.

Table I-14: Visual Impact Levels, Proposed Project

KOP	User Groups	Receptor Sensitivity			Impact Magnitude			
		Susceptibility	Value	Sensitivity	Size and Scale	Geographic Extent	Magnitude	VIA Impact Rating
1. Aquinnah Cultural Center	Tourists	High	High	High	Small	Medium	Small	Minor
2. Long Point Beach	Tourists, Residents	High	High	High	Small	Medium	Small	Minor
3. South Beach	Tourists, Residents	High	High	High	Small	Medium	Small	Minor
4. Wasque Reservation	Tourists, Residents	High	High	High	Small	Medium	Small	Minor
5. Madaket Beach	Tourists, Residents	High	High	High	Small	Small	Small	Minor
6. Miacomet Beach and Pond	Tourists, Residents	High	High	High	Small	Small	Small	Minor
7. Bartlett's Farm	Tourists, Residents	High	High	High	Small	Small	Small	Minor
8. Tom Nevers Field	Tourists, Residents	High	High	High	Small	Small	Small	Minor
21. Peaked Hill Reservation	Tourists, Residents	High	High	High	Small	Small	Small	Minor
22. Representative Offshore View	Tourists, Residents, Commercial Mariners	High	High	High	Large	Large	Large	Major
23. Shootflying Hill Road (Existing Hotel)	Residents	Low	Low	Low	Large	Large	Large	Moderate
24. Shootflying Hill Road (Right-of-Way #343)	Residents	Low	Low	Low	Medium	Medium	Medium	Minor
25. Exit 6 Park and Ride/ Highway Rest Area	Tourists, Residents, Travelers	Low	Low	Low	Medium	Medium	Medium	Minor

KOP = key observation point; VIA = visual impact assessment

The KOPs identified in Table I-7 and evaluated in Table I-14 share several receptor and impact characteristics, as described below.

- All KOPs (except for KOPs 23 through 25, which focus on the Phase 1 onshore substation) occur at locations known and valued for high-quality visual experiences. Many are heavily visited because of these high-quality visual experiences. As a result, all KOPs focused on ocean views have high sensitivity.
- KOPs 23 through 25 occur at locations not valued for high-quality visual experiences. As a result, these locations have low sensitivity.
- For all KOPs, the proposed Project's duration would be long term (30 years), and the proposed Project's impacts would be fully reversible.

Based on the analysis summarized in Table I-14, the proposed Project would have minor impacts on onshore viewer experience, and potentially major impacts on offshore viewer experience.

I.4.4 Cumulative Impacts

This section evaluates cumulative seascape, landscape, and visual impacts of ongoing and planned activities—specifically offshore wind projects that have been approved (ongoing activities) or proposed (planned activities)—in combination with the proposed Project. This section focuses on cases where WTGs and ESPs from multiple projects would be visible simultaneously from seascape, open ocean, or landscape units as overlapping or adjacent features and elements. It also addresses impacts on viewers observing multiple projects simultaneously. Table I-15 provides characteristics for the other offshore wind projects in the RI/MA Lease Areas. Table I-16 describes the horizontal FOV from selected viewpoints, as shown on maps in Attachment I-3. In all cases, the proposed Project WTGs would be entirely within the horizontal FOV of the other offshore wind projects. As with the proposed Project alone, the horizontal FOV from any single viewpoint within a seascape or landscape unit can vary; therefore, Table I-16 provides the maximum FOV extent for onshore seascape and landscape units.

Attachment I-2 presents the applicant's simulations of the incremental effects of the proposed Project in the context of other planned wind farms. Attachment I-4 includes maps showing the number of WTG blades and nacelle-tops theoretically visible from Martha's Vineyard and Nantucket. Table I-17 summarizes visible elements, components of magnitude, and the seascape/landscape impact of the other offshore wind projects, along with a cumulative seascape and landscape impact magnitude of the proposed Project combined with other offshore wind projects. The sensitivity of each seascape, open ocean, and landscape unit in Table I-17 is the same as described in Table I-10.

Table I-18 summarizes elements of other offshore wind projects and their visual impacts (i.e., impacts on viewer experience), while Table I-16 provides the same analysis for other offshore wind projects, including the proposed Project. The content of Tables I.4-11 and I.4-12 are similar to Table I-14. The only ongoing or planned onshore activity that would potentially generate cumulative impacts when combined with the proposed Project would be the onshore substation for the Vineyard Wind 1 Project. This project would use the West Barnstable Substation site but would not use the properties on Shootflying Hill Road.

Table I-15: Wind Turbine Generator Capacity and Height Assumptions

Project (Lease Area)	Status	Blade Tip Height (Feet, MLLW)[a]	Top of Nacelle Height (Feet, MLLW)	Total WTGs	WTGs within 46 Miles[b]
Vineyard Wind 1 (OCS-A 0501)	Ongoing	812	451	62	62
South Fork Wind (OCS-A 0517)	Ongoing	840	482	15	15
Sunrise Wind (OCS-A 0486)	Planned	968	580	122	122
Revolution Wind (OCS-A 0517)	Planned	873	522	100	100
Mayflower Wind (OCS-A 0521)	Planned	1,066	720	147	135
Beacon Wind (OCS-A 0520)[c]	Planned	1,086	605	103	103
Bay State Wind (OCS-A 0500)	Planned	853	500	165	165
Vineyard Wind NE (OCS-A 0522)[c]	Planned	1,171	725	138	131
Remainder (OCS-A 0520)	Planned	1,086	605	51	50
Totals				1,033	1,013

COP = Construction and Operations Plan; MLLW = mean lower low water; WTG = wind turbine generator
[a] Elevation above MLLW with the WTG blade at its maximum vertical extension.
[b] Indicates the number of WTGs within 46 miles (the maximum theoretical extent of visibility, as described in Section 1.2) of the shoreline of Martha's Vineyard or Nantucket.
[c] No COP had been submitted for these projects at the time this assessment was prepared. As a result, WTG blade tip and nacelle-top heights for these projects were assumed to match Mayflower Wind.

Table I-16: Horizontal Field of View Occupied by Ongoing and Planned Offshore Wind Projects

KOP or Location	Distance (miles)[a]	Horizontal FOV (Percent of Human FOV[b])
1. Aquinnah Cultural Center	13.8	124° (100)
3. South Beach (Martha's Vineyard)	14.8	111° (89)
5. Madaket Beach	16.6	105° (85)
8. Tom Nevers Field	22.9	91° (73)
East Beach (Martha's Vineyard)	18.0	103° (83)
Squibnocket Point[c]	21.3	39° (32)

FOV = field of view; KOP = key observation point; WTG = wind turbine generator
[a] This is the distance to nearest WTG.
[b] The human FOV is 124 degrees (Sullivan 2021).
[c] Squibnocket Point is approximately 1 mile southwest of KOP 11, Squibnocket Beach.

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Table I-17: Characteristics and Cumulative Seascape/Landscape Impacts of the Proposed Project and Other Offshore Wind Projects

Seascape, Open Ocean, and Landscape Unit	Noticeable Elements[a,b]	Receptor Sensitivity[c]	Impact Magnitude, Other Offshore Wind Projects			Impact Magnitude, Proposed Project[d]	Cumulative Impact Magnitude, Proposed Project and Other Offshore Wind Projects
			Geographic Extent	Size and Scale and Rationale	Magnitude and Rationale		
Ocean Beach	B, E, N, OL, T	High	Large There is a large linear area within this unit with unobstructed views of the proposed Project area.	Large The other offshore wind projects would add human-made elements visible from large portions of the unit that currently have unobstructed ocean views, encompassing much of the seaward horizon. Signs of human intervention surround the open and otherwise undisturbed ocean view. The visible extent of human influence varies by season and exact location.	Large The other offshore wind projects would impact large portions (in many cases the entirety) of the geographic area of this unit. While the WTGs would be small in scale where visible, they would be distinctly different from the unobstructed ocean horizon with limited human-made elements visible and would be unavoidable visual elements.	Major	Large
Coastal Bluff	B, E, N, OL, T	High	Small There is a small visual geographic extent of unit relegated to specific conditions found as an interstitial space between other larger units. However, elevation associated with the unit allows for longer-distance views than other units.	Large The other offshore wind projects would appear small on the horizon from this location but would occupy substantial portions of the seaward views. The elevated character of the unit enhances the apparent size and scale compared to sea level views.	Large Magnitude rationale is similar to the Ocean Beach Unit, but more significant because the elevated views available from this unit would increase the apparent scale of the other offshore wind projects.	Major	Large
Open Ocean[b]	B, E, N, NL, OL, T, Y	High	Large There is a large area within this unit with unscreened views of the proposed Project.	Large The other offshore wind projects would add extensive and obvious human-made elements to otherwise undisturbed natural-appearing views.	Large Impact magnitude would vary based on exact position within the Open Ocean Unit. Impacts would be highest close to or within the wind development areas where WTGs and ESPs would be dominant and entirely out of character but would diminish with distance.	Major	Large
Coastal Dunes	B, E, N, OL, T	Medium	Small There is a small visual geographic extent of this unit with Project area views limited to upper slopes and ridges of dunes. Coastal dunes are found between other units and are f mostly linear in the landscape.	Small The other offshore wind projects would be a minimal change to landscape and views.	Large Dunes could block some views of the other offshore wind projects, but in views from atop dunes, the projects would be more noticeable due to the elevated views (similar to, but less elevated than, the Coastal Bluff Unit). Overall, magnitude would be similar to the Ocean Beach Unit.	Minor	Large
Salt Pond/Tidal Marsh	B, E, N, OL, T	Medium	Moderate This unit has a moderate geographic extent. Salt ponds/tidal marshes are found as interstitial spaces between other units.	Medium The other offshore wind projects would be a noticeable, albeit not large, change to landscape and views. Internal views of the foreground are the focal point of this area, but where seaward views exist, the proposed Project would be noticeable.	Medium Offshore wind projects would be visible from the majority of this unit due to open water and limited topographic relief. Vegetation at the edges of the salt ponds would provide some screening. WTGs would be easily discernable and would affect substantial portions of this unit.	Moderate	Medium
Coastal Scrub Brush	B, E, N, OL, T	Low	Small This unit has a small geographic extent relegated to specific conditions found as an interstitial space between other, more abundant units.	Small The other offshore wind projects would be a minimal change to landscape and views.	Medium Foreground vegetation dominates this area and dictates the available views. Limited view corridors break up the scale and apparent overall size of the other offshore wind projects.	Minor	Medium
Forest	B, OL, T	Low	Small This unit has a small geographic extent with unobstructed views of the proposed Project relegated to specific inland conditions. Many views are screened by vegetation. Areas within this unit can be made up of one large forest or a collection of adjacent stands.	Small The other offshore wind projects would be a minimal change to landscape and views.	Small Restricted views available only along narrow corridors would limit discernibility of WTG scale and apparent overall size of the other offshore wind projects.	Negligible	Medium
Shoreline Residential	B, E, N, OL, T	High	Large There is a large linear area within this unit with unobstructed views of the proposed Project area.	Large The other offshore wind projects would appear small on the horizon from this location but would occupy substantial portions of the seaward views. The perceived importance of the scenic view increases the perceived scale of change.	Large This unit is characterized by views from fixed locations, often from locations specifically designed to capture views outward over the ocean. Depending on the exact view, the impact magnitude would be similar to the Ocean Beach Unit, or the Coastal Bluff Unit for elevated areas.	Major	Major

Seascape, Open Ocean, and Landscape Unit	Noticeable Elements[a,b]	Receptor Sensitivity[c]	Impact Magnitude, Other Offshore Wind Projects			Impact Magnitude, Proposed Project[d]	Cumulative Impact Magnitude, Proposed Project and Other Offshore Wind Projects
			Geographic Extent	Size and Scale and Rationale	Magnitude and Rationale		
Village/Town Center	B, OL, T, S	Low	Small There is a small visual geographic extent of area within this unit with unobstructed views of the proposed Project relegated to specific inland conditions. Many views are screened by structures or vegetation.	Small The other offshore wind projects would be a minimal change to landscape and views. Structures create small view corridors offering limited views of the proposed Project as a whole.	Small Restricted views available along narrow corridors would limit discernibility of WTG scale and geographic extent.	Negligible	Small
Rural Residential	B, OL, T, S	Low	Small There is a limited geographic extent due to the unit's inland location.	Small The other offshore wind projects would be a minimal change to landscape.	Small Other offshore wind projects would affect a small portion of the overall geographic area of the unit and would exist among substantial human-made elements within the existing view.	Minor	Small
Suburban Residential	B, OL, T, S	Low	Small There is a small visual geographic extent relegated to specific inland conditions.	Small The other offshore wind projects would be a minimal change to landscape and views.	Small Restricted views available along narrow corridors would limit discernibility of WTG scale and geographic extent.	Negligible	Small
Agricultural/Open Field	B, OL, T	Low	Small There is a small visual extent in most cases except for a moderate visual extent for some large plots of agricultural or open land with ocean views.	Small The other offshore wind projects would be a minimal change to landscape. Views would be partially screened by foreground vegetation breaking the horizontal occupancy of the proposed Project and limiting overall perceived size/scale.	Small Views of the extent, size, and scale of other offshore wind projects are limited in most of this unit due to different varieties and sizes of vegetation.	Minor	Small

ADLS = aircraft detection lighting system; B = WTG blades; E = electrical service platform; N = nacelle; ND = no data; NL = navigation light; OL = nacelle-top obstruction lights; T = WTG tower; WTG = wind turbine generator; Y = yellow foundation transition piece
[a] Impacts of nacelle-top obstruction lights and mid-tower lights would be negligible until the ADLS activates nacelle-top and mid-tower obstruction lights.
[b] Noticeable elements from the Open Ocean Unit would vary based on the location relative to the offshore wind projects. Based on the likely sizes of WTGs (Table I-9), all elements of an individual WTG would be visible within approximately 14.6 miles of that WTG position (COP Appendix III-H.a, Section 3.2; Epsilon 2022).
[c] Descriptions of receptor susceptibility, value, and sensitivity ratings are the same as in Table I-7.
[d] As established in Table I-7.

Table I-18: Characteristics and Visual Impacts of Other Offshore Wind Projects

KOP	Distance (miles)[a]	User Groups	FOV, Degrees (% of Human FOV)[b]	Noticeable Elements	Components of VIA							Impact Magnitude
					Form	Line	Color	Texture	Scale	Contrast	Visibility[c]	
1. Aquinnah Cultural Center	13.8	Tourists	124° (100)	B, N, OL, T	Moderate	Weak	Weak	Weak	Moderate	Moderate	3	Moderate
2. Long Point Beach	14.9	Tourists, Residents	ND	B, E, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
3. South Beach	14.8	Tourists, Residents	111° (89)	B, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
4. Wasque Reservation	15.1	Tourists, Residents	ND	B, E, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
5. Madaket Beach	16.6	Tourists, Residents	105° (85)	B, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
6. Miacomet Beach/Pond	18.6	Tourists, Residents	ND	B, E, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
7. Bartlett's Farm	18.8	Tourists, Residents	ND	B, N, OL, T	Weak	Weak	Weak	Weak	Small	Small	2	Minor
8. Tom Nevers Field	22.9	Tourists, Residents	91° (73)	B, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
21. Peaked Hill Reservation	16.4	Tourists, Residents	ND	B, E, N, OL, T	Moderate	Moderate	Weak	Weak	Moderate	Moderate	3	Moderate
22. Representative Offshore View[d]	Varies	Tourists, Residents, Commercial Mariners	Varies	B, E, N, NL, OL, T, Y	Strong	Strong	Strong	Strong	Large	Strong	6	Major
23. Shootflying Hill Road (Existing Hotel)	0.0	Residents	124° (100)	S	Weak	Weak	Weak	Weak	Weak	Weak	1	Negligible
24. Shootflying Hill Road (Right-of-Way #343)	0.1	Residents	ND	S	Weak	Weak	Weak	Weak	Weak	Weak	1	Negligible
25. Exit 6 Park and Ride/ Highway Rest Area	0.1	Tourists, Residents, Travelers	ND	S	Weak	Weak	Weak	Weak	Weak	Weak	1	Negligible

B = WTG blades; E = electrical service platform; FOV = field of view; KOP = key observation point; N = nacelle; ND = no data; NL = navigation light; OL = nacelle-top obstruction lights; T = WTG tower; VIA = visual impact assessment; WTG = wind turbine generator; Y = yellow foundation transition piece
[a] This is the distance to nearest proposed Project WTG.
[b] The human FOV is 124 degrees (Sullivan 2021).
[c] This is as defined in Table I-8 (Sullivan et al. 2012).
[d] Noticeable elements for offshore viewers would vary based on the location of the viewer relative to the offshore wind projects. Based on the likely sizes of WTGs (Table I-9), all elements of an individual WTG would be visible within approximately 14.6 miles of that WTG position (COP Appendix III-H.a, Section 3.2; Epsilon 2022). Visibility rating reflects closest possible views (i.e., adjacent to or within the WTG array), but could range from 1 to 6 depending on the viewer's location.

Table I-19: Characteristics and Cumulative Visual Impacts of the Proposed Project and Other Offshore Wind Projects

KOP	Proposed Project Impact Magnitude (Table I-14)	Other Offshore Wind Project Magnitudes (Table I-18)	Cumulative Impact Magnitude
1. Aquinnah Cultural Center	Minor	Moderate	Moderate
2. Long Point Beach	Minor	Moderate	Moderate
3. South Beach	Minor	Moderate	Moderate
4. Wasque Reservation	Minor	Moderate	Moderate
5. Madaket Beach	Minor	Moderate	Moderate
6. Miacomet Beach/Pond	Minor	Moderate	Moderate
7. Bartlett's Farm	Minor	Minor	Small
8. Tom Nevers Field	Minor	Moderate	Moderate
21. Peaked Hill Reservation	Minor	Moderate	Moderate
22. Representative Offshore View[d]	Major	Major	Large
23. Shootflying Hill Road (Existing Hotel)	Moderate	Negligible	Moderate
24. Shootflying Hill Road (Right-of-Way #343)	Minor	Negligible	Minor
25. Exit 6 Park and Ride/ Highway Rest Area	Minor	Negligible	Minor

ESP = electrical service platform; FOV = field of view; KOP = key observation point; WTG = wind turbine generator
[a] This is the distance to nearest proposed Project WTG.
[b] The human FOV is 124 degrees (Sullivan 2021). The proposed Project WTGs and ESPs would be within the same FOV as other offshore wind projects from all KOPs.
[c] This is as defined in Table I-11 (Sullivan et al. 2012).
[d] Noticeable elements for offshore viewers would vary based on the location of the viewer relative to the offshore wind projects. Based on the likely sizes of WTGs (Table I-12), all elements of an individual WTG would be visible within approximately 14.6 miles of that WTG position (COP Appendix III-H.a, Section 3.2; Epsilon 2022). Visibility rating reflects closest possible views (i.e., adjacent to or within the WTG array), but could range from 1 to 6 depending on the viewer's location.

I.5 References

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ATTACHMENT I-1: VIEWSHED MAP OF THE PROPOSED PROJECT

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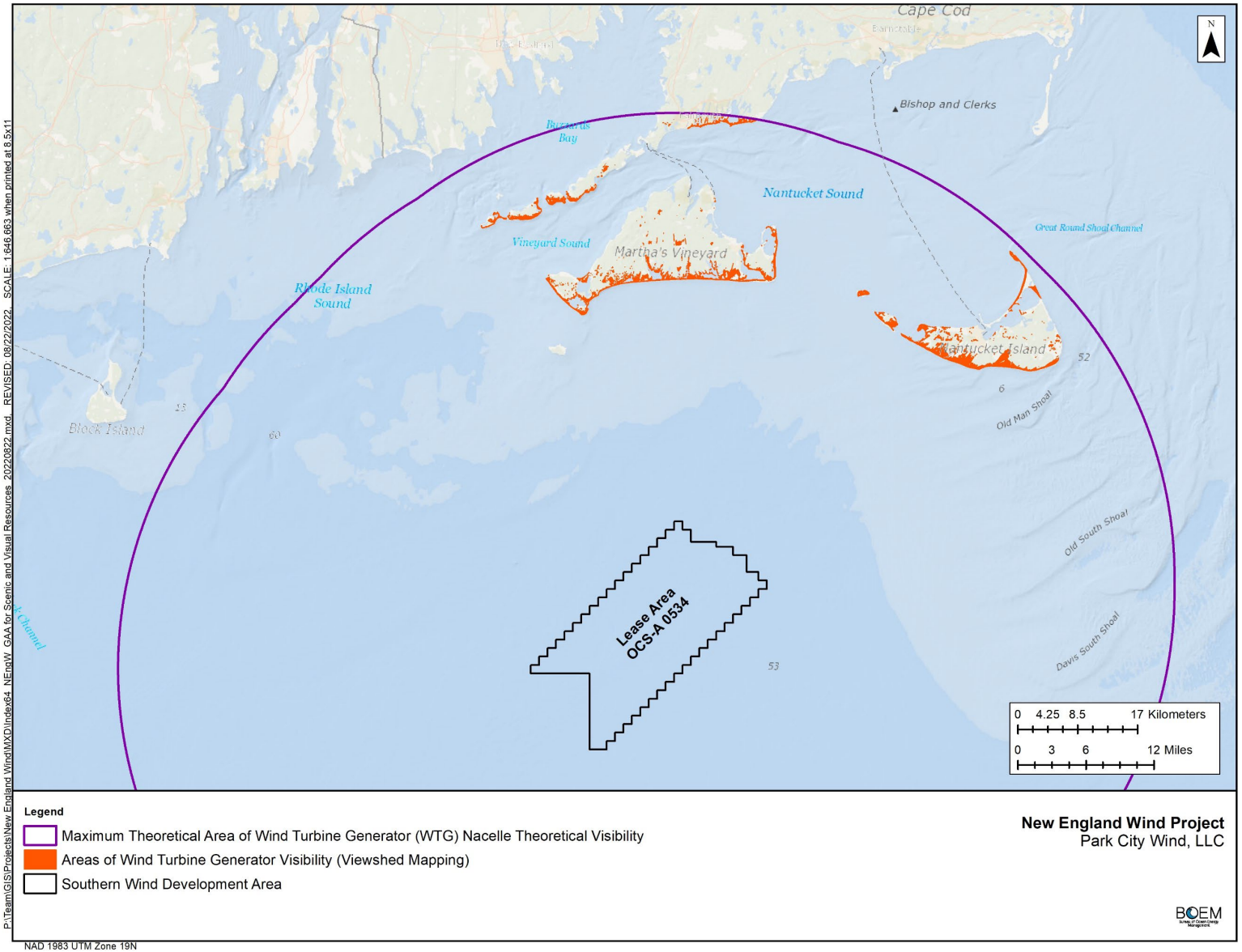

Figure I-1-1: Areas with Theoretical Visibility of Proposed Project Wind Turbine Generator Blades

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ATTACHMENT I-2: APPLICANT-PREPARED SIMULATIONS

See COP Appendix III-H.a (Epsilon 2022)

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ATTACHMENT I-3: FIELD OF VIEW ANALYSIS

I-3-1: Angle of Views to Turbines Theoretically Visible to Gay Head Lighthouse

I-3-2: Angle of Views to Turbines Theoretically Visible to South Beach

I-3-3: Angle of Views to Turbines Theoretically Visible to Madaket Beach

I-3-4: Angle of Views to Turbines Theoretically Visible to Tom Nevers Field

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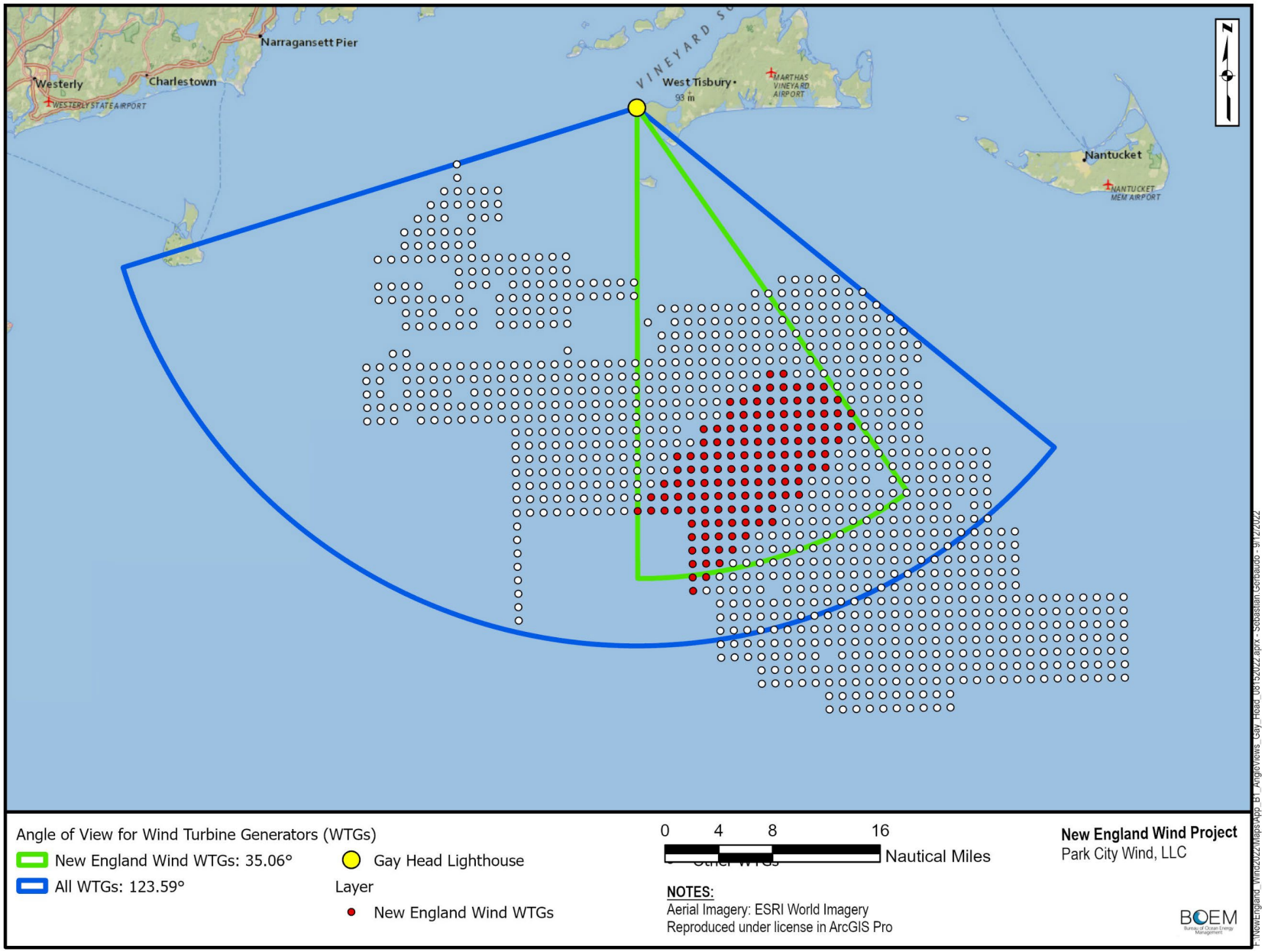

Figure I-3-1: Angle of Views to Turbines Theoretically Visible from Gay Head Lighthouse

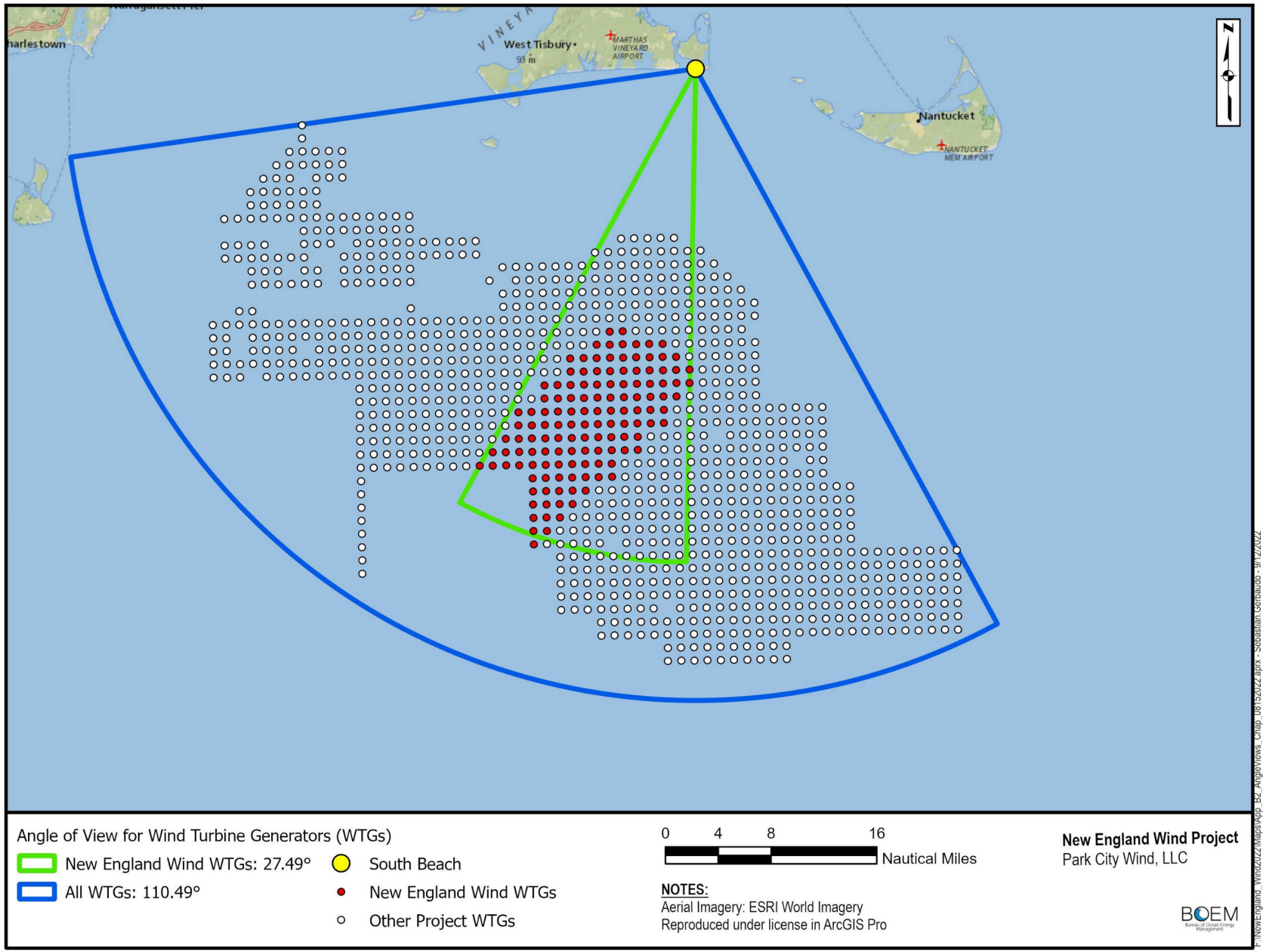

Figure I-3-2: Angle of Views to Turbines Theoretically Visible to South Beach

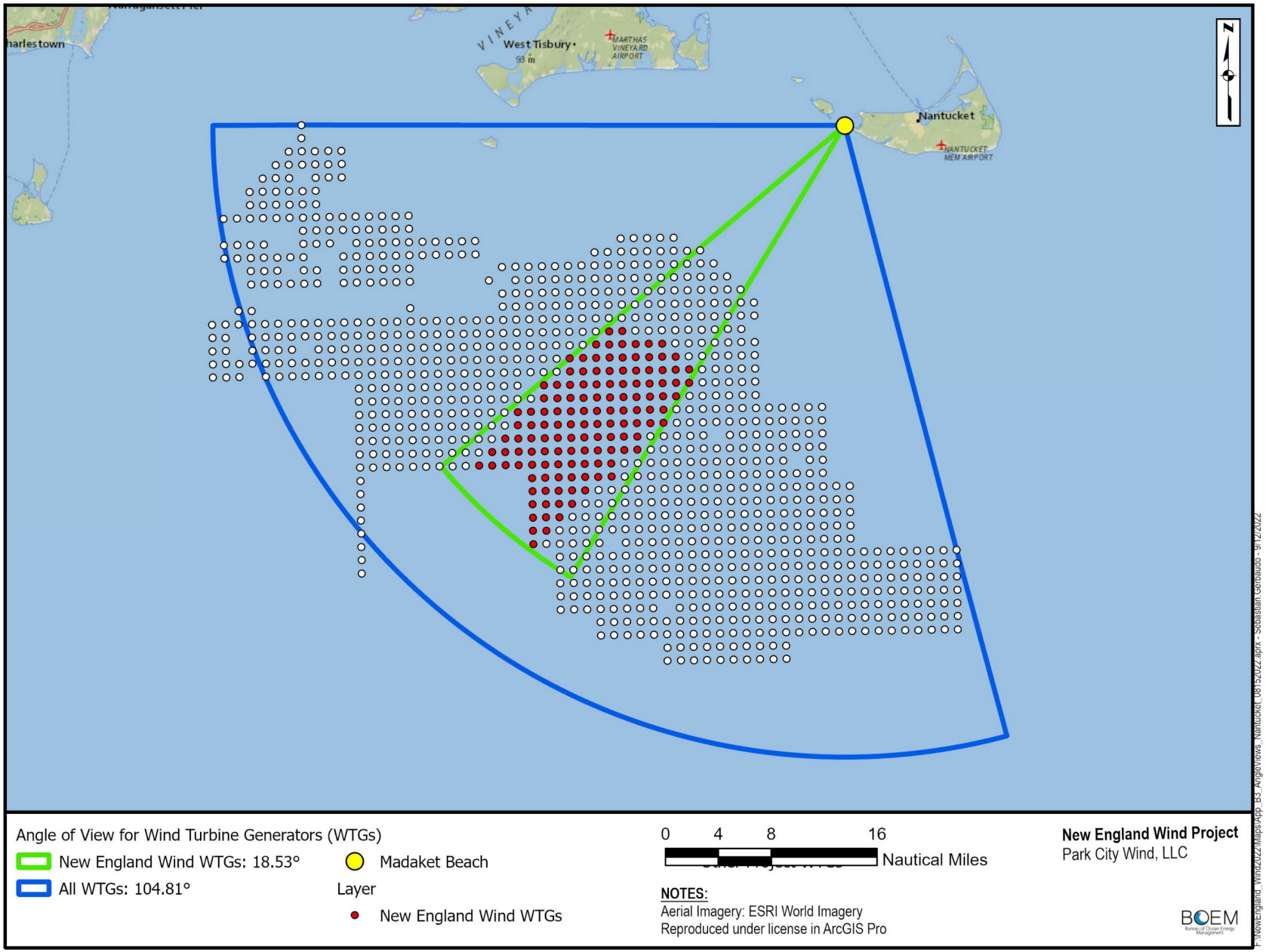

Figure I-3-3: Angle of Views to Turbines Theoretically Visible to Madaket Beach

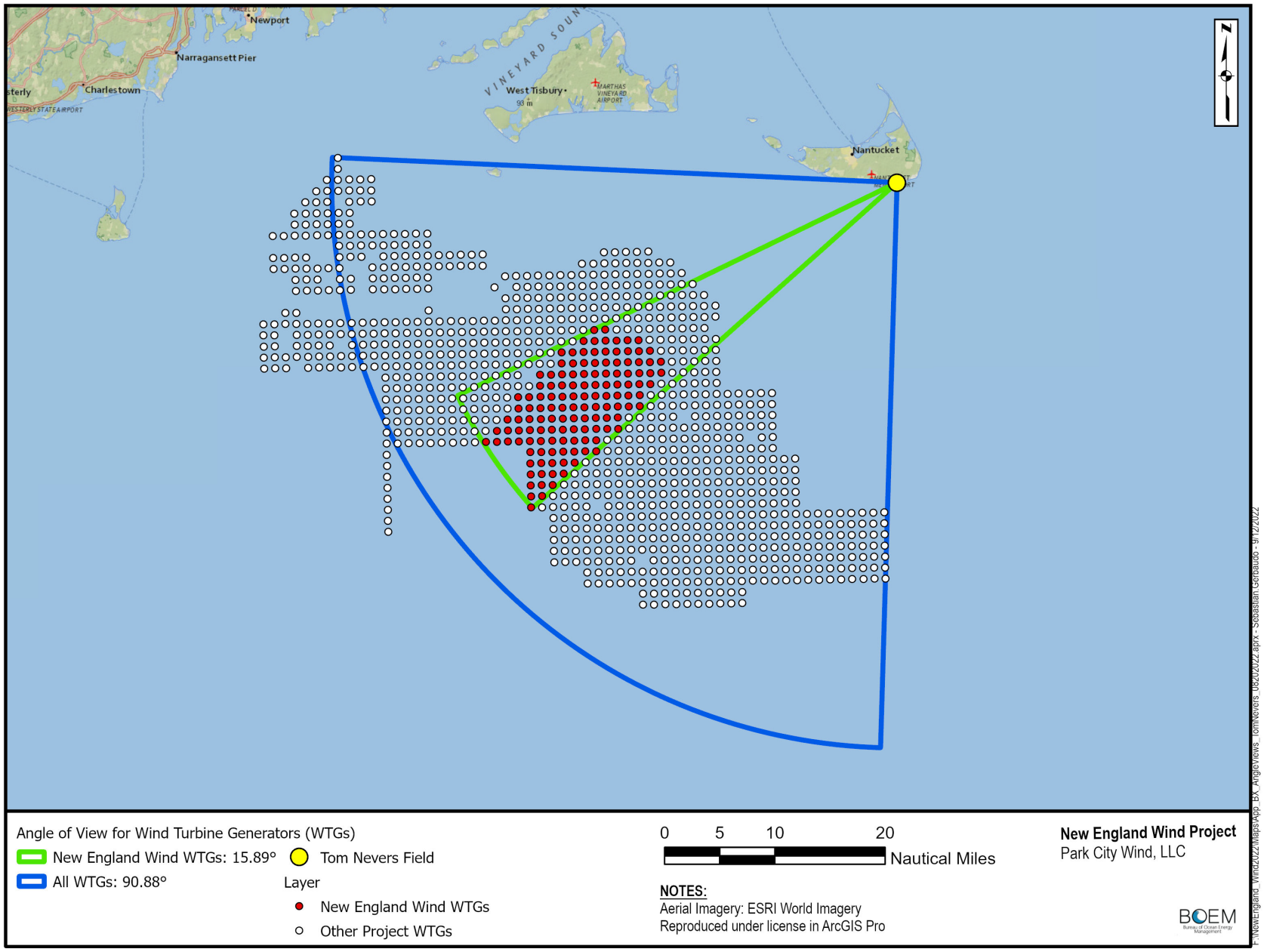

Figure I-3-4: Angle of Views to Turbines Theoretically Visible to Tom Nevers Field

ATTACHMENT I-4: INTERVISIBILITY MAPS

I-4-1: Intervisibility Maps: Aquinnah Area (Martha's Vineyard)

I-4-2: Intervisibility Maps: Chappaquiddick Island (Martha's Vineyard)

I-4-3: Intervisibility Maps (blade tips): Nantucket Island

I-4-4: Intervisibility Maps (nacelles): Nantucket Island

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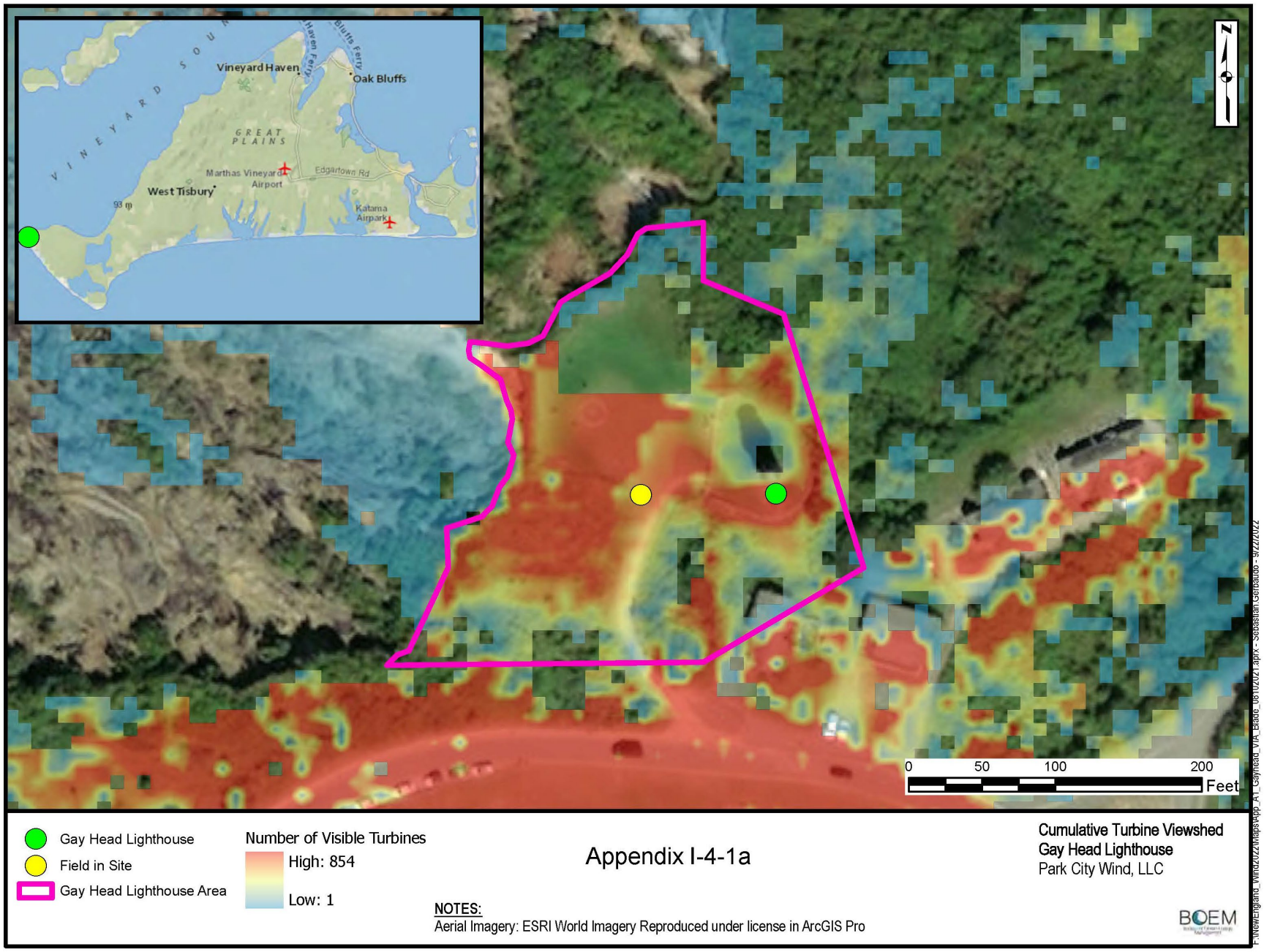
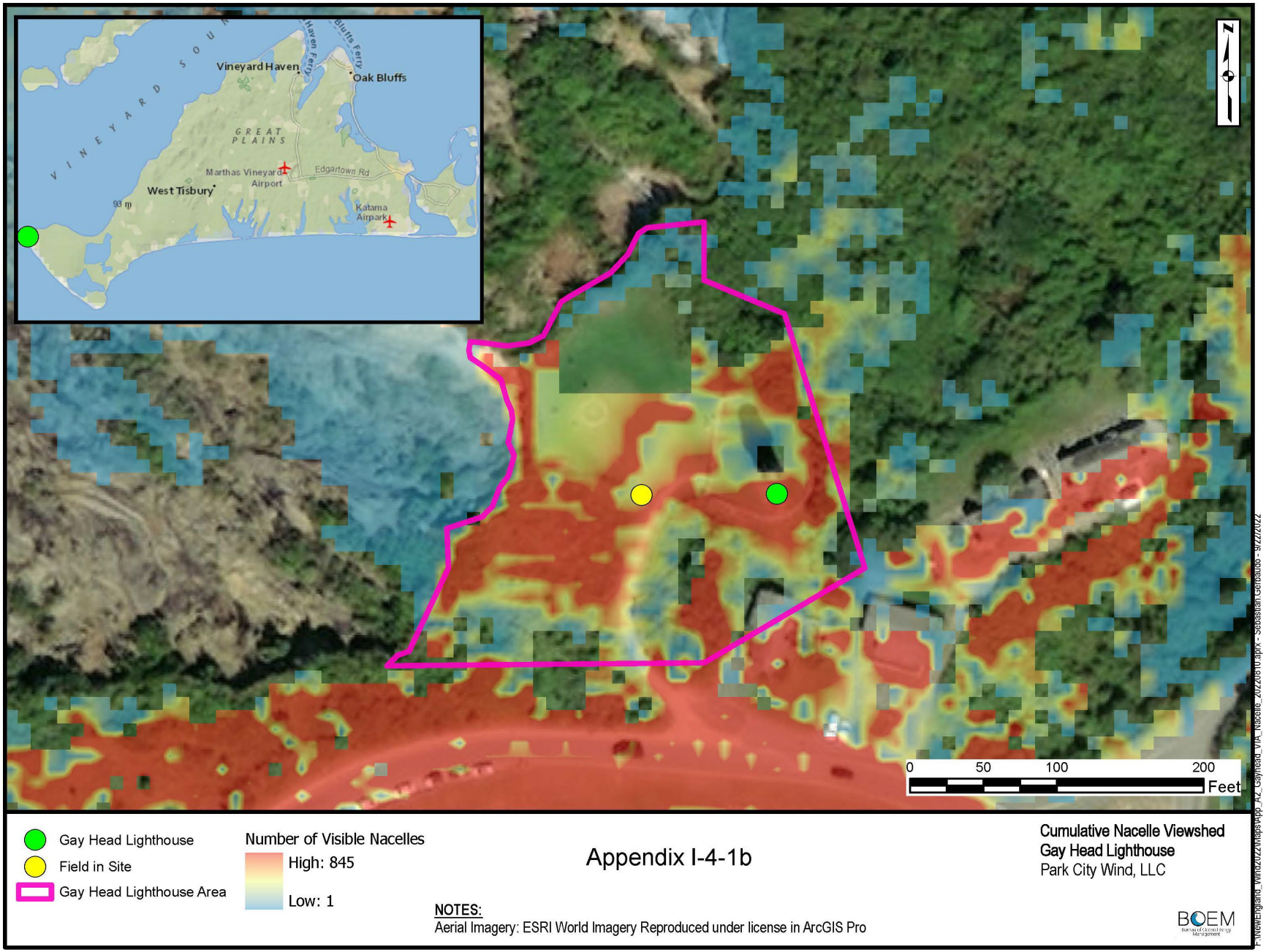
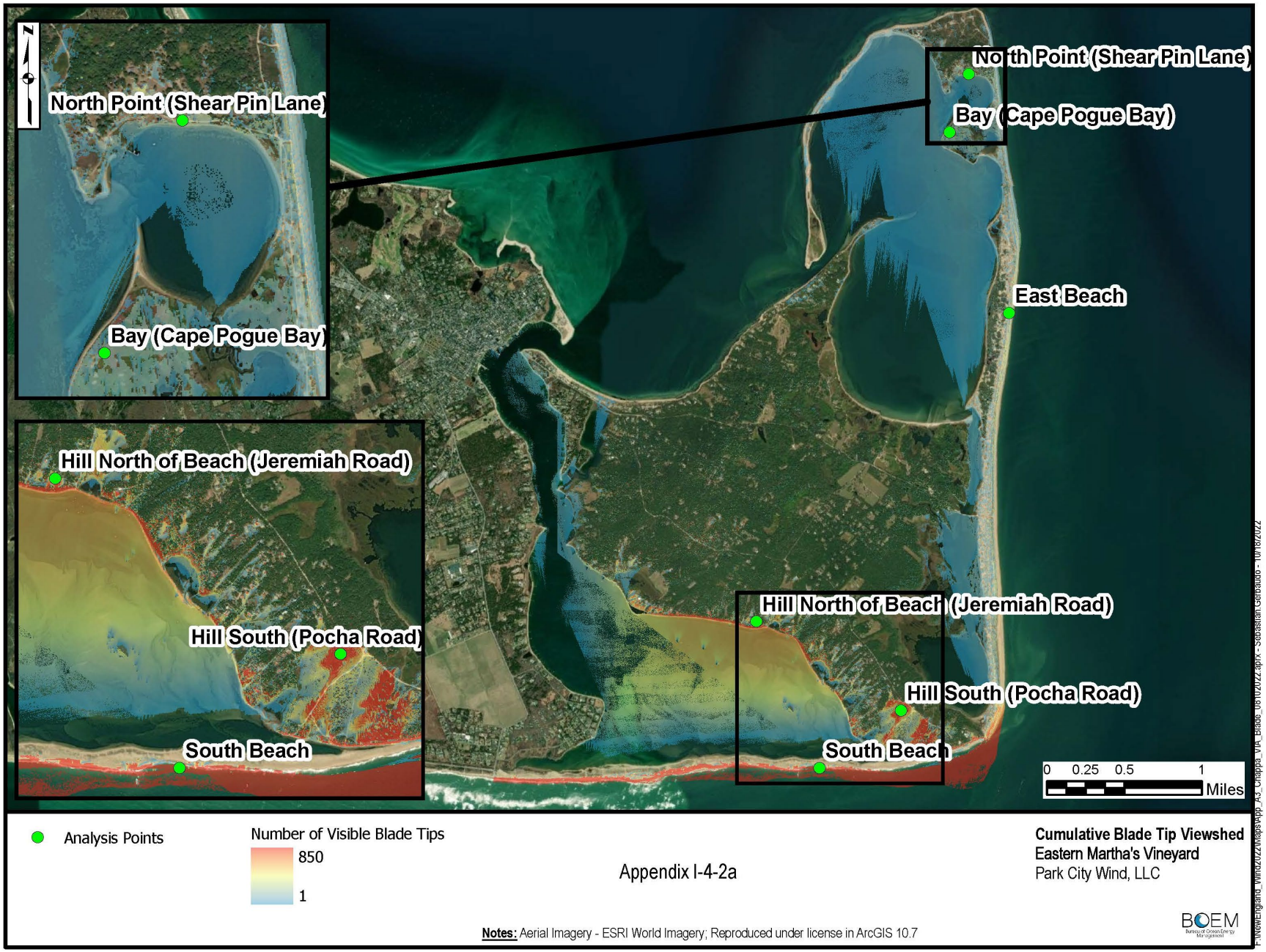
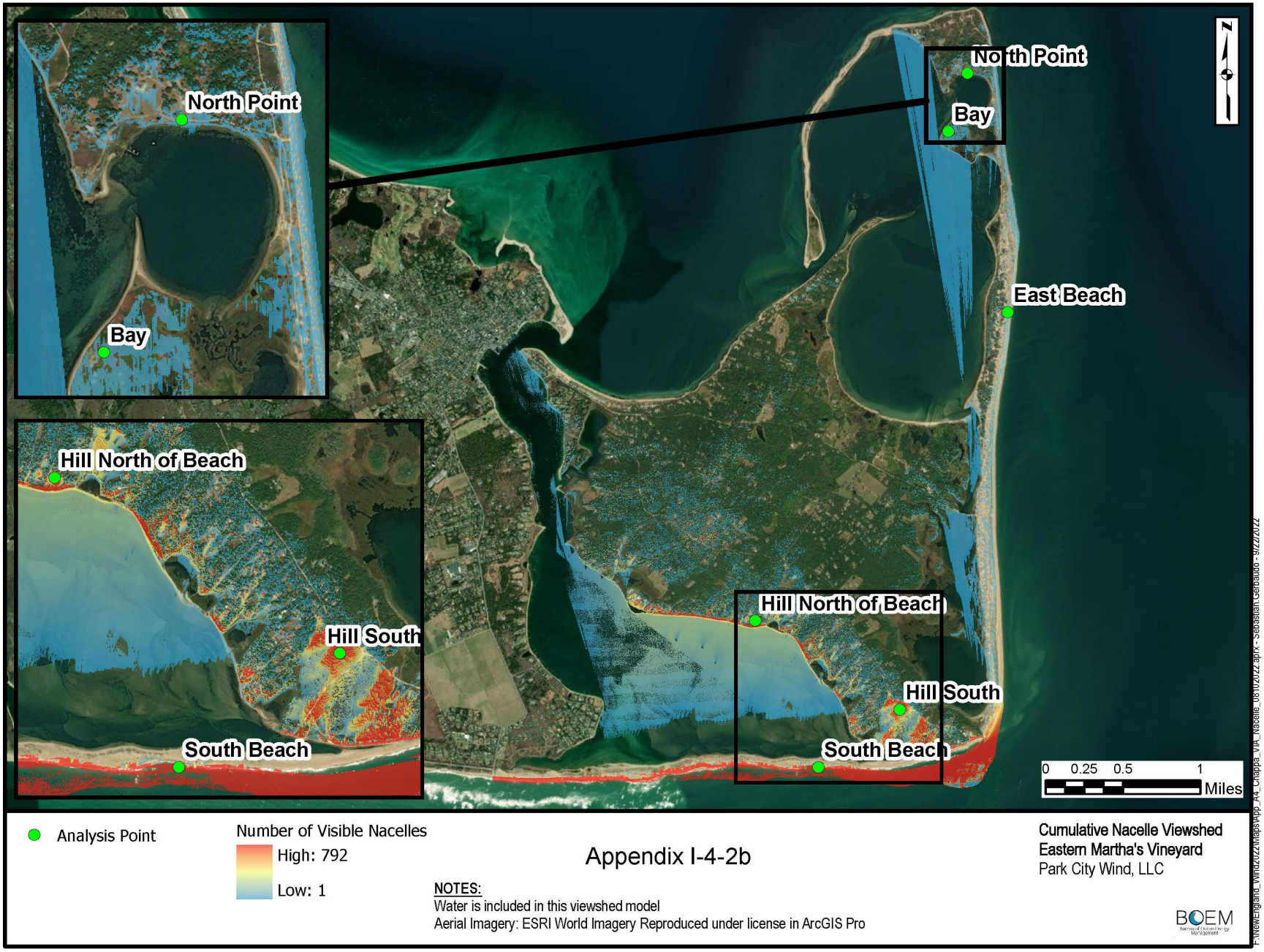

Vineyard Haven
Oak Bluffs
GREAT PLAINS
Marthas Vineyard Airport
Edgartown Rd
West Tisbury
Katama Airpark
93
N
0
50
100
200
Feet
Gay Head Lighthouse
Field in Site
Gay Head Lighthouse Area
Number of Visible Turbines
High: 854
Low: 1
Appendix I-4-1a
Cumulative Turbine Viewshed
Gay Head Lighthouse
Park City Wind, LLC
NOTES:
Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS Pro
BOEM


Vineyard Haven
Oak Bluffs
Vineyard Haven Bluffs Ferry
GREAT PLAINS
Marthas Vineyard Airport
Edgartown Rd
West Tisbury
93 m
Katama Airpark
N
0 50 100 200
Feet
Gay Head Lighthouse
Field in Site
Gay Head Lighthouse Area
Number of Visible Nacelles
High: 845
Low: 1
Appendix I-4-1b
Cumulative Nacelle Viewshed
Gay Head Lighthouse
Park City Wind, LLC
NOTES:
Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS Pro
BOEM


North Point (Shear Pin Lane)
Bay (Cape Pogue Bay)
East Beach
Hill North of Beach (Jeremiah Road)
Hill South (Pocha Road)
South Beach
0 0.25 0.5 1
Miles
Analysis Points
Number of Visible Blade Tips
850
1
Appendix I-4-2a
Cumulative Blade Tip Viewshed
Eastern Martha's Vineyard
Park City Wind, LLC
BOEM
Notes: Aerial Imagery - ESRI World Imagery; Reproduced under license in ArcGIS 10.7


North Point
Bay
North Point
Bay
East Beach
Hill North of Beach
Hill South
South Beach
Hill North of Beach
Hill South
South Beach
0 0.25 0.5 1
Miles
Analysis Point
Number of Visible Nacelles
High: 792
Low: 1
Appendix I-4-2b
NOTES:
Water is included in this viewshed model
Aerial Imagery: ESRI World Imagery Reproduced under license in ArcGIS Pro
Cumulative Nacelle Viewshed
Eastern Martha's Vineyard
Park City Wind, LLC
BOEM


Muskeget Beach
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3a
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Tuckernuck Beach
N
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3b
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Miles
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South Beach West
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3c
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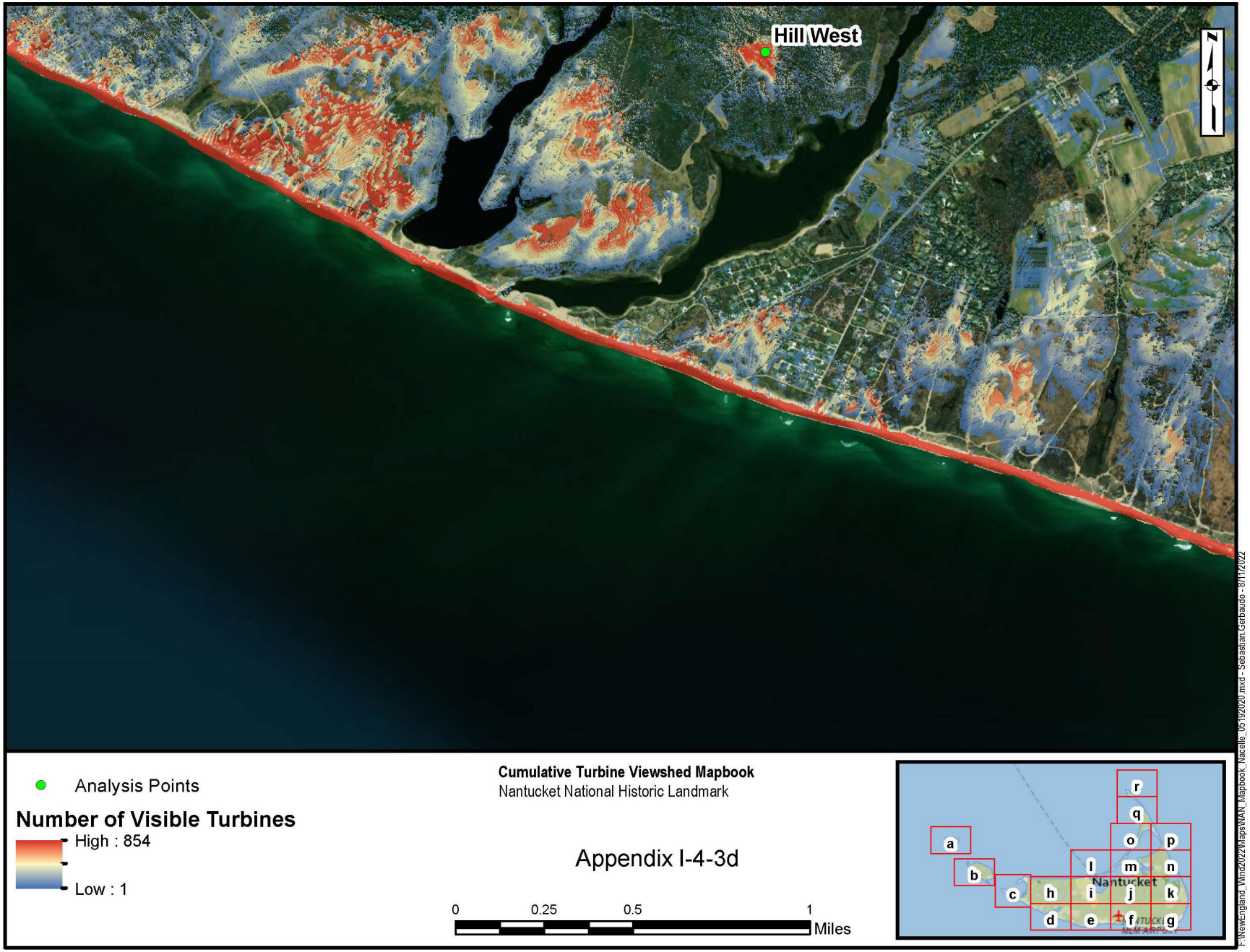
Hill West
Analysis Points
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High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
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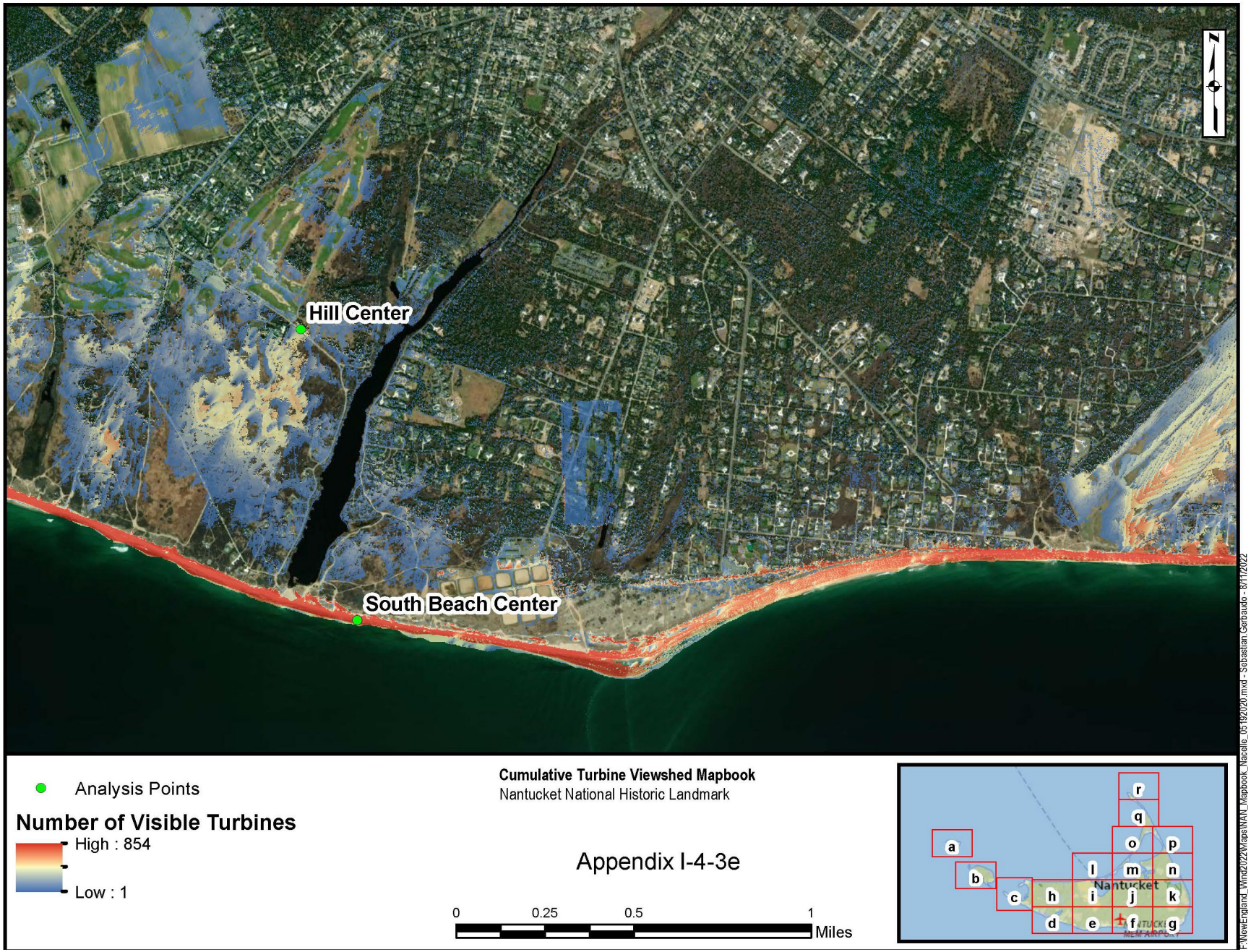
Hill Center
South Beach Center
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
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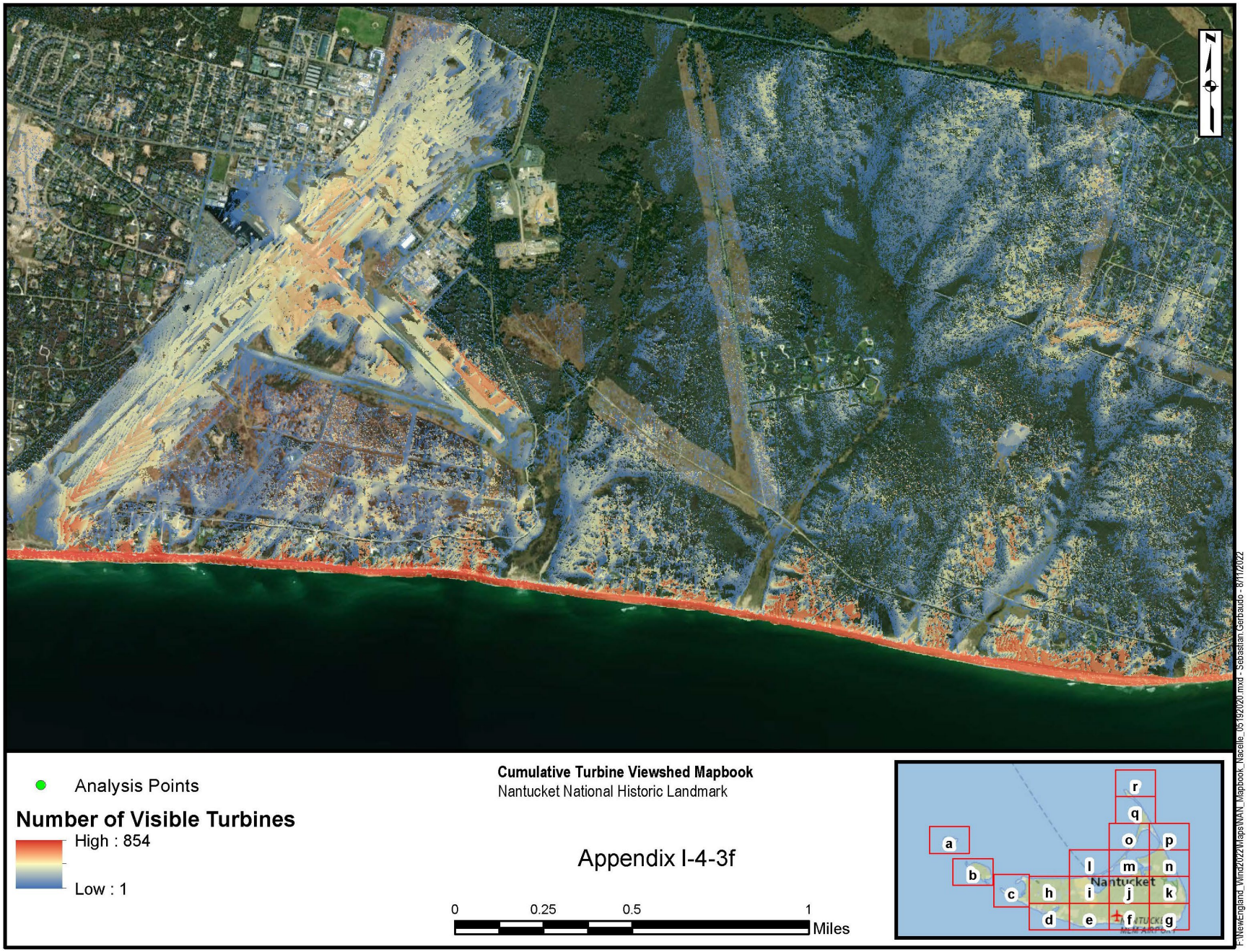
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Number of Visible Turbines
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Cumulative Turbine Viewshed Mapbook
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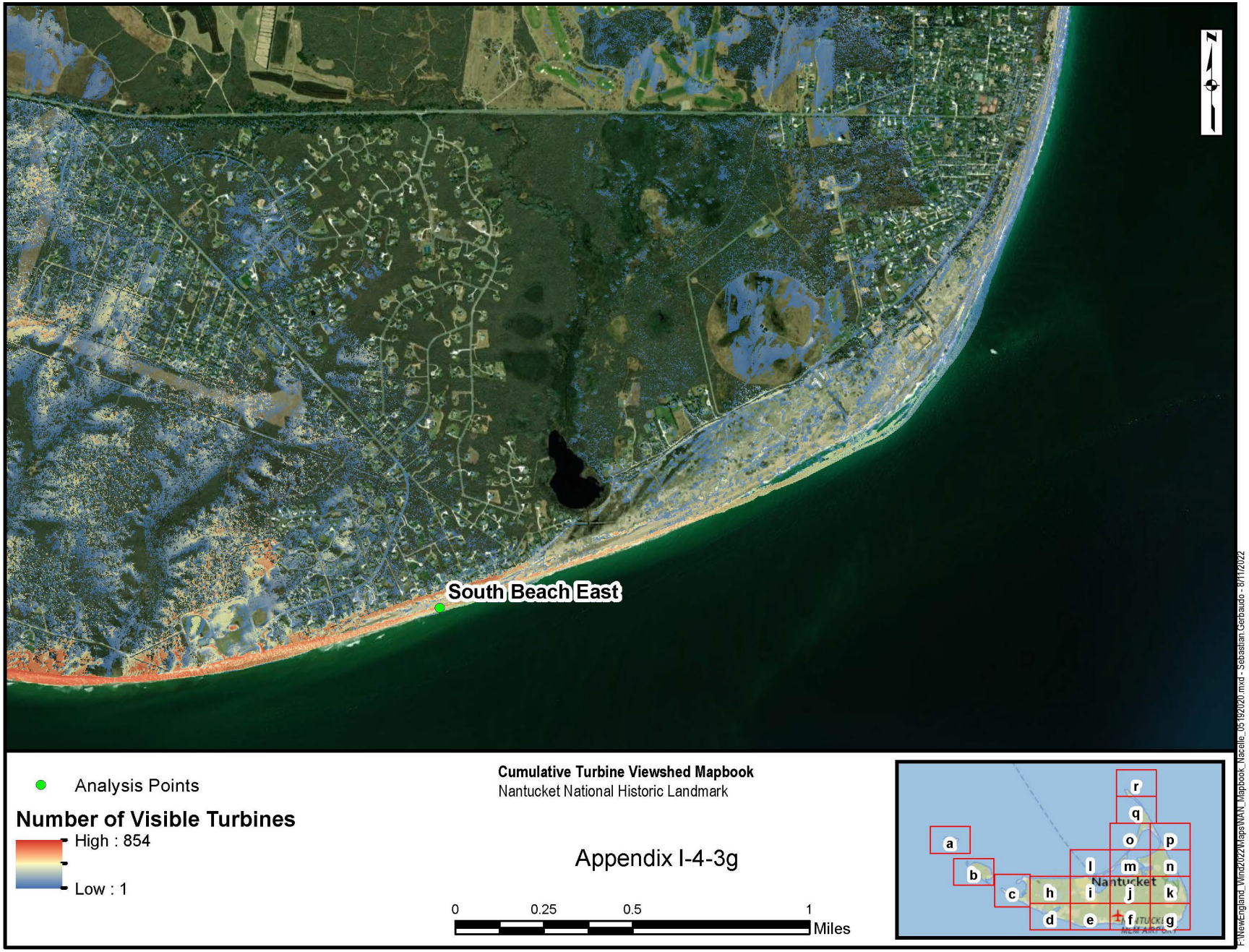
South Beach East
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
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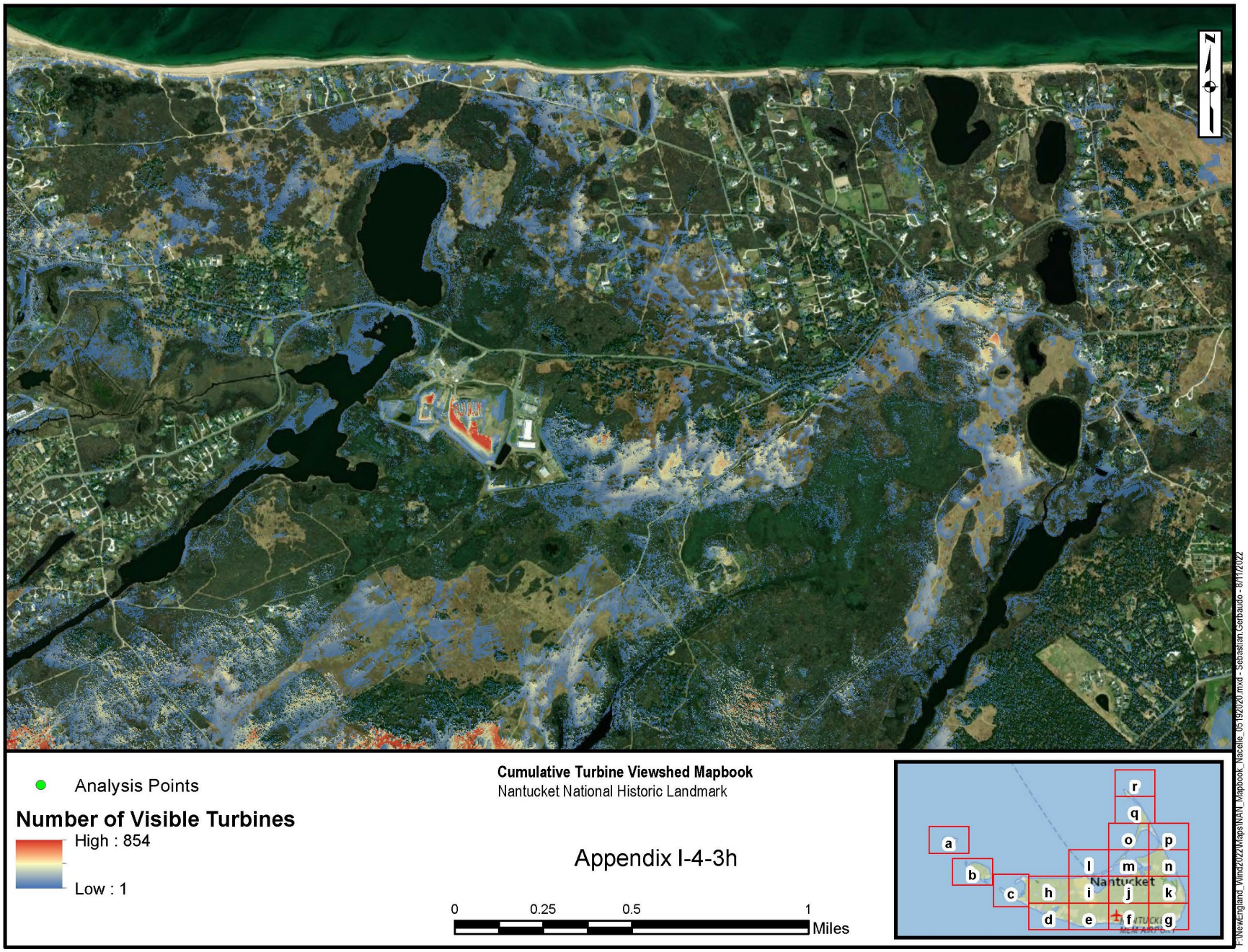
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
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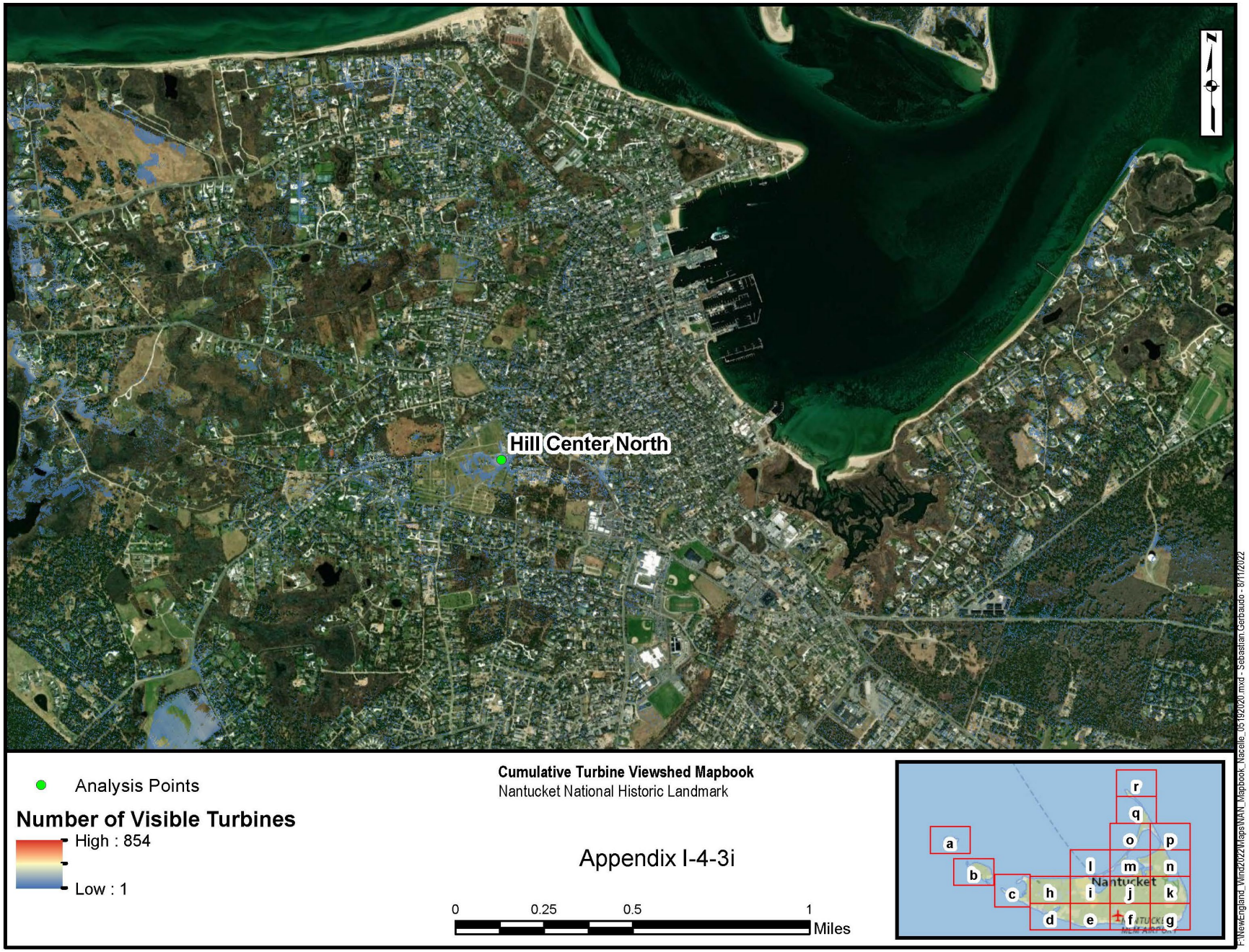
Hill Center North
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
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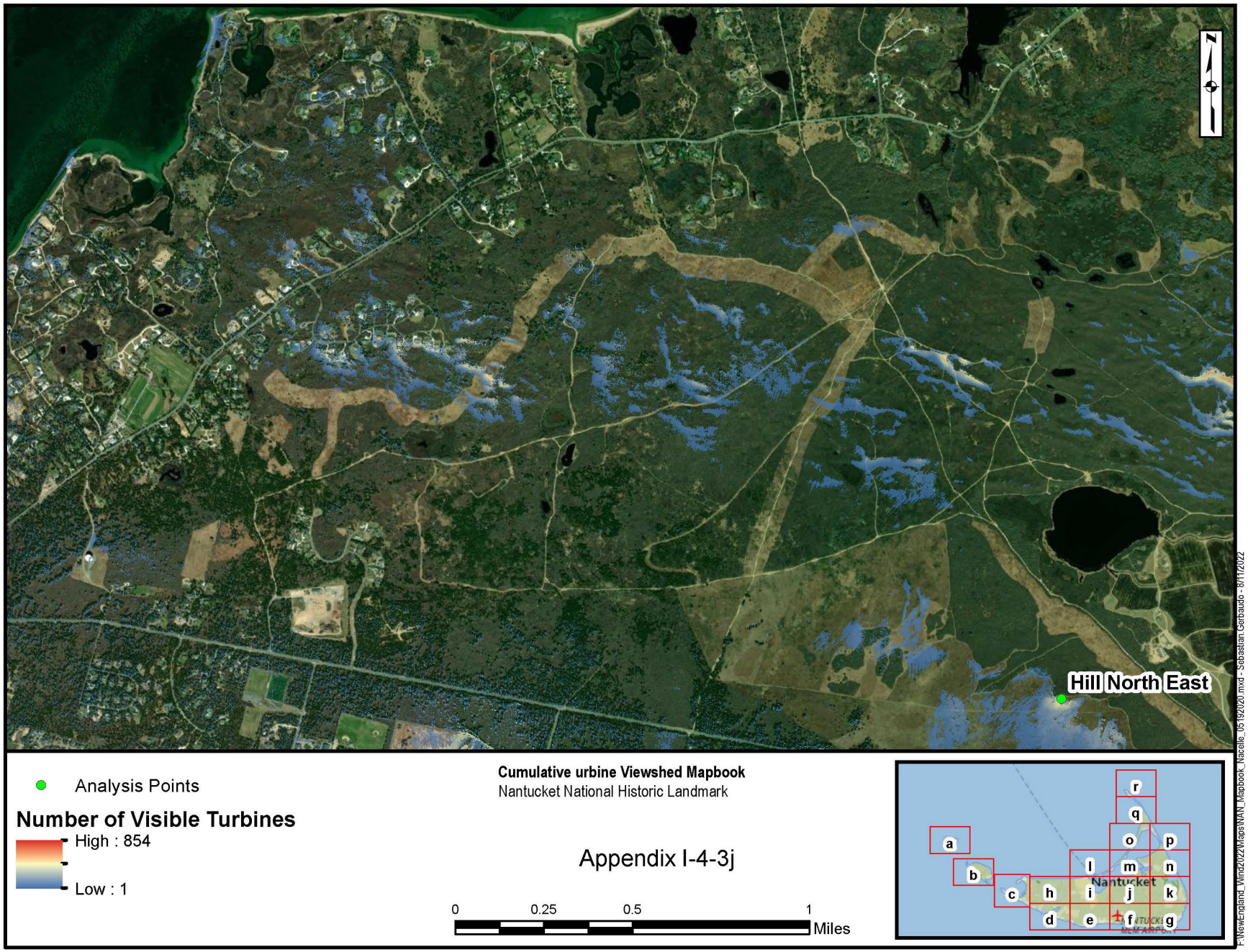
Hill North East
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative urbine Viewshed Mapbook
Nantucket National Historic Landmark
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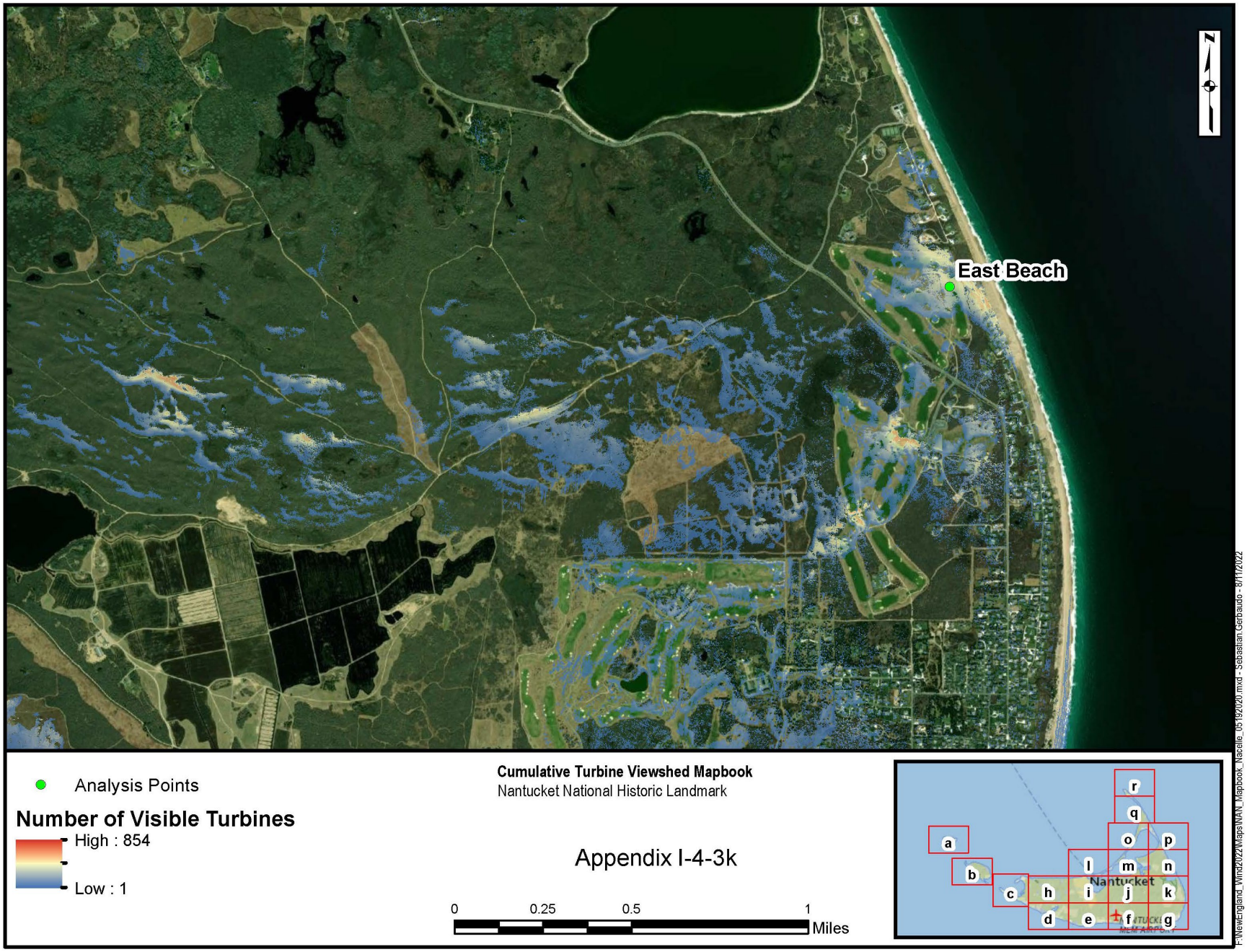
East Beach
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3l
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3m
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N
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3n
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Nantucket
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3o
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Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3p
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North Isthmus
Analysis Points
Number of Visible Turbines
High : 854
Low : 1
Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-3q
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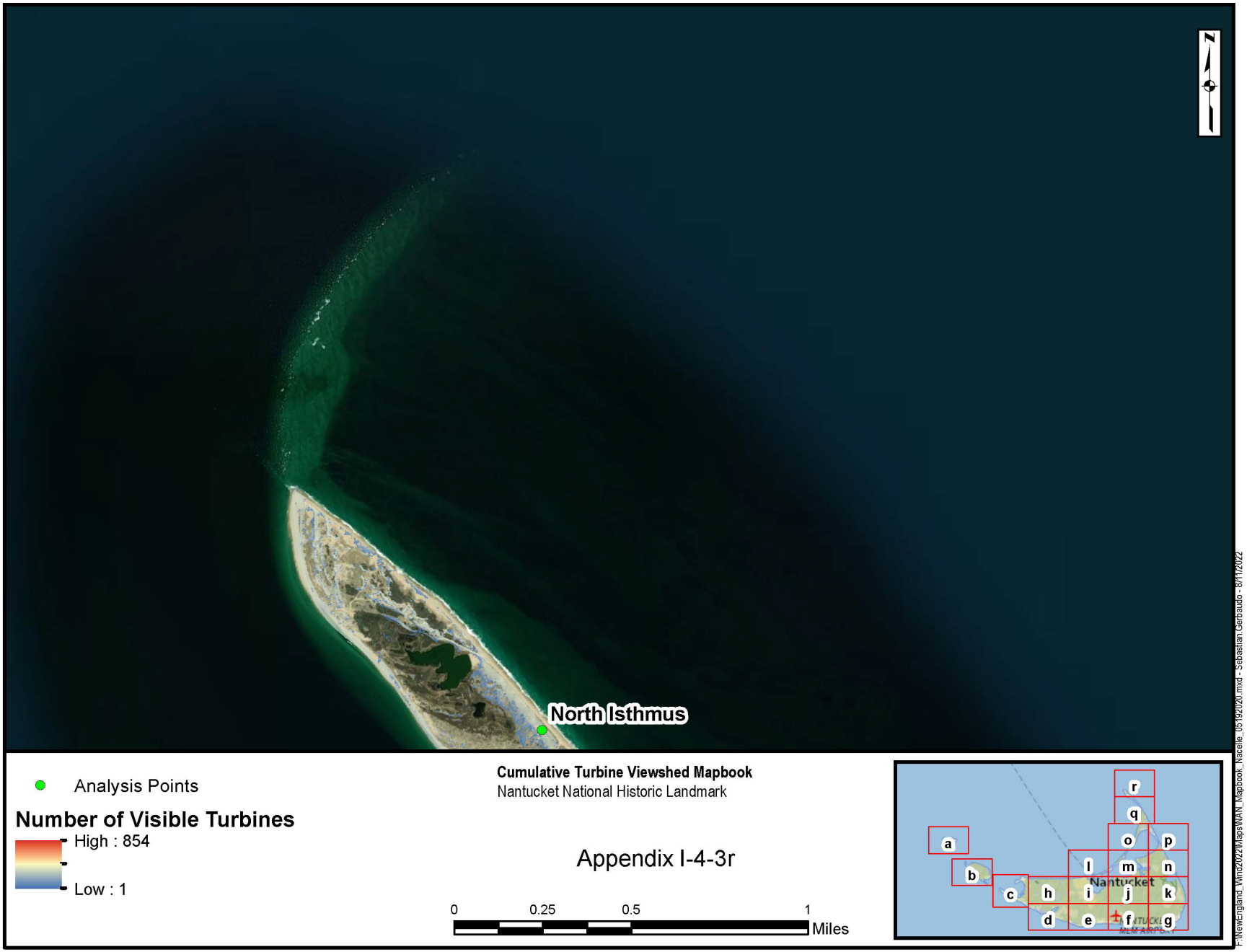
North Isthmus
Analysis Points
Number of Visible Turbines
High : 854
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Cumulative Turbine Viewshed Mapbook
Nantucket National Historic Landmark
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Muskeget Beach
Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4a
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Tuckernuck Beach
Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4b
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Miles
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South Beach West
N
Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4c
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Hill West
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4d
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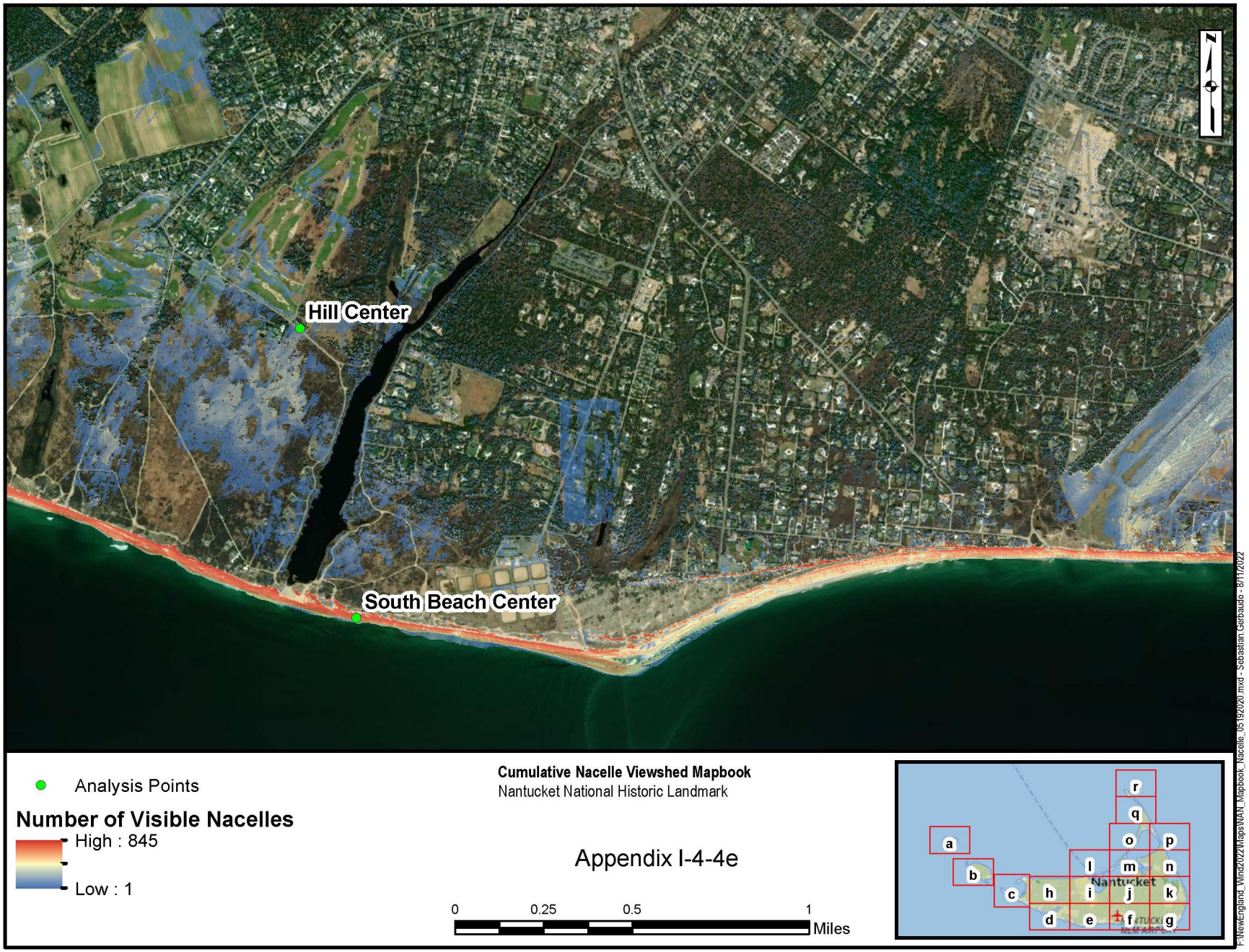
Hill Center
South Beach Center
Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4e
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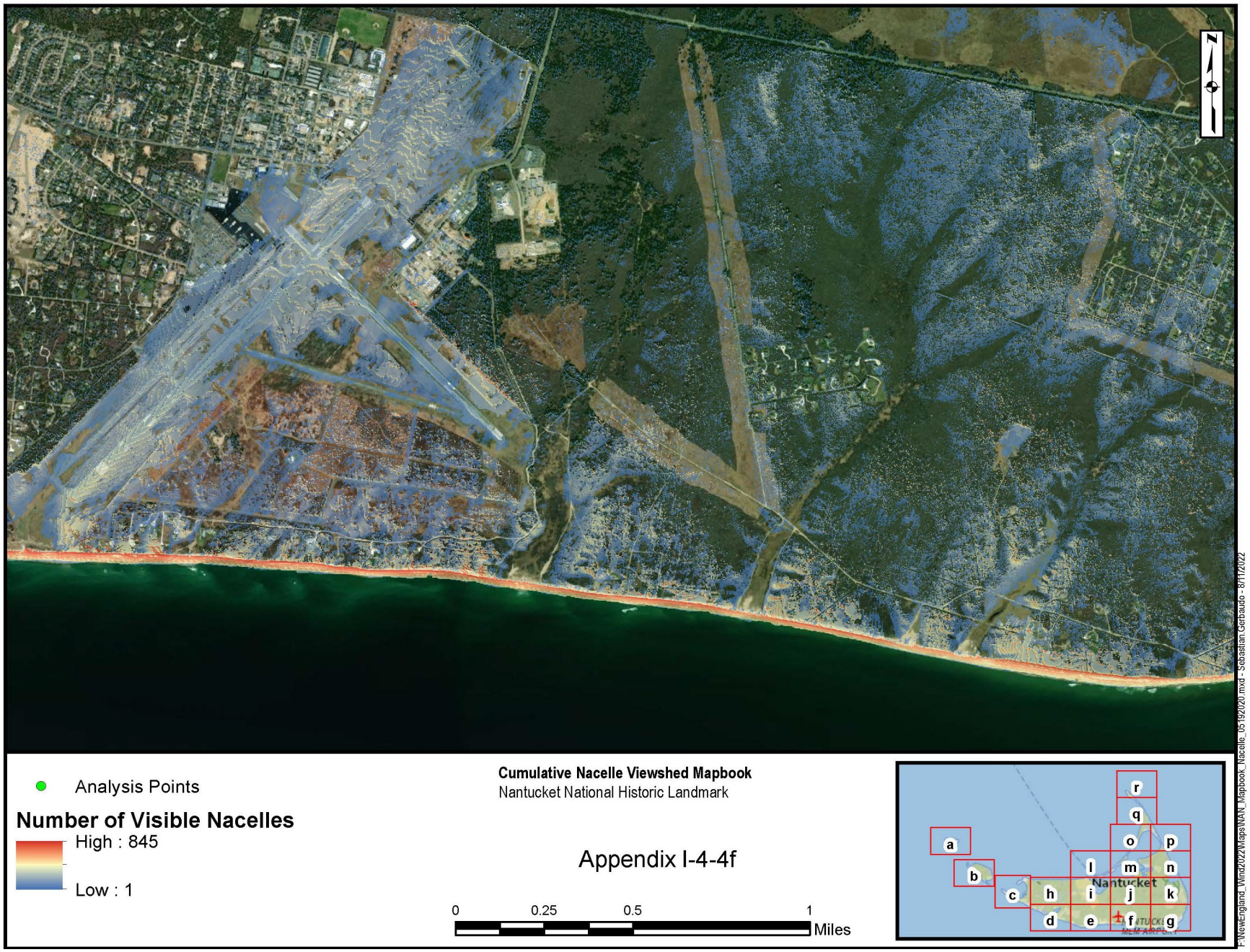
Analysis Points
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High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4f
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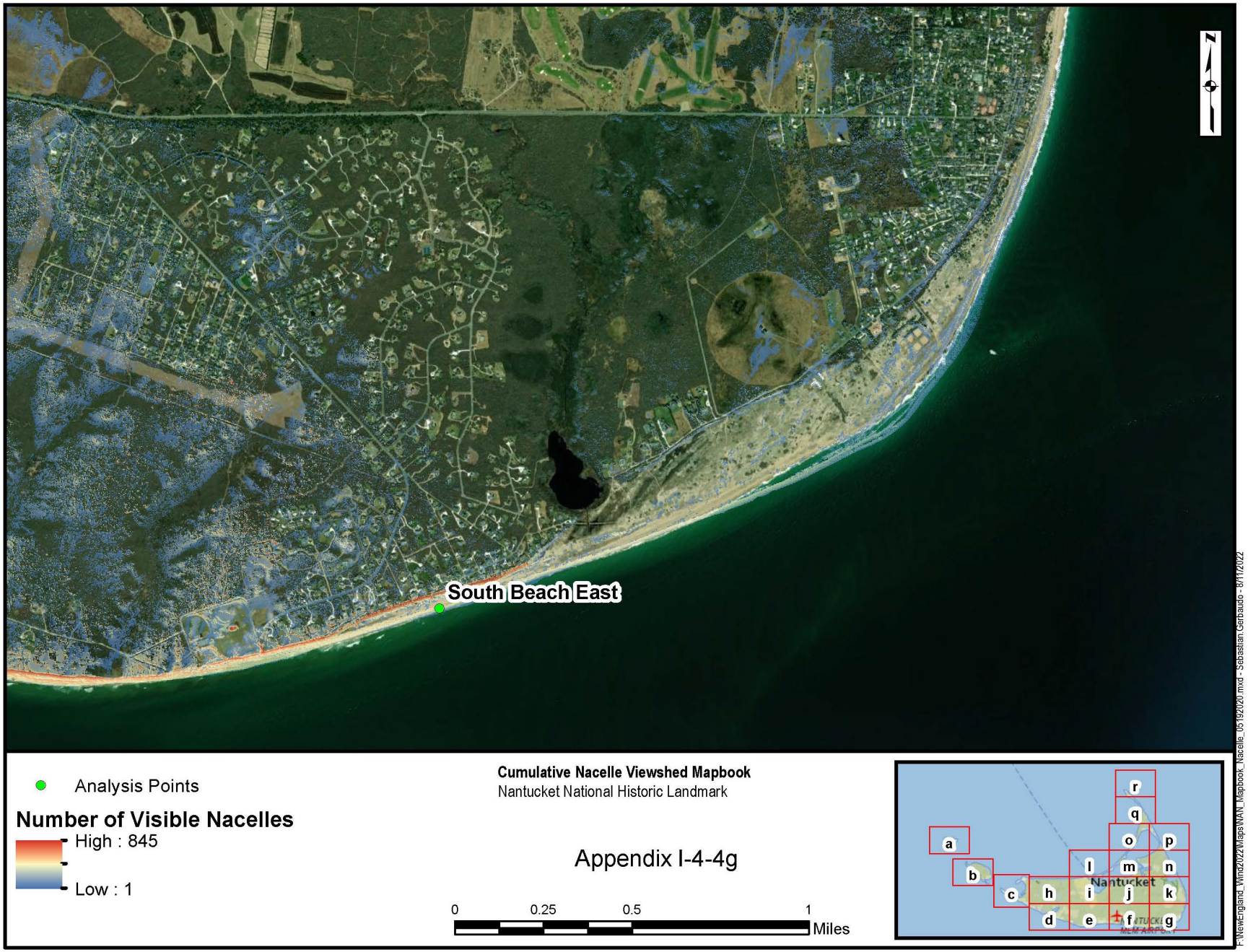
South Beach East
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4g
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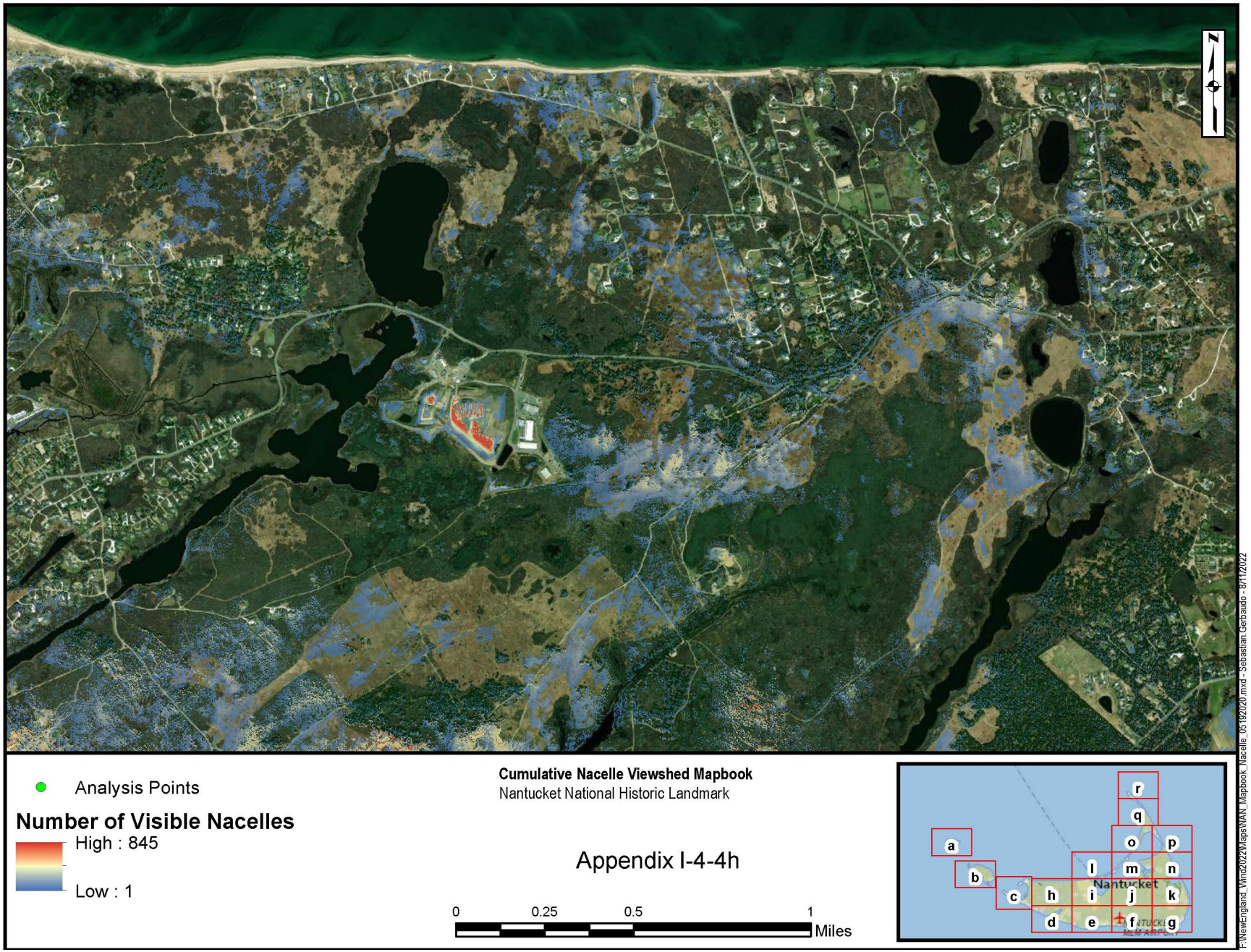
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4h
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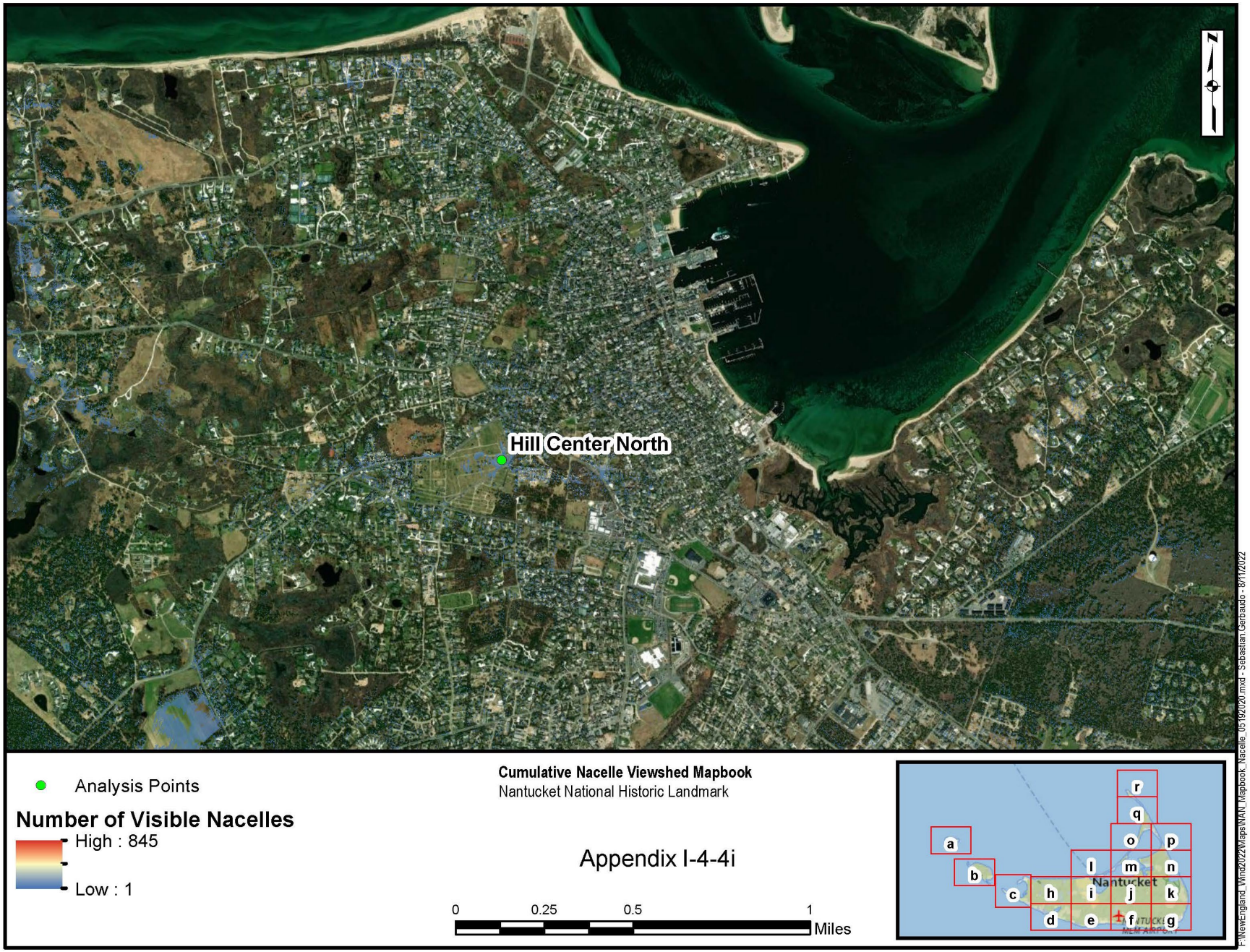
Hill Center North
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4i
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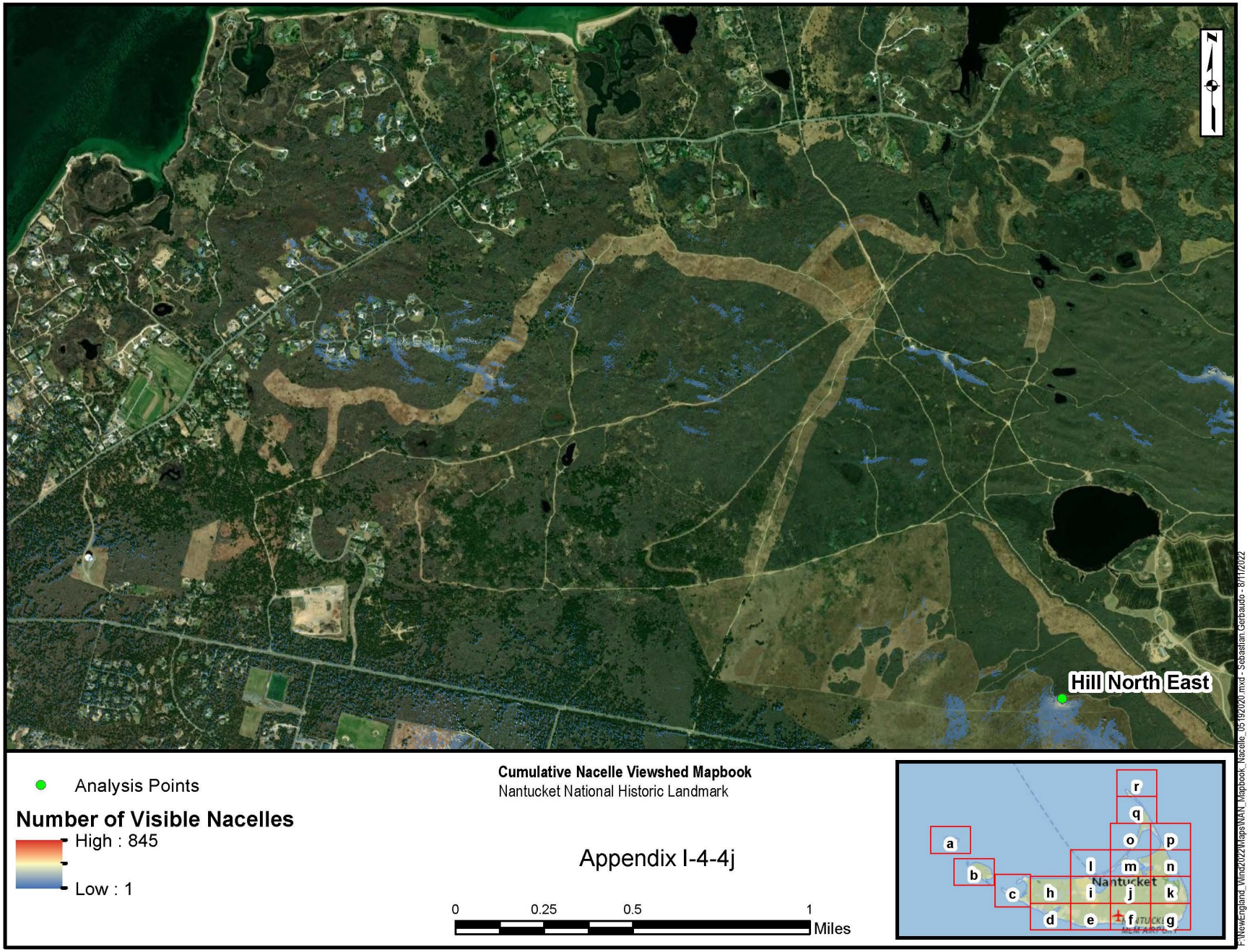
Hill North East
Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4j
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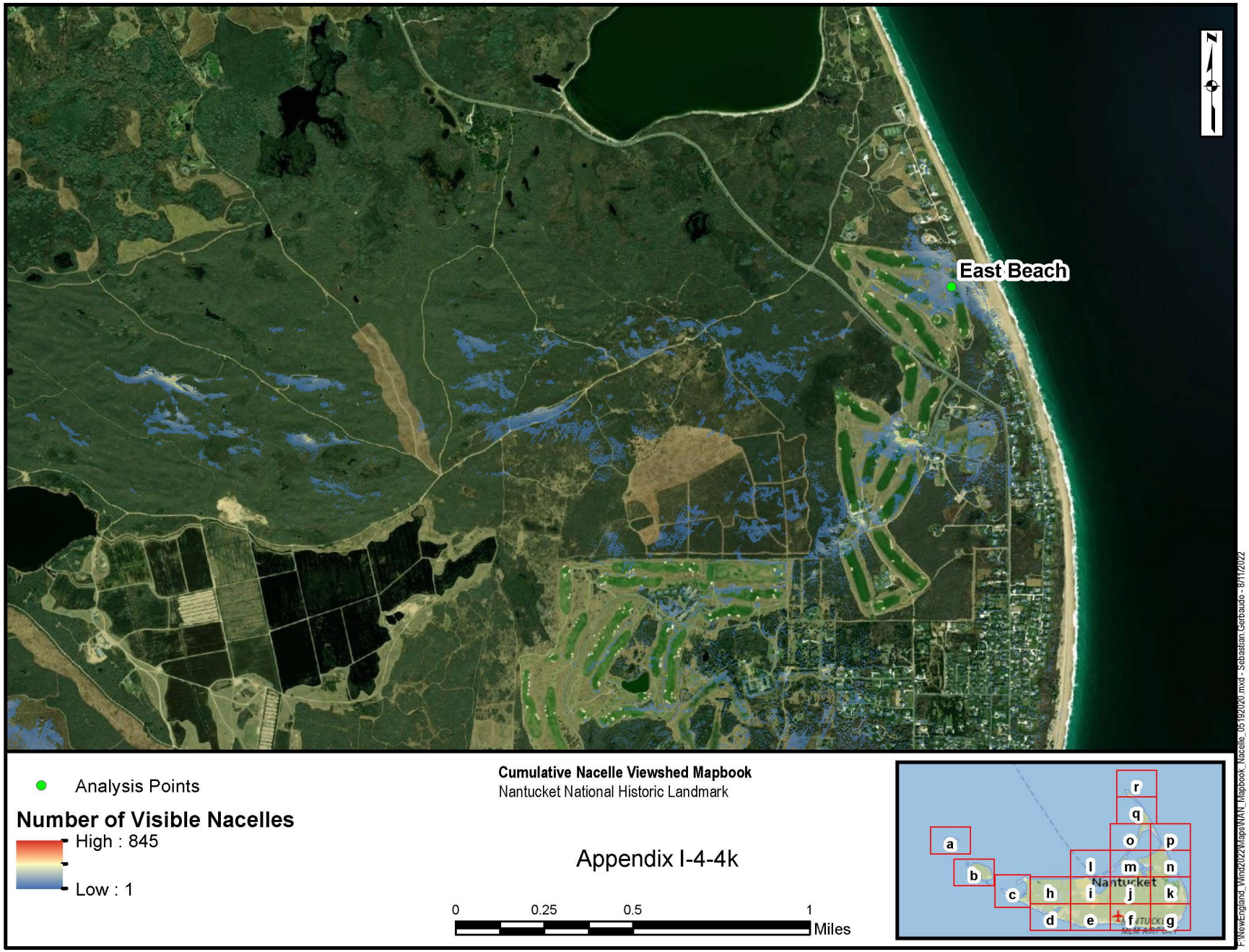
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4k
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4l
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4m
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4n
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4o
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Analysis Points
Number of Visible Nacelles
High : 845
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Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4p
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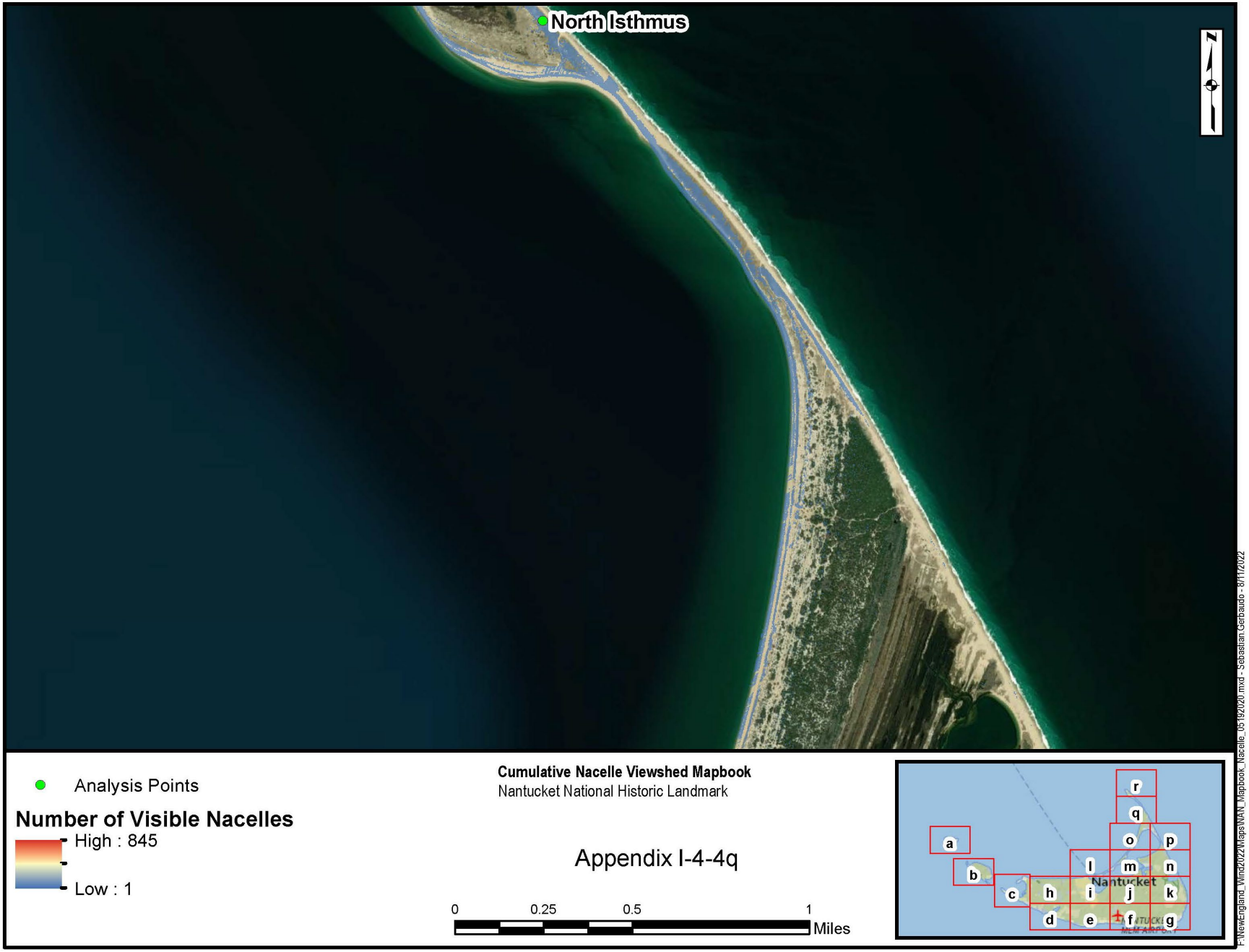
North Isthmus
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Analysis Points
Number of Visible Nacelles
High : 845
Low : 1
Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4q
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N
North Isthmus
Analysis Points
Number of Visible Nacelles
High : 845
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Cumulative Nacelle Viewshed Mapbook
Nantucket National Historic Landmark
Appendix I-4-4r
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