SOUTHAMPTON TOWN TRUSTEES
THREATENED AND ENDANGERED SPECIES MANAGEMENT AND PROTECTION PROGRAM

Figure 1: Three newly hatched piping plover chicks loafing inside of the nest with one on the way.

Scientific Report 2022

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I. Executive Summary

The Southampton Town Trustees Threatened and Endangered Species Management Program (T&E program) consists of 26 miles of coastline, composed of 8 ocean sites and 15 bay sites. In the 2022 breeding season, 60 nesting pairs of piping plovers made their home in Southampton Township fledging 84 chicks for a productivity of 1.4 fledges per pair. Additionally, 339 nesting pairs of least terns successfully fledged 426 chicks for a productivity of 1.23 fledges per pair. Overall, 26 seabeach amaranth plants were found across 3 ocean sites, with 949 seabeach knotweed plants being found in 1 ocean site and 6 bay sites. Throughout the season these species faced threats from predators, storms, and human disturbances such as dogs and ORV's.

II. Current Species Status

The Threatened and Endangered species program protects four species in Southampton Town, two of which are avian species: the federally threatened, and New York State (NYS) endangered piping plover (*Charadrius melodus*), and the NYS threatened least tern (*Sternula antillarum*). The remaining two species are annual coastal plants: the federally, and NYS threatened seabeach amaranth (*Amaranthus pumilus*) and the NYS listed rare species of special concern, seabeach knotweed (*Polygonum glaucum*) (NYNHP, 2016).

III. Program Objective

The T&E Program provides protection for populations of threatened and endangered flora and fauna that inhabit coastal beaches and rely on these zones for breeding. Management

efforts for these flora and fauna are focused on increasing their annual productivity rate. Increased productivity rates will raise the number of these species in their respective populations, bringing them off of the threatened and endangered species lists.

In order to raise productivity rates, the current threats to each species' population is identified, and actions to minimize and/or negate these threats are taken. The T&E program aims to protect the threatened and endangered species that rely on Southampton's shoreline for breeding habitat, while also working closely with the public who frequent these locations.

IV. History of the Program

Prior to 1998, the U.S. Fish and Wildlife Service (USFWS), the Nature Conservancy (TNC), and the New York State Department of Environmental Conservation (NYSDEC) jointly managed threatened and endangered species recovery in the Southampton area. However, due to a decrease in staffing and resources provided by the NYSDEC and TNC, the Southampton Trustees initiated their own threatened and endangered species program. Preceding 2011, the Southampton Town Trustees were responsible for 13 miles of ocean beaches as well as 16 bay sites. During the 2011 season, the Trustees worked with TNC to become familiarized with the Westhampton Island sites. In 2012, the Trustees began to manage the 5.5 miles of ocean beach from Roger's Beach Pavilion in Westhampton to Tiana Pavilion in Hampton Bays. Currently, the Trustees manage a total of 18.5 miles of ocean beach sites and 15 bay sites. The remaining sites in the Town of Southampton are managed by TNC, NYSDEC, USFWS, Suffolk County Department of Parks, Recreation and Conservation (SCDPRC) and a private consulting firm. Over the course of 20 years, sites have been both added and removed, altering the distance that is

monitored during the breeding season. Historically, the total distance monitored has varied between 18.9 all the way up to 25.8 miles.

V. Life History, Conservation, and Recovery Efforts

Piping Plover (*Charadrius melodus)*

The piping plover is a small migratory shorebird that flies north during the spring to locations like Long Island where they utilize the bay and ocean beaches for breeding. They are identifiable by their light grey to sand coloration, a white underbody, and a well-defined black neck and brow band. These features are on full display during the breeding season.

Males will arrive to the beaches first, typically around mid-March, to establish their nesting territories. Females arrive soon thereafter. These solitary nesters prefer open, sparsely vegetated, sandy, and moderately rocky shoreline habitats to make their nests. Prime nesting habitats include over-wash areas, gently sloped fore dunes and sand flats. Ideal nesting habitat is usually located in close proximity to rich foraging grounds in preparation for brood rearing. Plovers exhibit nesting site fidelity, meaning that these birds will return to the same nesting grounds year after year. In preparation for the breeding season, historic and suitable nesting habitats are fenced off with "symbolic

Figure 2: The images above show a piping plover performing broken wing display in order to lead a Coastal Steward away from its nest.

fencing." Symbolic fencing is made up of wooden or metal posts connected by string with flagging. Once the fencing is constructed appropriate signage is attached to end posts (Figure 3). This fencing ensures that birds are not disturbed during their breeding season and makes them less likely to abandon a nest should a perceived predator get too close.

Figure 3: Symbolic fencing used to protect the breeding sites of piping plovers and least terns.

From mid-March through May, male plovers will establish their nesting territories while courting female plovers to form a pair bond. During this process, males will create multiple scrape nests, which the female will inspect as a potential nesting option. Scrapes are shallow depressions in the sand that are often decorated with seashell fragments by the female. They are difficult to see and are often mistaken for a footprint or a depression left by a shell that was picked up or moved (Figure 6). During the courtship and nesting processes, the symbolic fencing is rearranged to reflect the birds' behaviors in order to provide them with an optimal buffer from disturbances. After copulation, the female will lay one egg every other day until a full clutch is formed, which is usually three to four eggs. If a nest failure occurs, the pair will attempt to re-nest up to four times within a breeding season. Nest failure can be caused by many factors, including disturbance while incubating, exposure, predation, abandonment, infertility, vandalism and nest washout caused by wave or tidal

Figure 4: A predator exclosure made up of 10 ft. of wire mesh and a mesh top installed around a piping plover nest that is at risk for predation.

inundation. In areas with a high predatory presence, a predator exclosure will be installed around the nest for protection (Figure 4). Piping plovers defend their nests by doing something called broken wing display. As the name implies, the bird will act as if its wing is broken by flailing around on the ground in order to distract the perceived predator and lead it away from their nest or chicks (Figure 2). In extreme cases, the bird may even make gurgling noises to make for a more convincing performance if its usual acting is not drawing enough attention. Both piping plover parents share the responsibility of incubating the nest, which begins after the final egg is laid and the clutch is complete. The incubation period lasts for approximately 25-28 days, before the chicks begin to hatch (Figure 7).

Figure 5: The two images to the right are of a piping plover nest at Red Cedar Point. The eggs are so well camouflaged that it would be easy for anyone to unknowingly step on nest.

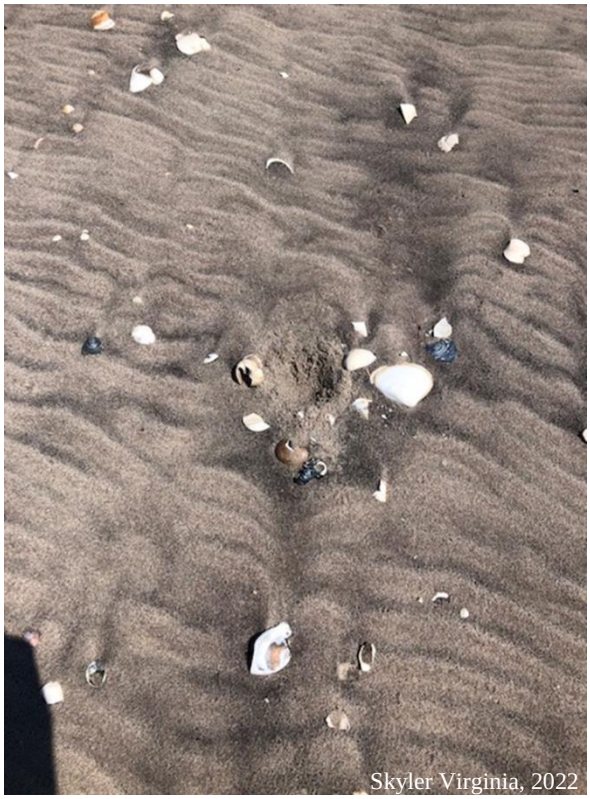

Figure 6: The images above depict piping plover scrapes. The leftmost image shows a scrape that was made in a washed up branch, unfortunately this scrape got washed away in a Nor Easter. The rightmost scrape is freshly made and looks more like what a typical ocean site scrape would look like.

After estimating the hatch date of a nest, snow fencing will be placed perpendicular to the dune at a distance of 1,000 meters in either direction from the nest location, restricting vehicle access in the area. This is done 3-5 days in advance of the estimated hatch date. Piping plover chicks are precocial, meaning that they will begin foraging within 24 hours of hatching, scurrying between the foredune and intertidal zones. Without the ability to fly, the chicks are at risk from predation, as well as human disturbance, especially from ORVs. Their greatest defense is their camouflage. When threatened by a perceived predator, ORV's included, they will crouch down and stay still until the predator has passed. After hatching, the chicks take approximately 25-35 days to fledge, during which the brood will remain within close proximity of each other for protection from the elements and predators. Once observation of a chick's ability to fly for a minimum distance of 15 meters is observed, they will be considered fledged and factored into the

species' productivity. After fledging, plovers will begin to congregate in small groups in preparation for their long distance migration back south. This migration can start as early as July, and as late as October. Piping plovers spend their winters on the coast from Texas to North Carolina and sometimes as far south as the Bahamas and Greater Antilles (Department of Environmental Conservation n.d.).

Figure 7: Piping plover chicks hatching from their nest (left) and beginning to relocate for the very first time (right).

In order to remove the Atlantic Coast populations of piping plovers from the Federal List of Endangered and Threatened Wildlife and Plants, the USFWS has developed recovery criteria that must be met. Delisting will occur when there are 2,000 breeding pairs, maintained over five years. Of the 2,000 pairs, 575 of those must be located within the New York/New Jersey region. Additional delisting criteria requires a five-year average productivity of 1.50 fledged chicks per pair throughout the region. There must also be institution of long term agreements among cooperating agencies, landowners, and conservation organizations in order to maintain populations and productivity (USFWS 2009).

Least Tern *(Sternula antillarum)*

The least tern is a small migratory coastal bird that utilizes Long Island's shoreline for breeding and reproduction. These colonial nesters can be found in groups ranging from 5 to upwards of 100 pairs. They are identifiable by a grey back, white underside and a black capped head with a white brow band. Adult terns arrive to the nesting grounds between late April and mid-May, prior to common terns and black skimmers. Like plovers least terns also create scrapes, although they tend to be shallower. They select similar habitats to the piping plover for nesting such as: sand flats, gently sloped fore dunes and flat expanses of beach above the high tide line. Both species can be seen sharing nesting habitats, as they do not compete for food. Pairs will lay a full clutch of one to three eggs per nest from late May through June. Both parents share the incubatory responsibilities. Incubation will last approximately 20-23 days, at which point the chicks will begin to hatch.

Figure 8: Recently hatched least tern chicks loafing inside the nest.

Within a few days of hatching, chicks will begin to move outside of the nest. They are semi-precocial and depend on their parents for feeding and protection. Terns are loud and extremely protective of their young and nesting territories, they are known for swooping at intruders when they feel threatened (Figure 9). During the summer, chicks can be seen sheltering

in the shade of beach debris and foliage, as well as in tire tracks and footprints. Least tern nesting colonies are protected in a similar fashion to piping plovers. Symbolic fencing is arranged around the colony followed by snow fencing a few days prior to the hatching of nests. At approximately 20 days old, the chicks will fledge, and shortly thereafter, depart for their wintering grounds, which can happen as early as August and typically no later than the end of September (NYNHP, 2016).

Figure 9: An adult least tern adult swooping at perceived predators to protect the nesting colony.

Seabeach Amaranth *(Amaranthus pumilus*)

For many years, it was assumed that this annual beach grown plant had been eradicated from the coastal ecosystems of Long Island, however, it was rediscovered in 1990. Unfortunately, this plant has lost approximately two-thirds of its historic range. Seabeach amaranth grows in dynamic areas of the beach profile on accreting shorelines between the dunes edge and the high tide line, often in the same areas as nesting shorebirds. Germination of seabeach amaranth occurs between June and July on Long Island, coming to maturation between August and September. During the maturation period, plants will continue to grow, bloom and disperse seeds by wind. At the same time, they act as sand-binders fortifying the beach profile. Plants can range in size from a few inches to a few feet in diameter (Figure 10).

Seabeach amaranth plants are protected by small, symbolically fenced and signed areas directly encompassing the plant to prevent ORV and pedestrian traffic from damaging them. It's imperative for the plant to survive until it's mature enough to disperse its seeds. In order to be considered for delisting, seabeach amaranth must be found within a minimum of six states that fall within its historic range with plants occupying a minimum of 75% of this suitable habitat. These requirements must be met for each site for a minimum of 10 years. According to the most recent 5-year review of seabeach amaranth, it was suggested that no changes be made to the plants listing even though the plant is found within six of the states within its historical range, given that the data does not encompass the 10-year requirement (USFWS 2007).

Figure 10: A seabeach amaranth plant found on coastal ocean beaches.

Figure 11: A seabeach knotweed plant found on coastal ocean and bay beaches.

Seabeach Knotweed (*Polygonum glaucum*)

Seabeach knotweed is an annual plant found on bay and ocean shorelines of Southampton Town between the foredune, shoreline and bordering salt marshes. It is typically found in areas that are sparsely vegetated and have a relatively flat topography (Figure 11). Knotweed typically flowers from May to October and fruits from June to November. They disperse their seeds through wind, wave action and birds. In NYS, 43 existing populations are currently recognized, which are relatively stable although due to the dynamic environment these plants grow in, there are fluctuations in population numbers from year to year. In order to determine the quantity and quality, the populations are derived from 5-year averages for species evaluation (NYNHP 2016).

VI. Monitoring Methods

The official start date for monitoring piping plovers is April 1st. Although some birds may arrive prior to this date, they will not begin courtship until after it. Symbolic fencing is put up prior to April 1st in the previous year's nesting habitats. Least Terns arrive later in the season, and seabeach Knotweed and Amaranth begin growing in late July. Monitoring is conducted by Coastal Stewards who begin searching for birds and scrapes during the month of April. Each site is monitored at least once a week, however more frequent monitoring is beneficial, especially at the beginning of the season.

Coastal Stewards keep track of site activity using detailed notebook logs, coordinates of nests are taken and recorded in these logs. Stewards record any and all threatened and endangered species activity, paying special attention to any activity seen outside of protected areas. If birds begin nesting outside of symbolic fencing, it's imperative to catch it quickly in

order to construct fencing around the new nesting area. In addition to these tasks, Stewards are also responsible for educating the public on threatened and endangered species.

VII. Site Summary

Ocean Sites

Westhampton Island

Westhampton Island consists of approximately 5.5 miles of beach extending from Roger's Beach pavilion to just east of the Round Dune housing complex. This site is broken down into two sub sites: Hampton beach and Tiana beach. Eighteen piping plover pairs nested at these sites and produced thirty-five fledges for a productivity of 1.94 fledges per pair. Forty-two least tern pairs nested here and produced sixty-six fledges for a productivity 1.57 fledges per pair. Two seabeach amaranth plants were observed across the site. Common nesting disturbances in this area include dogs off the leash, beachgoers walking through boxes and ORV drivers ignoring/removing fencing throughout the hatching season. The main predatory disturbances were the presence of ghost crabs, gulls, crows, raccoons and foxes.

Plover Activity: 18 pairs, 35 fledges, 1.94 productivity
Tern Activity: 42 pairs, 66 fledges, 1.57 productivity
Seabeach Amaranth: 2 plants

Hampton Beach

The most western site of Westhampton Island extends from Roger's Beach pavilion to just east of the Round Dune housing complex. Hampton Beach was home to ten breeding pairs of piping plover who made sixteen nesting attempts over the course of the season. This site had one of the highest populations of plovers alongside Shinnecock County Park to Rd D. Only eight

of these nests were successful and fledged nineteen plovers with a productivity of 1.90 fledges per pair. Twenty-seven pairs of least terns attempted to nest at this site, with thirty-eight chicks making it to fledge giving them a productivity of 1.41 fledges per pair. Two seabeach amaranth plants were recorded at the site inside the boxes of symbolic fencing that were set up to protect the piping plovers and least terns. This site saw concerns over the season from ghost crabs, gulls, dogs, gaps in education among the public about the threatened and endangered species, residents often ignoring arranged walkways or the boxes, and occasional storms. In one incident, three boxes of symbolic fencing were suspected to be removed by those who were unhappy with the duration of the season.

Plover Activity: 10 pairs, 19 fledges, 1.90 productivity
Tern Activity: 27 pairs, 38 fledges, 1.41 productivity
Seabeach Amaranth: 2 plants

Tiana Beach

This site starts east of the Round Dune housing complex and ends at the Tiana Beach pavilion. Eight piping plover breeding pairs resided within the Tiana site and fledged sixteen chicks for a productivity of 2.00 fledges per pair. There was a least tern colony at the Tiana site that consisted of fifteen nesting pairs, which fledged twenty-eight chicks for a productivity of 1.87 fledges per pair. Overall, the endangered species at this site benefited from the amount of area they had to nest, as well as the spacing between the houses on the beach. This allowed for the boxes of symbolic fencing to be larger, as well as gave the birds room to spread out and nest. This site saw concerns from storm wash out, dogs, and a few reckless ORV drivers who drove around snow fencing. Only one nest completely failed before hatching here from presumed ghost crab predation.

Plover Activity: 8 pairs, 16 fledges, 2.00 productivity

Tern Activity: 15 pairs, 28 fledges, 1.87 productivity

Southampton Beach (Village)

Located within the village of Southampton, this site extends from the east boundary of the Shinnecock County Park to S. Main Street. Sixteen pairs of piping plover attempted to nest at this site with eighteen young piping plovers making it fledge giving a productivity of 1.13 fledges per pair. Twenty-seven least tern pairs nested at this site and produced thirty-eight fledglings giving it a productivity of 1.41 fledges per pair. Twenty-three seabeach amaranth plants were observed throughout this site. There are three sub sites of Southampton Beach: Shinnecock County Park to Rd D, Rd D to Halsey Neck lane, and Halsey Neck Lane to S. Main Street. Major concerns for this area were dogs off the leash, a few negligent ORV drivers running over 4x4 barricades used to protect the precocial plover chicks, beach parties, bon fires, predatory birds, and storms causing high winds and water encroaching of nests. With twenty nests laid throughout the site, coastal stewards spent a great deal of time thoroughly monitoring this area.

Plover Activity: 16 pairs, 18 fledges, 1.13 productivity

Tern Activity: 35 pairs, 9 fledges, 0.26 productivity

Seabeach Amaranth: 23 plants

Seabeach Knotweed: 1 plant

Shinnecock County Park to Road D)

There were ten piping plover nesting pairs in the area that produced thirteen fledges giving the site a productivity of 1.30 fledges per pair. Eleven pairs of least terns produced zero fledglings giving them a productivity of 0.00 fledges per pair. Nine seabeach amaranth plants were observed at this site, as well as one seabeach knotweed plant, symbolic fencing was constructed around them as needed. Least terns populated this site at the beginning of the season and attempted to nest, but heavy human traffic on the beach as well as through symbolic fencing was speculated to be their reason for abandoning the site.

Possible threats were unleashed dogs, predators like gulls, foxes, raccoons and birds of prey also inhabited the site.

Plover Activity: 10 pairs, 13 fledges, 1.30 productivity
Tern Activity: 11 pairs, 0 fledges, 0.00 productivity
Seabeach Amaranth: 9 plants
Seabeach Knotweed: 1 plant

Road D to Halsey Neck Lane

Four piping plover nesting pairs were observed between Road D and Halsey Neck Lane producing three fledges for a productivity of 0.75 fledges per pair. There were four nesting attempts, however only one nest yielded fledges. The other three were lost to storm wash out, predation, and unknown circumstances. Four pairs of least tern nested here with three chicks making it to fledge for a productivity of 0.75 fledges per pair. Additionally, three seabeach amaranth plants were found on this site. Major concerns at this site were irresponsible ORV

drivers disregarding the symbolically fenced areas, unleashed dogs, gulls, foxes and predatory birds.

Plover Activity: 4 pairs, 3 fledges, 0.75 productivity
Tern Activity: 4 pairs, 3 fledges, 0.75 productivity
Seabeach Amaranth: 3 plants

Halsey Neck Lane to S. Main Street

Two nesting pairs were observed at this site, with two chicks making it to fledge for a productivity of 1.00 fledges per pair. Both pairs re-nested twice, and successfully hatched, however, only one nest made it to fledge. Twenty pairs of least terns produced six fledges giving them a productivity of 0.30 fledges per pair. The biggest threats to this site were unpermitted use of ORV's, daily grooming of Cooper's Beach, gulls, human traffic through symbolic fencing, and unleashed dogs. Irresponsible ORV drivers frequently drove through symbolic fencing and around snow fencing meant to prevent beach driving.

Plover Activity: 2 pairs, 2 fledges, 1.00 productivity
Tern Activity: 20 pairs, 6 fledges, 0.30 productivity
Seabeach Amaranth: 11 plants

Gin Lane Beach

This site was inactive for both endangered birds and plants.

Old Town Beach

This site stretches from Old Town Road to Squabble Lane. Two pairs of piping plovers nested here, rearing one fledge, for a productivity of 0.5 fledges per pair. Both pairs nested twice,

with only one nest hatching. The other three were lost to predation and unknown circumstances. Eight pairs of least terns nested at this site, producing three fledges for a productivity of 0.38 fledges per pair. The low productivity this season was suspected to be due to human disturbances, as this was a highly trafficked beach. Numerous times snow fencing blocking the entrance to Fowler's, which was in close proximity to a nest, had been removed.

Watermill Beach

This site falls just to the west of Fowlers Street and extends out to Jobs Lane. This site is comprised of three sub sites: Fowler's Street, Flying Point Pavilion and Scott Cameron beach. These sites span approximately 2.38 miles which encompass three town beaches as well as two roads that provide public ORV access. This site also includes Mecox Bay, which is located between the Flying Point Road access and Scott Cameron Beach. When the water level in the bay is low, mudflats are exposed and become ideal foraging habitats for piping plovers and other migratory shorebirds. For a majority of the summer, Mecox bay was not opened up to the ocean. This prevented the mudflats from being exposed, as the high water level continued to rise. Because of piping plover and least tern nesting activity in the area, dredging was attempted by hand, unsuccessfully. After the failure of a plover nest and several least terns nests in the area, dredging was able to proceed as usual. Six nesting pairs of piping plovers were observed in total, with five chicks making it to fledge, for a productivity of 0.83 fledges per pair. This season thirty-seven least tern pairs produced forty-two fledglings giving them a productivity of 1.41 fledges per pair. Some disturbances this site faced was irresponsible ORV drivers removing symbolic fencing and barricades. Throughout the season, snow fencing had to be extended to

prevent ORV's from driving around it. Other disturbances were off leash dogs, high pedestrian traffic, birds of prey, gulls, crows and foxes.

Plover Activity: 6 pairs, 5 fledges, 0.83 productivity Tern Activity: 37 pairs, 42 fledges, 1.14 productivity

Fowlers Street

This site was inactive for both endangered birds and plants.

Flying Point Pavilion

This site extends from Flying Point Pavilion to the Cut Beach. One piping plover pair was observed nesting at the site and fledged zero chicks. Twelve pairs of least terns also attempted to nest here, but like the plovers, they raised zero chicks/fledges. The plovers and terns all nested in the same area, with all nests being lost the night or early morning before the Mecox hand dredging attempt. It's assumed that the nests were lost to gull predation, as a gull was observed eating an egg. However, gulls had occupied this area the entire nesting season and the protected area around Mecox was always heavily trafficked by people and unleashed dogs, possibly making the exact cause of failure a combination of events.

Plover Activity: 1 pairs, 0 fledges, 0.00 productivity Tern Activity: 12 pairs, 0 fledges, 0.00 productivity

Scott Cameron Beach

This site extends from the end of Dune Road to Jobs Lane. Five piping plover pairs nested here, with five chicks making it to fledge for a productivity of 1.00 fledges per pair. Twenty-five pairs of least terns fledged forty-two chicks giving them a productivity of 1.68. In total, six piping plover nests were laid, with all but two failing before hatch. Many homeowners in this area walked through protected areas instead of using walkways. Additionally, beach chairs were either stacked inside or against symbolic fencing, or placed in walkways directly next to symbolic fencing. This beach was heavily trafficked by people, as well as unleashed dogs. Careless ORV drivers frequently drove around snow fencing restricting drive on access.

Plover Activity: 5 pairs, 5 fledges, 1.00 productivity
Tern Activity: 25 pairs, 42 fledges, 1.68 productivity

Sam's Creek

This site was inactive for both endangered birds and plants.

Sagaponack Pond

This site stretches from Ocean Road to Gibson Lane. Sagaponack Pond lies in the middle of this site and provides a tremendous amount of foraging and nesting grounds for both the piping plovers and least terns. Four pairs of piping plover attempted to nest at this site with three chicks making it to fledge, for a productivity of 0.75 fledges per pair. Eight least tern pairs fledged 0 chicks for a productivity of 0.00 fledges per pair. The reason for low fledge rates here was probably due to presence of predators like foxes, gulls, crows, birds of prey, dogs and feral cats. Additionally, the symbolic fencing around Sagaponack pond was driven through multiple times this season. People also entered symbolic fencing to launch kayaks as well as have

bonfires. Much like Mecox bay, this site had to be dredged twice this season, however, the second dredging took place after all chicks in this area had fledged.

Plover Activity: 4 pairs, 3 fledges, 0.75 productivity
Tern Activity: 8 pairs, 0 fledges, 0.00 productivity

Fairfield Pond Lane Beach

This site is located between Gibson Lane and Townline Road. Two pairs of piping plover nested here with one chick making it to fledge for a productivity of 0.25 fledges per pair. Sixteen pairs of least terns fledged zero chicks for a productivity of 0.00 fledges per pair. One seabeach amaranth was found at this site near Gibson Lane. Six piping plover nests were laid here throughout the season, with only one making it to fledge. Two nests were abandoned, one was almost ran over by an ORV that drove through the symbolic fencing and the other was near a construction site, these were the speculated reasons for abandonment. Despite this stretch of beach being wide, unpopular with the public, and having a high variety of vegetation, it had the lowest productivity out of any ocean or bay site.

Plover Activity: 4 pairs, 1 fledge, 0.25 productivity
Tern Activity: 16 pairs, 0 fledges, 0.00 productivity
Seabeach Amaranth: 1 plant

Bay Sites

Red Cedar Point

Five pairs of piping plovers resided at this site, fledging eight chicks for a productivity of 1.60 fledges per pair. There was a least tern colony of fifty breeding pairs who fledged eighty-seven chicks for a productivity of 1.74 fledges per pair. There were a total of eighty-seven seabeach knotweed plants at this site. Predators and disturbances at this site consisted of crows, gulls, light pedestrian traffic, recreational anglers, boats, and kayak landings. However, there were rarely any pedestrians at the site, and those who did visit seemed to keep out of the symbolic fencing. This site benefited both piping plovers and least terns by being remote, in a private community, and having minimal pedestrian traffic allowing the birds to spread out and nest without many disturbances.

Plover Activity: 5 pairs, 8 fledges, 1.60 productivity
Tern Activity: 50 pairs, 87 fledges, 1.74 productivity
Seabeach Knotweed: 87 plants

Red Creek Pond

Two piping plover pairs nested here, rearing four fledges for a productivity of 2.00 fledges per pair. Ten pairs of least terns resided here as well, fledging twelve chicks for a productivity of 1.20 fledges per pair. In total, there were sixteen seabeach knotweed plants observed at this site. This site is located at the end of a private road, which helps to limit human disturbances. However, gulls, foxes, and boats were still common disturbances.

Plover Activity: 2 pairs, 4 fledges, 2.00 productivity
Tern Activity: 10 pairs, 12 fledges, 1.20 productivity
Seabeach Knotweed: 16 plants

Squires Pond

This site was inactive for both endangered birds and plants.

Meschutt Beach

This site was inactive for both endangered birds and plants.

Canoe Place Beach

This site was inactive for both endangered birds and plants.

Fish Cove/N. Sea Harbor

The site was inactive for both endangered birds and plants.

Towd Neck

This site encompasses an area with an inlet that separates the location into a western and eastern area. The western area is generally desolate in terms of wildlife activity whereas the eastern area is a popular location for piping plover and least tern colonies to breed. The eastern and western portion of this site had a combined total of seven hundred and three seabeach knotweed plants.

Plover Activity: 2 pairs, 7 fledges, 3.50 productivity
Tern Activity: 65 pairs, 97 fledges, 1.49 productivity
Seabeach Knotweed: 703 plants

Towd Neck West

This site has limited suitable nesting habitat while simultaneously having a large amount of human activity such as ORV use, recreational angling and parties. However, this site did have an abundance of knotweed with one hundred and sixty-four plants being observed.

Seabeach Knotweed: 164 plants

Towd Neck East

This sub site has a high frequency of recreational use especially near the Towd Point Road access point. Concerns for this site were reckless ORV drivers, unleashed dogs, pedestrian traffic, birds of prey, foxes and raccoons. Two pairs of piping plovers nested at this site fledging seven chicks. Sixty-five least tern pairs also nested at this site and fledged ninety-seven chicks for a productivity of 1.49 fledges per pair. Overall, five hundred and thirty-nine seabeach knotweed plants were observed at this site.

Plover Activity: 2 pairs, 7 fledges, 3.50 productivity
Tern Activity: 65 pairs, 97 fledges, 1.49 productivity
Seabeach Knotweed: 539 plants

Wooley Pond

The site was inactive for both endangered birds and plants.

Roses Grove

The site was inactive for both endangered birds and plants.

Fresh Pond

The site was inactive for both endangered birds and plants.

Pine Neck

The site was inactive for both endangered birds and plants.

Long Beach

At the eastern most end of Long Beach, one pair of piping plovers produced two fledglings giving them a productivity of 2.00. One least tern colony was able to breed and consisted of thirty nesting pairs who successfully fledged forty-seven of their young for a productivity of 1.57 fledges per pair. Despite Long Beach being a popular location for pedestrian traffic, both plovers and least terns were able to successfully breed and raise their young. This location also produced one hundred and twenty-three seabeach knotweed plants.

Plover Activity: 1 pairs, 2 fledges, 2.00 productivity
Tern Activity: 30 pairs, 47 fledges, 1.57 productivity
Seabeach Knotweed: 123 plants

Short Beach

Sixteen seabeach knotweed plants were observed at this site.

Seabeach Knotweed: 16 plants

Genet Creek

The site was inactive for both endangered birds and plants.

Middle Pond

The site was inactive for both endangered birds and plants.

VIII. 2022 Season Results

In the 2022 season 60 breeding pairs of piping plovers and 84 fledges were observed. Therefore, the productivity level comes out to 1.4, productivity refers to the number fledges produced by the breeding pairs. In order to get piping plovers off of the endangered species list in New York State, a productivity level of at least 1.5 must be maintained for 5 consecutive years in the entire region. As seen in Figure 12, the productivity goal was not met this season, unlike the previous 2021 season which had a productivity level of 1.69.

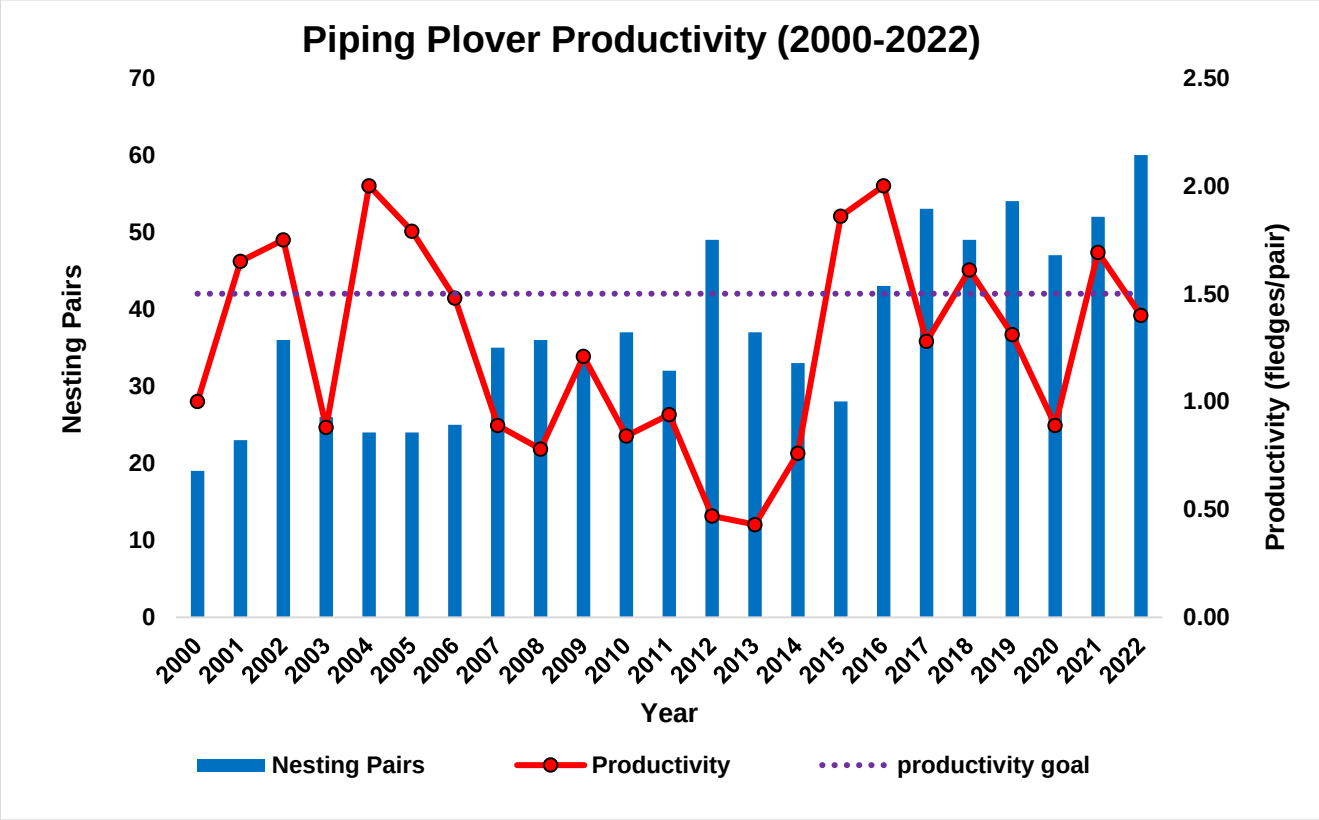

Figure 12: The graph above depicts the productivity levels for piping plovers in the Southampton Township from 2000-2022. The productivity level for this season was 1.4, which is below the goal of 1.5. The seasons that met this goal were 2001, 2002, 2004, 2005, 2015, 2016, 2018 and 2021.

Over the course of the season 78 nests were laid with a total of 39 resulting in failure. Overall, 287 eggs were laid with only 162 hatching (56.5%). As seen in Figure 13, only 29.3% of all eggs hatched and fledged, with 27.2% of eggs hatching, but not reaching fledge hood. The eggs that hatched and did not fledge were lost to either predation, natural causes, human disturbances such as ORV's, or unknown circumstances. The eggs that never hatched (43.6%) were lost to predation (12.5%), presumed ghost crab (*Ocypode quadrutu*) predation (6.3%), abandonment (3.5%), unknown causes (15.0%), wind sweeping/sand inundation (0.7%), wash out (3.8%), and infertility (1.7%).

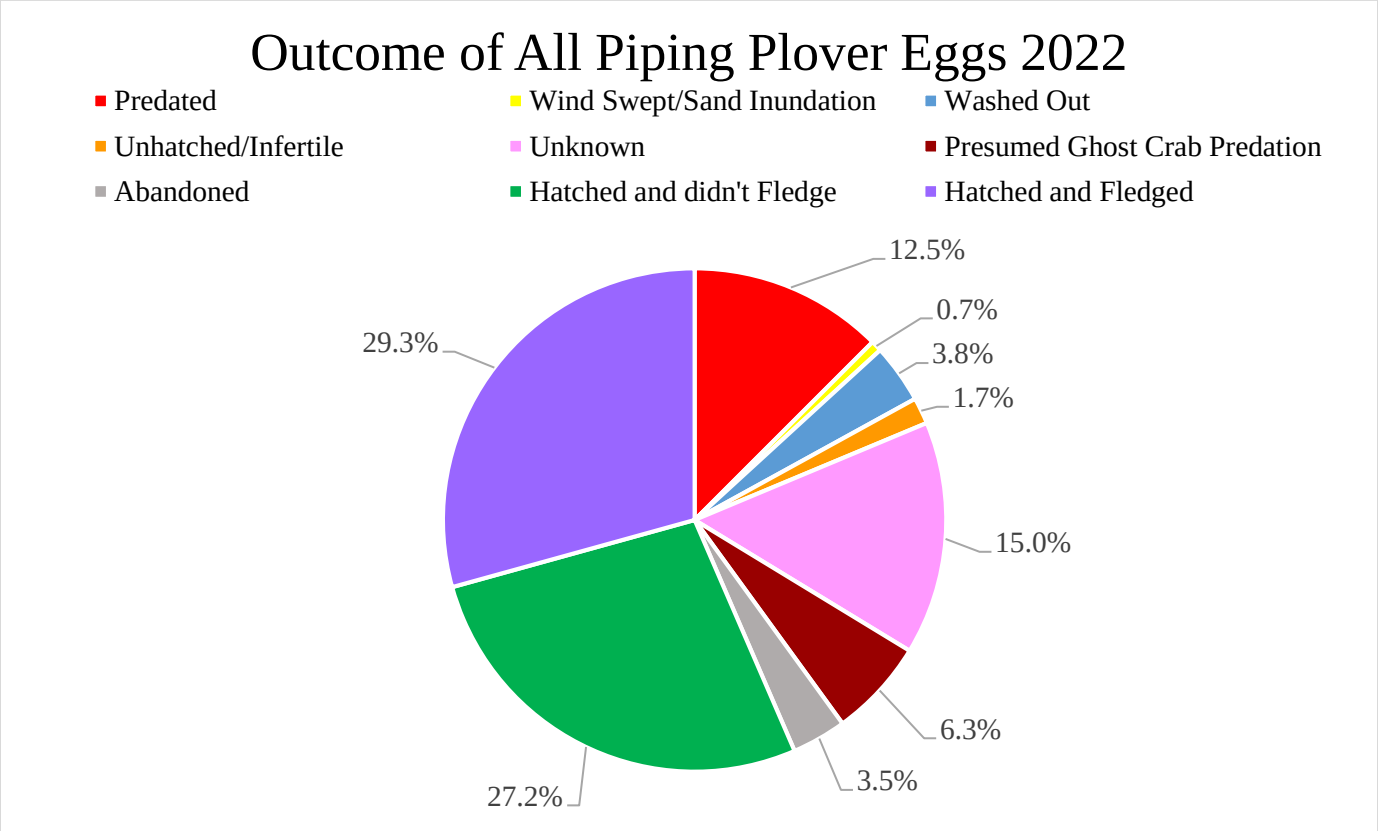

Figure 13: The above pie chart shows the outcome of all 287 piping plover eggs laid this season. Only 29.3% of all eggs laid this season fledged and presumably made it to adulthood. All other eggs were lost to circumstances listed above.

Eggs lost to predation were lost to natural predators like gulls, crows, foxes, and raccoons, as well as domestic predators such as dogs. Dogs were a big factor in nest failures this season, as nearly every sites symbolic fencing had dog tracks within the protected area. Once summer was in full swing, Stewards would observe unleashed dogs running into protected areas and/or chasing piping plovers almost every day. Dogs can unintentionally crush nests by running through symbolic fencing and are driven by instinct to chase and kill adult piping plovers as well as chicks who are unable to fly away.

The presumed ghost crab predation category refers to nests that seemed to vanish overnight without a trace. Although there is no empirical evidence for ghost crab predation, it is highly probable that they predate on piping plover eggs and chicks. Researchers have found fresh broken piping plover eggs in ghost crab burrows (Watt's and Bradshaw 1995, 767-68). Additionally, chicks have been spotted with fresh, large lacerations near ghost crab burrows and are soon after eaten by them (Loegering et al. 1995, 768-69). The disappearance of a nest is thought to be caused by these predators bringing the eggs into their burrows, leaving no evidence behind. This occurred frequently in areas with an abundance of ghost crabs, particularly in Westhampton. On two occasions Stewards observed ghosts crabs leaving their burrows to chase and follow chicks. In another encounter, while an adult was doing broken wing display, a ghost crab left its burrow and attempted to grab the bird. The adult subsequently stopped the display and the crab retreated. During a site visit at Dolphin Beach in Westhampton, least terns chose to dive bomb a ghost crab instead of a Steward, showing that they saw the crab as a threat greater than a human.

Abandonment of a nest occurs when there is too much disturbance in an area, whether it be from frequent human or predator activity. Although only a few failures were from

abandonment this season, 75% of abandonment was suspected to be due to human disturbance. In two cases ORVs drove through the symbolic fencing multiple times a few feet away from the nests. In the third case, a large amount of human footprints were found inside the fencing, once again near feet away from the nest. Since each site is not monitored daily this is only speculation.

Wind sweeping, sand inundation, and wash out usually occur when there's a large storm. There were three major storms over the course of this season, one of which being a Nor Easter. The frequency of storms later in the season is a consequence of climate change which will be discussed further in the next section. Failures from wash out, sand inundation and wind sweeping occurred during every storm.

Unfortunately, a majority of failures this season were unknown. This is partially due to the lack of staff in the beginning of the season, with only three Stewards responsible for monitoring 18.5 miles of ocean beaches as well as 15 bay sites. Storms also delayed monitoring, as nearly all symbolic fencing on the coast needed to be re-constructed after them. Loss categorized as unknown means there was not enough evidence at the nest site to suggest one of the other causes mentioned above.

The last reason for loss was simply the eggs not hatching. Only a few eggs this season never hatched due to infertility. On multiple occasions the hatching of a nest would be witnessed, but one egg would be left behind unhatched.

The beach with the greatest productivity for piping plovers was Towd Neck with a productivity level of 3.50. The ocean nesting sites had a productivity of 1.26, while the bay nesting sites had a productivity of 2.10. The ocean sites with the greatest productivity were Dolphin and Triton, together they had a productivity of 2.00.

Overall, there were 339 breeding pairs of least terns with 416 successful fledges, resulting in a productivity of 1.23. Least terns are not followed as closely as piping plovers since they are threatened, not endangered. It's possible that the productivity was actually higher, since most chicks were not counted until they were spotted as fledges. Least terns face the same threats as piping plovers, so any loss can be attributed to the reasons previously discussed in this section. The beach with the highest least tern productivity was Dolphin Beach, with a productivity of 1.87. However, the bay nesting sites had a productivity of 1.53, while the ocean nesting sites had a productivity of 0.82.

There were a total of 26 seabeach amaranth and 949 seabeach knotweed plants across all sites. With 948 plants, seabeach knotweed was primarily present at bay sites, as opposed to ocean sites, where only 1 was found. The site with the greatest abundance of seabeach knotweed was Towd Neck with a total of 703 plants. Unlike seabeach knotweed, seabeach amaranth can only grow in ocean sites. The site with the largest amount of seabeach amaranth was Halsey Neck Beach with a total of 11 plants.

IX. Challenges and Threats to Conservation

In Southampton town there are numerous naturally occurring and anthropogenic threats to conservation. The more dangerous of these two threats are the ones caused by humans, whether they are direct or indirect. All of the natural reasons for loss were explained in the previous section. Humans directly threaten successful conservation by ignoring protected areas as pedestrians, removing fencing to drive ORV's through protected areas, keeping their dogs off leash, intentionally vandalizing endangered shorebird nests and purposefully harming birds or

chicks. Thankfully, there was no solid evidence of the latter-most threat this season, however it wouldn't be so unimaginable.

Unleashed and unwatched dogs can also kill adult least terns and plovers as well as their chicks. Additionally, throughout the season signage was defaced with BB guns, stickers from brands trying to advertise as well as vulgar, graphic and descriptive graffiti. Public support can make or break any program, a greater effort to educate and include the public in conservation efforts would be beneficial for the program's success. The more successful the program is, the shorter it will operate for, a fact that most of the public is unaware of.

Figure 14: The images above show the symbolic fencing being flooded the day after a Nor Easter. The tide line goes into the dunes, and in some places the surge still flows up well into the dunes. Monitoring was cut short this day due to site inaccessibility.

Direct anthropogenic threats have devastating consequences, but indirect threats can be just as harmful. Climate change is one of the biggest concerns our planet is facing at the moment.

Climate change threatens the beaches here with sea level rise, more frequent and severe storms, beach erosion, and coastal flooding (Vitousek et al. 2017, 1060). As the globe warms, evaporation rates increase, adding more moisture in the atmosphere and leading to greater rates of rainfall. Moreover, increased ocean surface and atmosphere temperatures cause higher wind speeds in tropical storms (U.S. Geological Survey n.d.). These factors accelerate beach erosion, decreasing the amount of available habitat for endangered birds and plants. Shortened beaches will make these species more susceptible to nest wash out and increase the frequency of predator and human interactions. There were three major storms this season, one being a Nor Easter, which wiped out almost all of the symbolic fencing at the ocean sites and flooded the bay sites. You can see how the storm surge from the Nor Easter engulfs a majority of Roger's Beach in Figure 14. Homeowners also voiced their concerns of the shrinking beaches in the beginning of the summer due to these storms.

X. Discussion

Although the productivity goal was not met this season, it was not missed by much. Six more chicks would've had to fledge in order for the minimum 1.5 productivity goal to have been met. Overall, the bay sites had a significantly higher productivity rate than the ocean sites. All the bay sites together had a productivity of 2.10 fledges per pair, while the ocean sites had a productivity of 1.26 fledges per pair. Red Cedar Point and Red Creek Pond producing a good amount of fledges is not surprising, since both sites are at the end of private roads, lightly trafficked and are inaccessible by vehicles. The most surprising site was Towd Point East, not only did it have the highest piping plover productivity rate, but it also provided habitat for 539 seabeach knotweed plants. This is a popular site for driving, and is decently crowded on weekends and even weekdays. The reason for the abundance of fledges at this site may be thanks to the 65 pairs of

least terns that resided here. These defensive nesters kept humans and other perceived predators out of the symbolic fencing. In fact, these birds were so good at defending their young that beachgoer's chose to sit as far away from the protected areas as possible, typically on the other side of the snow fencing. Although somewhat annoying, it seems that their biological defenses are paying off, for the piping plovers at least. The bay sites also provide the best habitat for camouflage, as seen in Figure 5, which most likely had a part to play in the successful rearing of chicks at these beaches.

Similarly, least terns also had higher productivity rates at the bay sites than the ocean sites. The bay sites had a productivity of 1.53 fledges per pair, while the ocean sites had a productivity of 0.82 fledges per pair. The bay site with the highest least tern productivity rate was Red Cedar Point with a total productivity of 1.74 fledges per pair. However, least tern productivity across all sites was surprisingly low. This may have been the result of inaccurate counts, since at most, only two Stewards monitored a site together. This was a rare occurrence however, as there was usually only three Stewards working on any given day. Least terns are hard to keep track of, so estimating the number of these birds and chicks was standard practice.

Seabeach amaranth was more prevalent this year with 26 plants being found across all sites. Last year, only 21 plants were found. However, most of the plants found in mid-August looked to be eaten later on in the season. The plants in Westhampton Island Hampton Beach fell victim to this, as well as the most of the plants found in Southampton Beach. On a positive note, people seemed more enthusiastic about amaranth conservation, with one compassionate beachgoer at the Village Beach putting sticks around a plant they believed was amaranth in order to protect it. Seabeach Knotweed numbers were also higher this year compared to last year with 949 plants grown successfully, as opposed to last year which yielded 657 plants. Again,

knotweed was more prevalent at the bay sites, however this is its most ideal habitat, so this fact is not remarkable.

XI. Acknowledgements

The staff of the Southampton Town Trustees Threatened and Endangered Species program would like to give a huge thanks to everyone who supported our program during the 2022 season. Thank you Board of Trustees; President Scott Horowitz, Secretary/Treasurer William Pell IV., Edward Warner Jr., Ann Welker, and William Parash for all of your continued support. Thank you Trustee Office Staff Jessica Feldman, James Duryea, Linnea Piazza, Stephanie Shea, Charlotte Van Houten, Corrine Lavinio, Lisa Koehne, Nick Buscemi and Daisy Ramos; the Southampton Town Bay Constables, Trustees Marine Maintenance division, Joe Jannsen of the Nature Conservancy, Steve Sinkevich of the USFWS, Michelle Gibbons, Fredrick "Chip" Hamilton of the NYSDEC, the Southampton Town GIS Department, Southampton Village Trustees, Village Department of Public Works Superintendent and the public that had patience, understanding and respect towards the work that we perform. We also would like to thank the Suffolk County Threatened and Endangered Species program consisting of Diana Lynch and her endangered species staff, for collaborating and monitoring Southampton's Picnic Area. None of this work would have been possible without all of you, your hard work and dedication, Thank you!

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N

Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

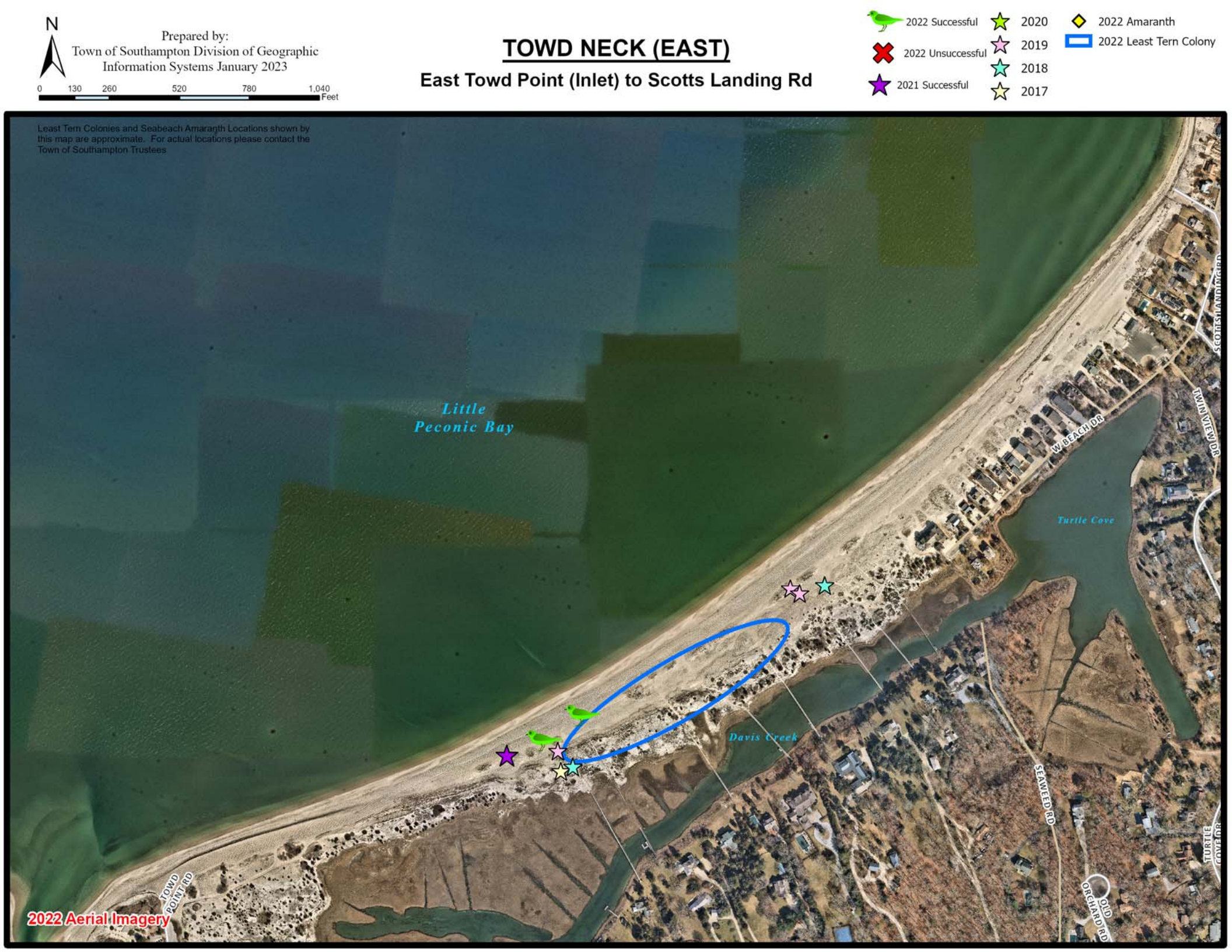
0 75 150 300 450 600 Feet

FRESH POND

Bulkhead to Lake Dr.

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
WATER MILL BEACH
Dune Rd to Jobs Ln
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Sam's Creek
Sam's Creek
JOBS LN
Mecox Bay
DUNE RD
Atlantic Ocean
FLYING POINT RD
2022 Aerial Imagery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Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 130 260 520 780 1,040 Feet
TOWD NECK (EAST)
East Towd Point (Inlet) to Scotts Landing Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Little Peconic Bay
W BEACH DR
TWIN VIEW DR
SCOTTS LANDING RD
Turtle Cove
Davis Creek
SEAWEED RD
TURTLE COVE DR
OLD ORCHARD RD
TOWD POINT RD
2022 Aerial Imagery

N

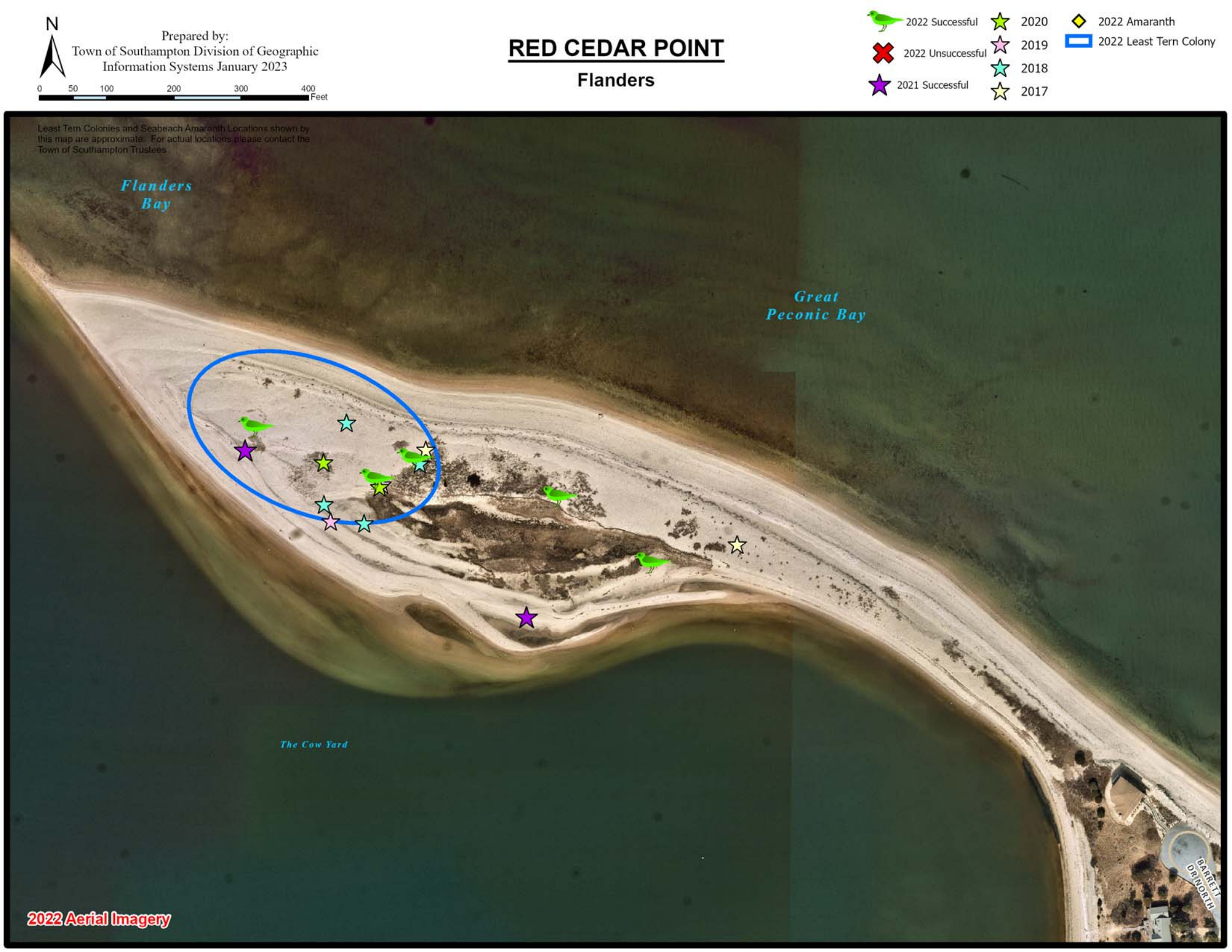
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

0 25 50 100 150 200 Feet

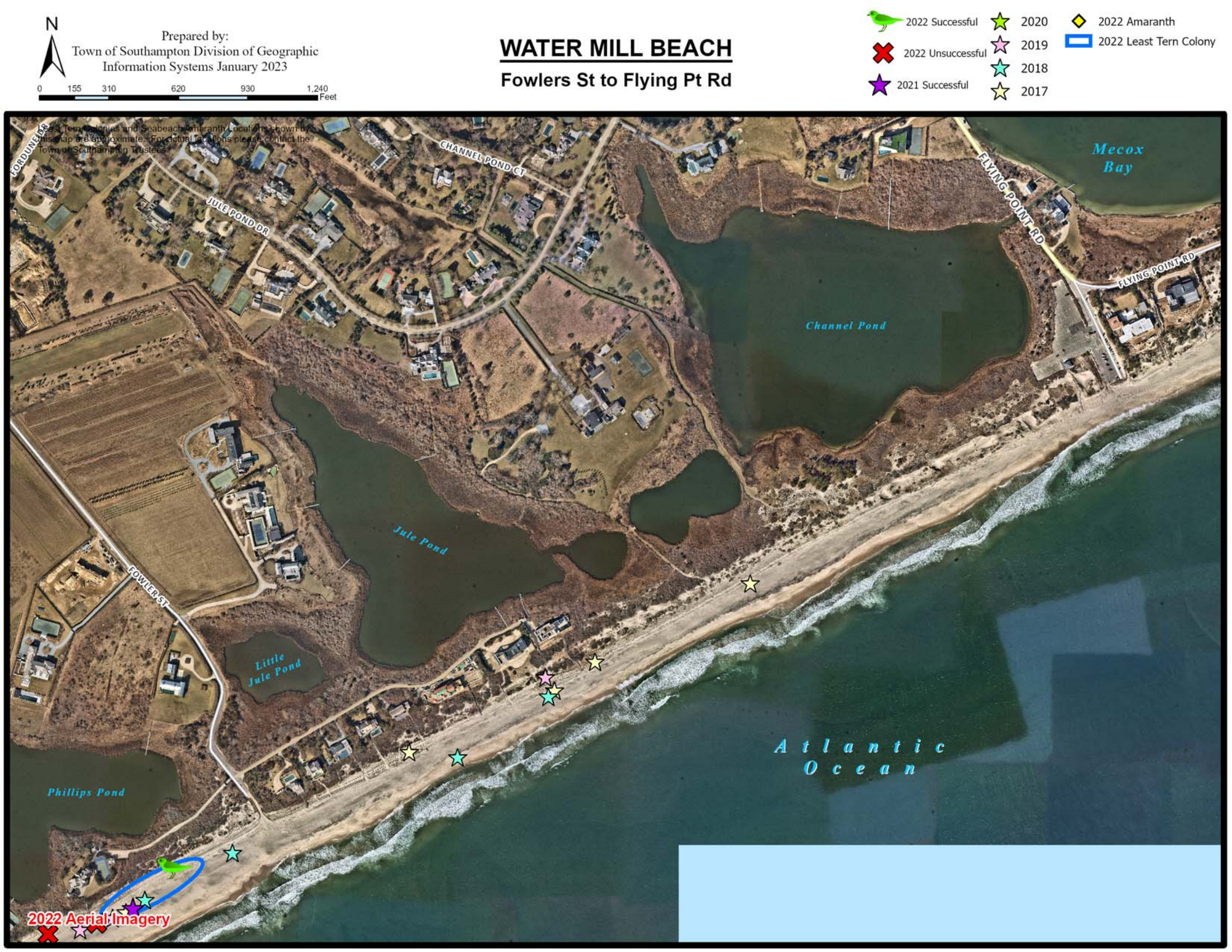
WOOLEY POND (EAST)

East/North Point to Peconc Bay Ave

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 50 100 200 300 400
Feet
RED CEDAR POINT
Flanders
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Flanders Bay
Great Peconic Bay
The Cow Yard
BARRETT DR NORTH
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 105 210 420 630 840 Feet
WATER MILL BEACH
Flying Point Rd to Dune Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Mecox Bay
Burnetts Cove
BURNETTS COVE RD
FLYING POINT RD
FLYING POINT RD
Atlantic Ocean
2022 Aerial Imagery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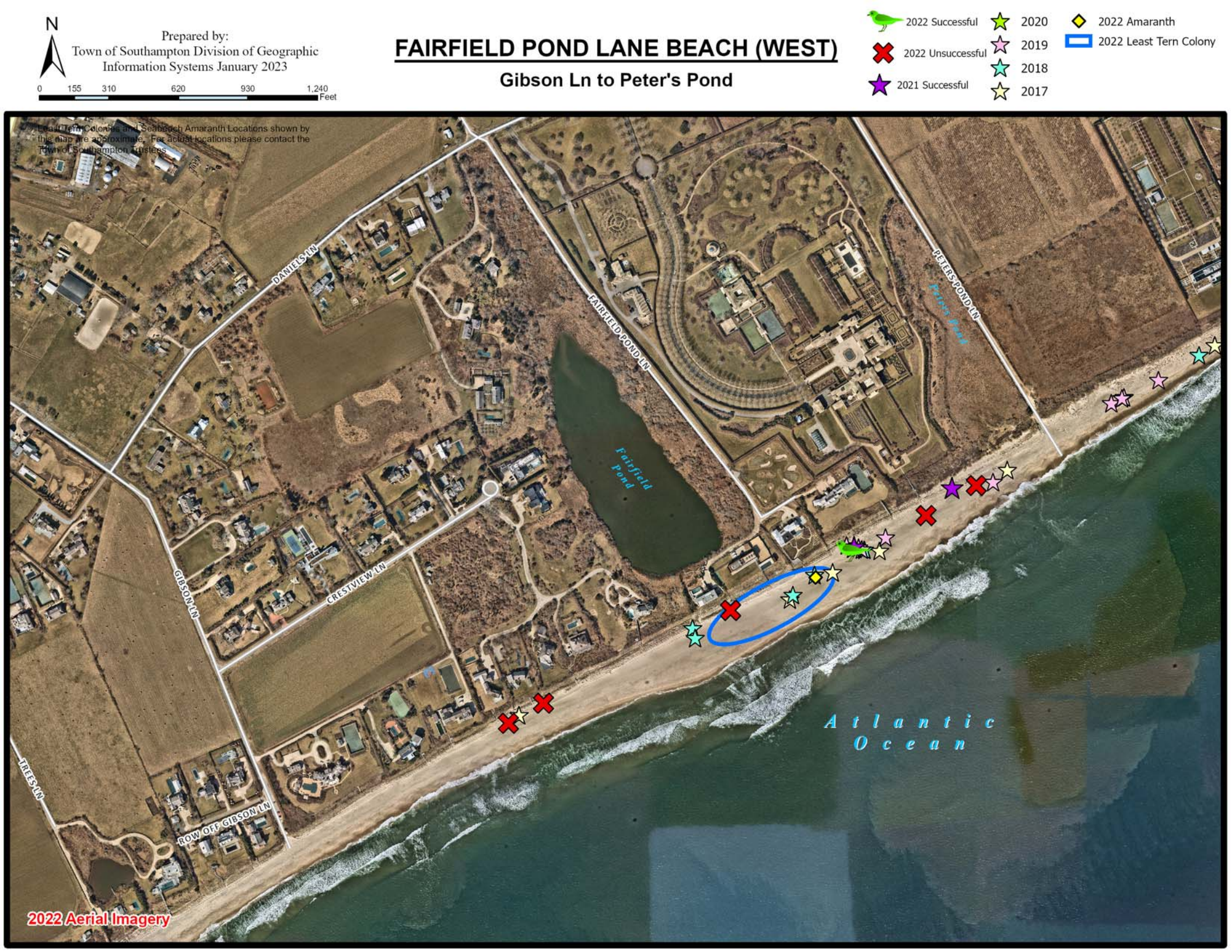
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
WATER MILL BEACH
Fowlers St to Flying Pt Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
FORDUNE DR
JULE POND DR
CHANNEL POND CT
FLYING POINT RD
FLYING POINT RD
Mecox Bay
Channel Pond
Jule Pond
FOWLER ST
Little Jule Pond
Phillips Pond
Atlantic Ocean
2022 Aerial Imagery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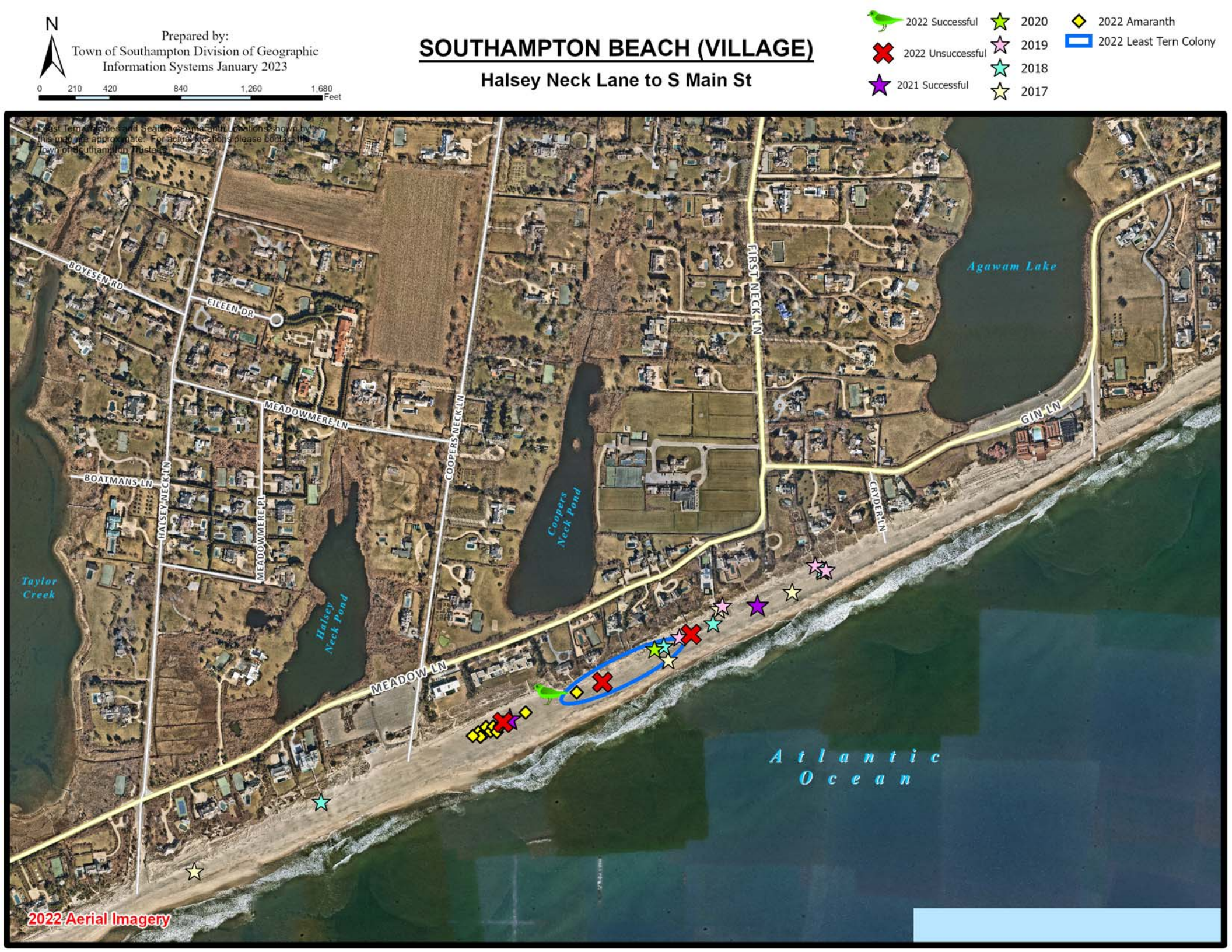
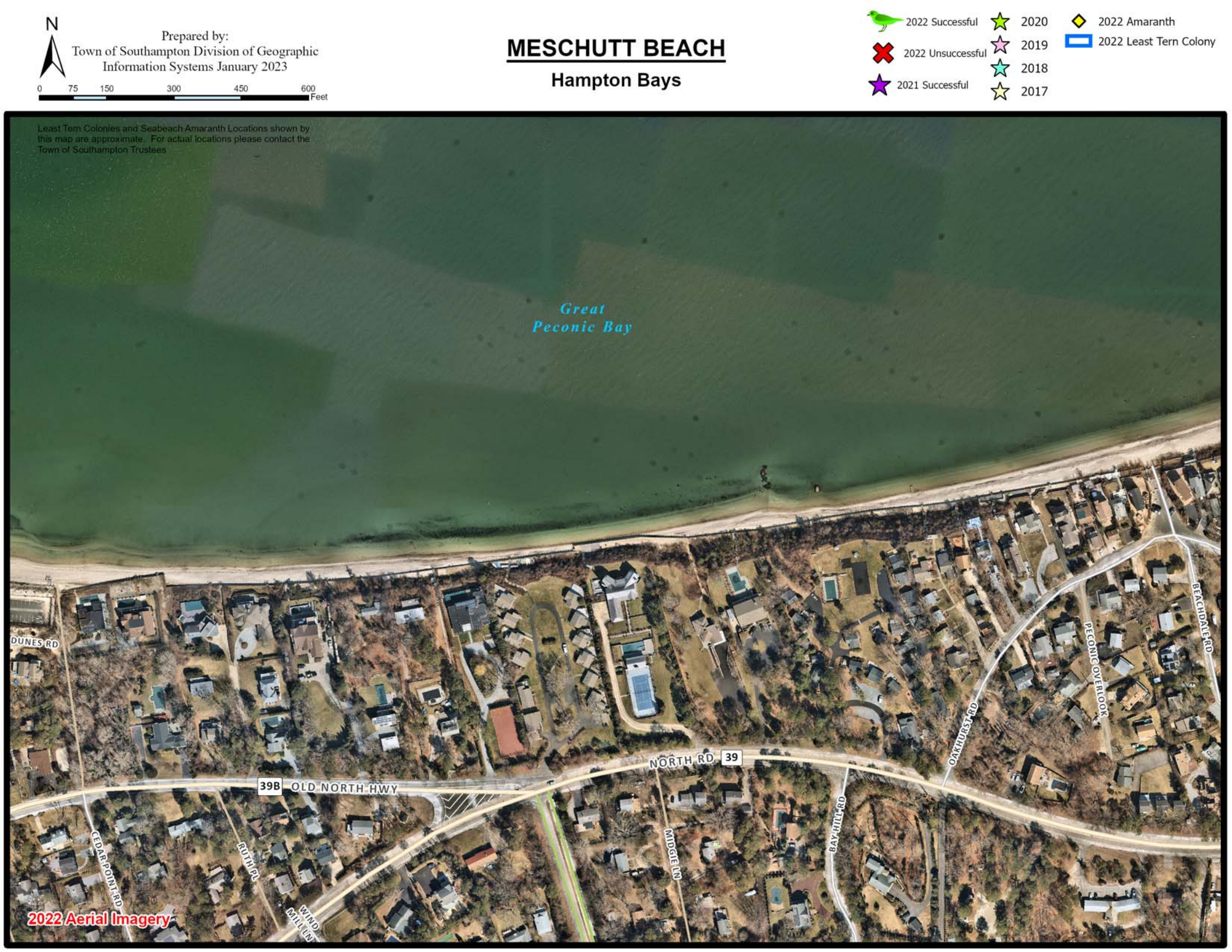
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
FAIRFIELD POND LANE BEACH (WEST)
Gibson Ln to Peter's Pond
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees.
DANIELS LN
FAIRFIELD POND LN
PETERS POND LN
Peters Pond
Fairfield Pond
GIBSON LN
CRESTVIEW LN
TREES LN
ROW OFF GIBSON LN
Atlantic Ocean
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 210 420 840 1,260 1,680
Feet
SOUTHAMPTON BEACH (VILLAGE)
Halsey Neck Lane to S Main St
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Activities and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
BOYESEN RD
EILEEN DR
MEADOWMERE LN
BOATMANS LN
HALSEY NECK LN
MEADOWMERE PL
COOPERS NECK LN
FIRST NECK LN
GIN LN
CRYDER LN
MEADOW LN
Agawam Lake
Coopers Neck Pond
Halsey Neck Pond
Taylor Creek
Atlantic Ocean
2022 Aerial Imagery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Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 75 150 300 450 600
Feet
MESCHUTT BEACH
Hampton Bays
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Great Peconic Bay
DUNES RD
39B OLD NORTH HWY
NORTH RD 39
CEDAR POINT RD
RUTH PL
WIND MILL LN
MIDGE LN
BAY HILL RD
OAKHURST RD
PECONIC OVERLOOK
BEACHDALE RD
2022 Aerial Imagery

N

Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

0 25 50 100 150 200 Feet

CANOE PLACE BEACH

Hampton Bays

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 75 150 300 450 600
Feet
RED CREEK POND
Hampton Bays
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Great Peconic Bay
Fourniers Pond
Red Creek Pond
RED CREEK PARK
GATHERING ROCKS RD
2022 Aerial Imagery

N

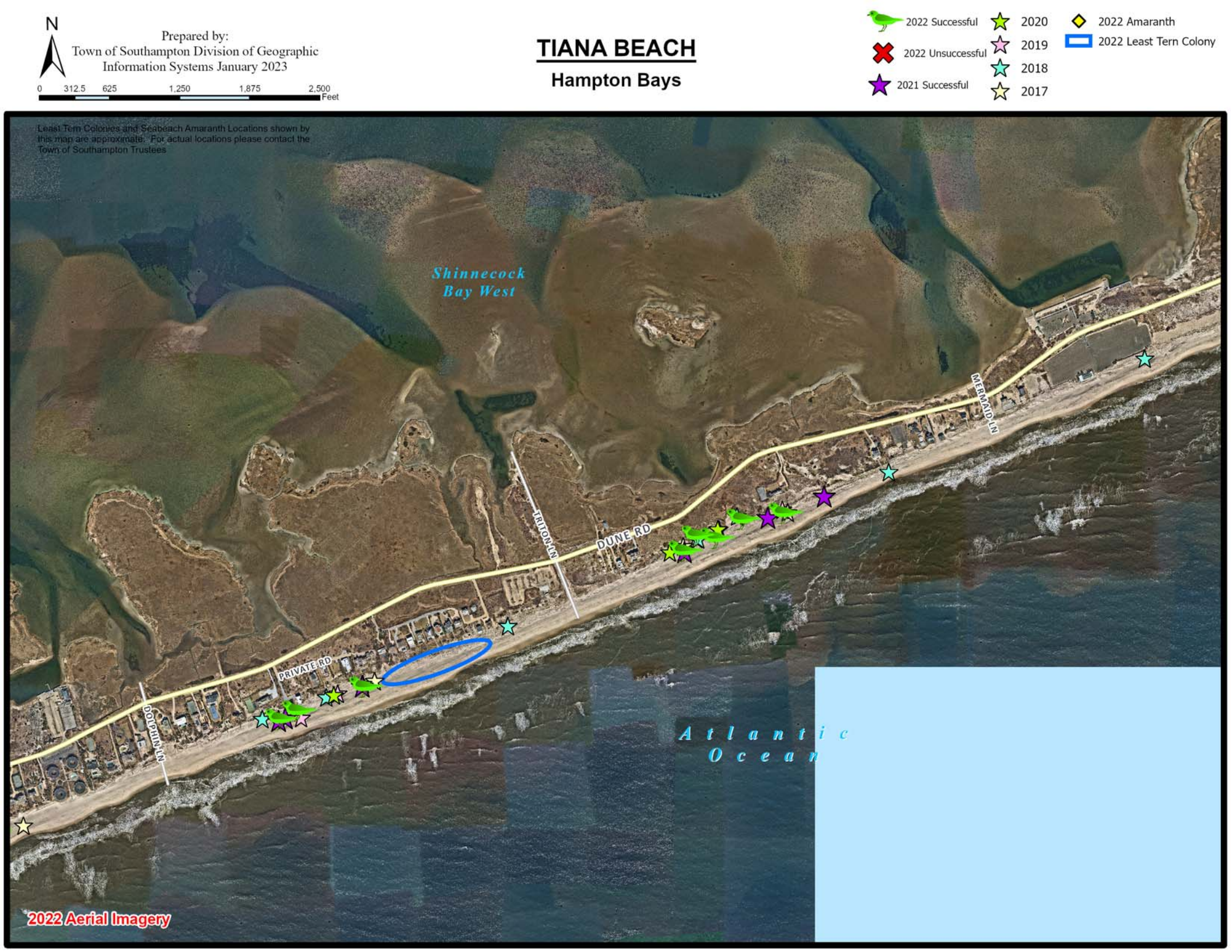
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

0 75 150 300 450 600 Feet

SQUIRES POND

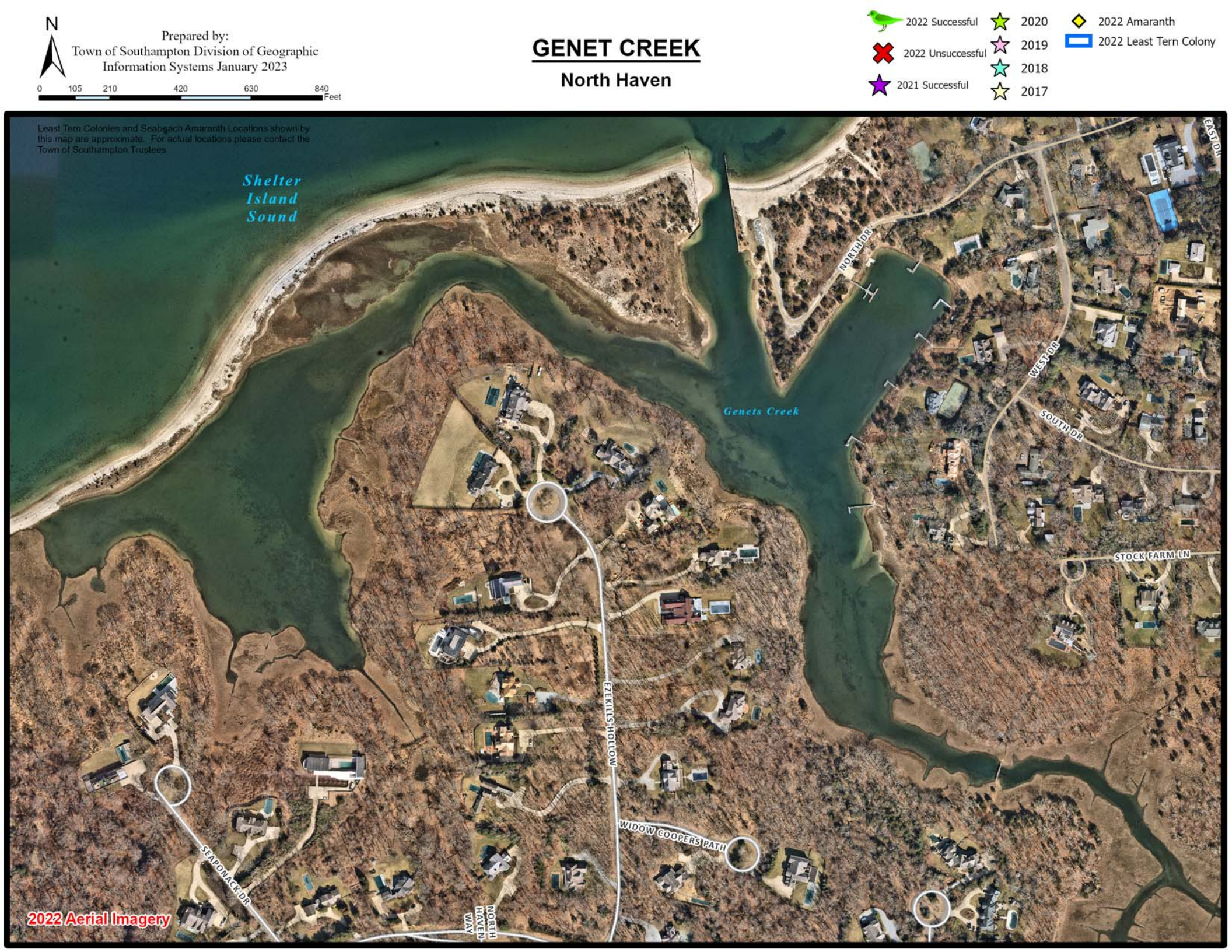
Hampton Bays

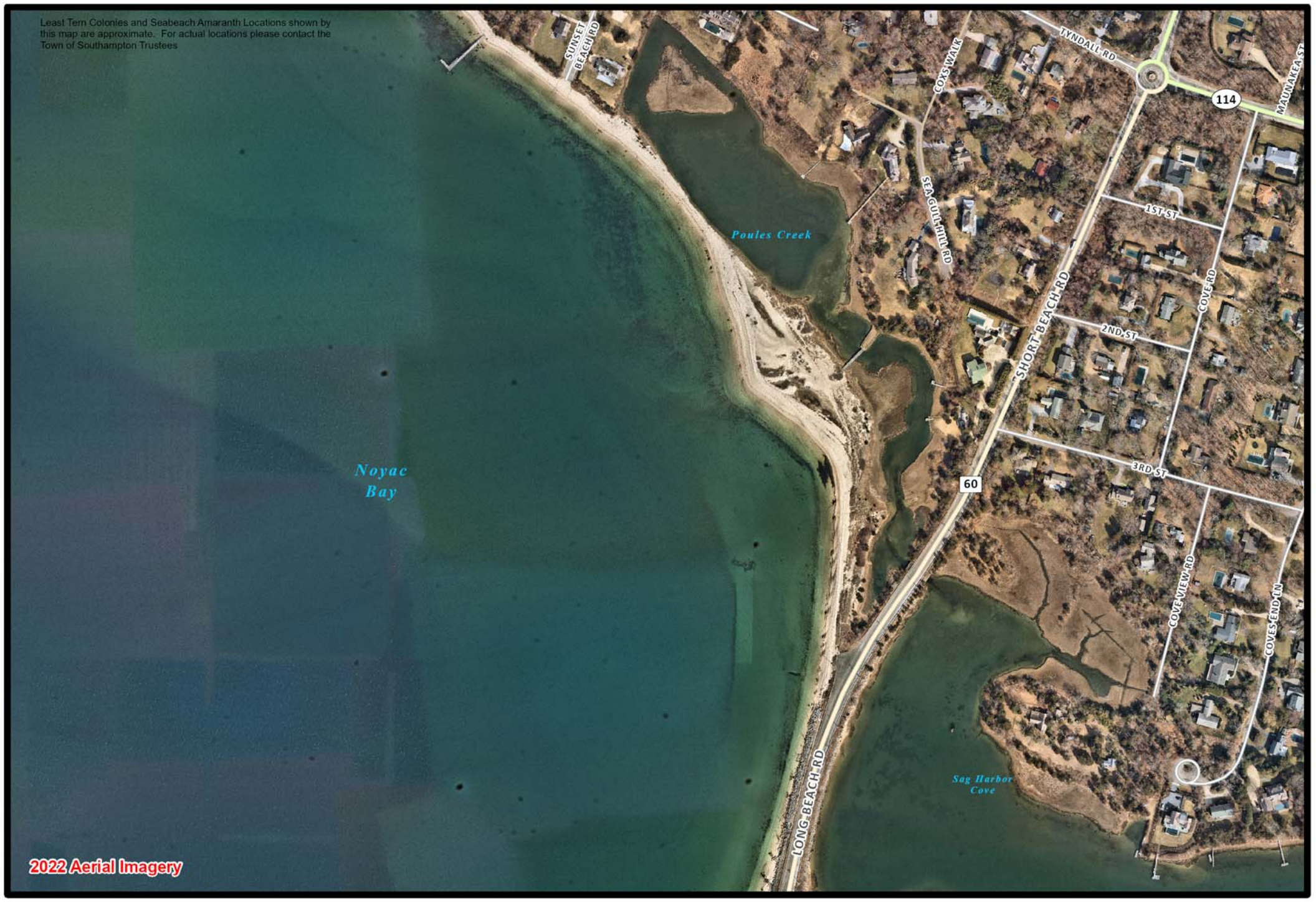
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony

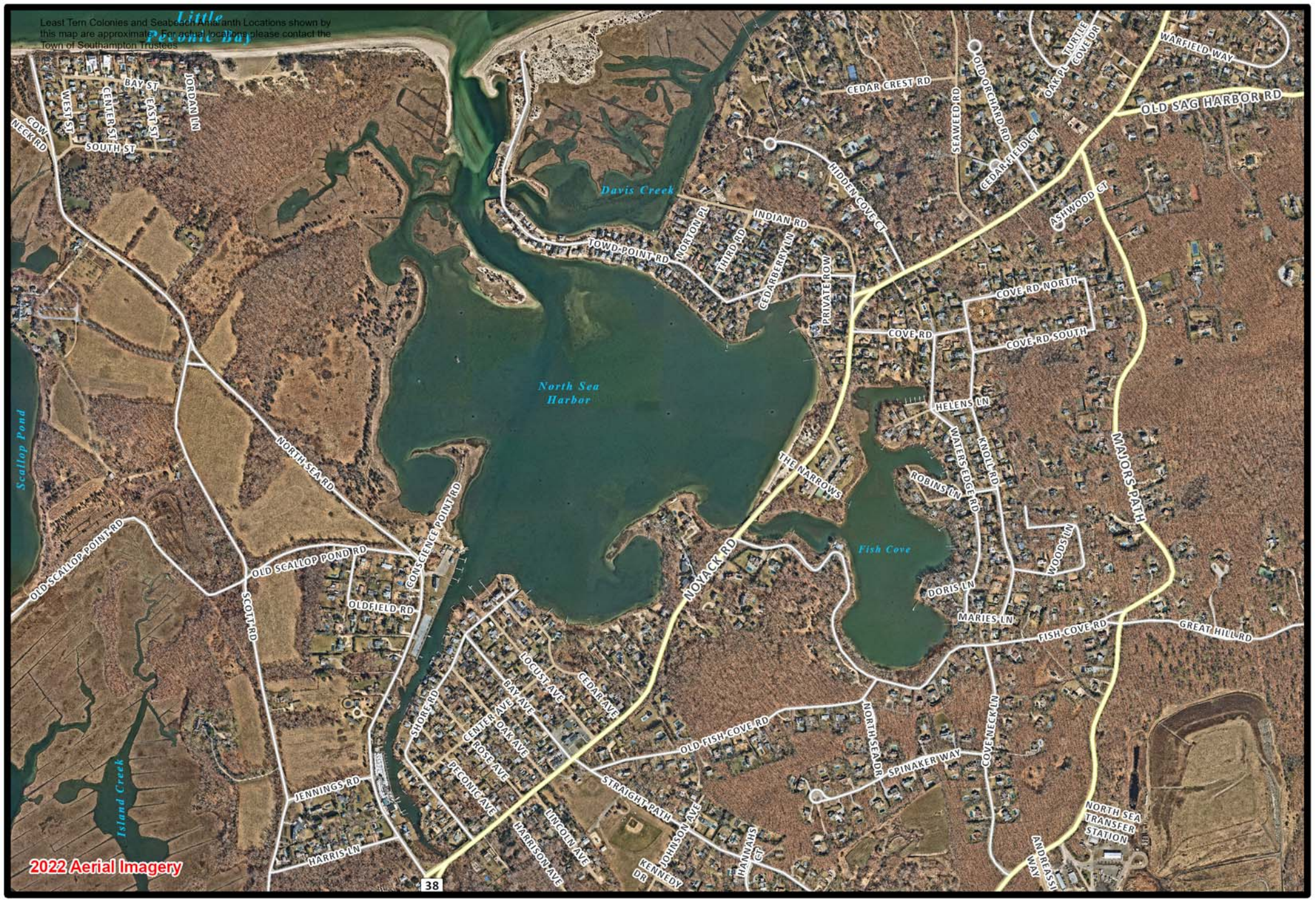

N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 312.5 625 1,250 1,875 2,500 Feet
TIANA BEACH
Hampton Bays
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Shinnecock Bay West
TRITON LN
DUNE RD
MERMAID LN
PRIVATE RD
DOLPHIN LN
Atlantic Ocean
2022 Aerial Imagery

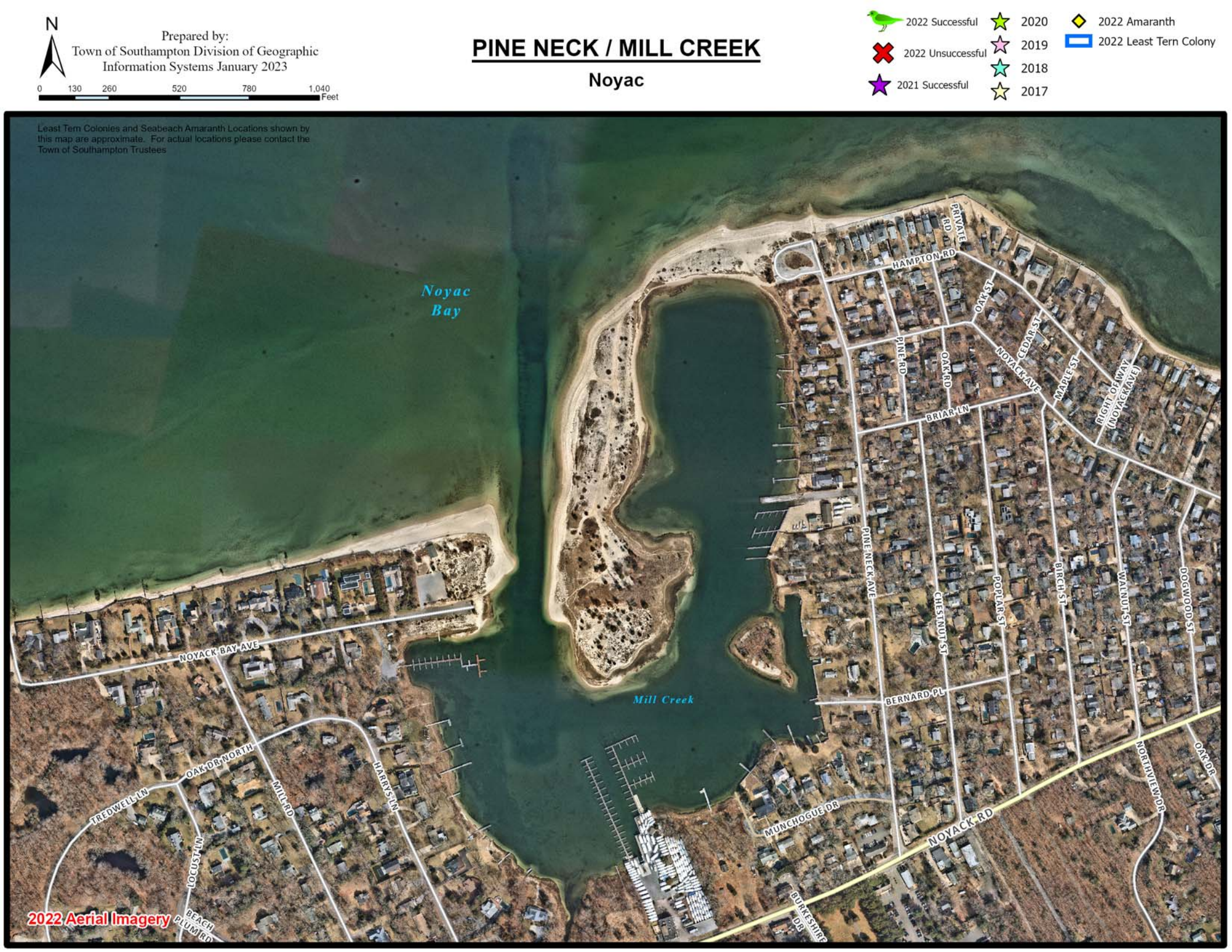

N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
PONQUOGUE BEACH
Hampton Bays
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Shinnecock Bay East
Shinnecock Bay West
PONQUOGUE BRIDGE
32B
OLD PONQUOGUE BRIDGE
DUNE RD
ROAD I
ROAD K
Atlantic Ocean
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
SAM'S CREEK / MECOX BEACH
Jobs lane to Ocean Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees.
AMBLESIDE LN
MEADOWLARK LN
ROSE WAY
SANDPIPER LN
SAMS CREEK RD
OCEAN RD
UNNAMED ST
SURFSIDE DR
POINTE MECOX LN
JOBS LN
MID OCEAN DR
DUNE RD
Swan Creek
Sam's Creek
Sam's Creek
Mecox Bay
Atlantic Ocean
2022 Aerial Imagery

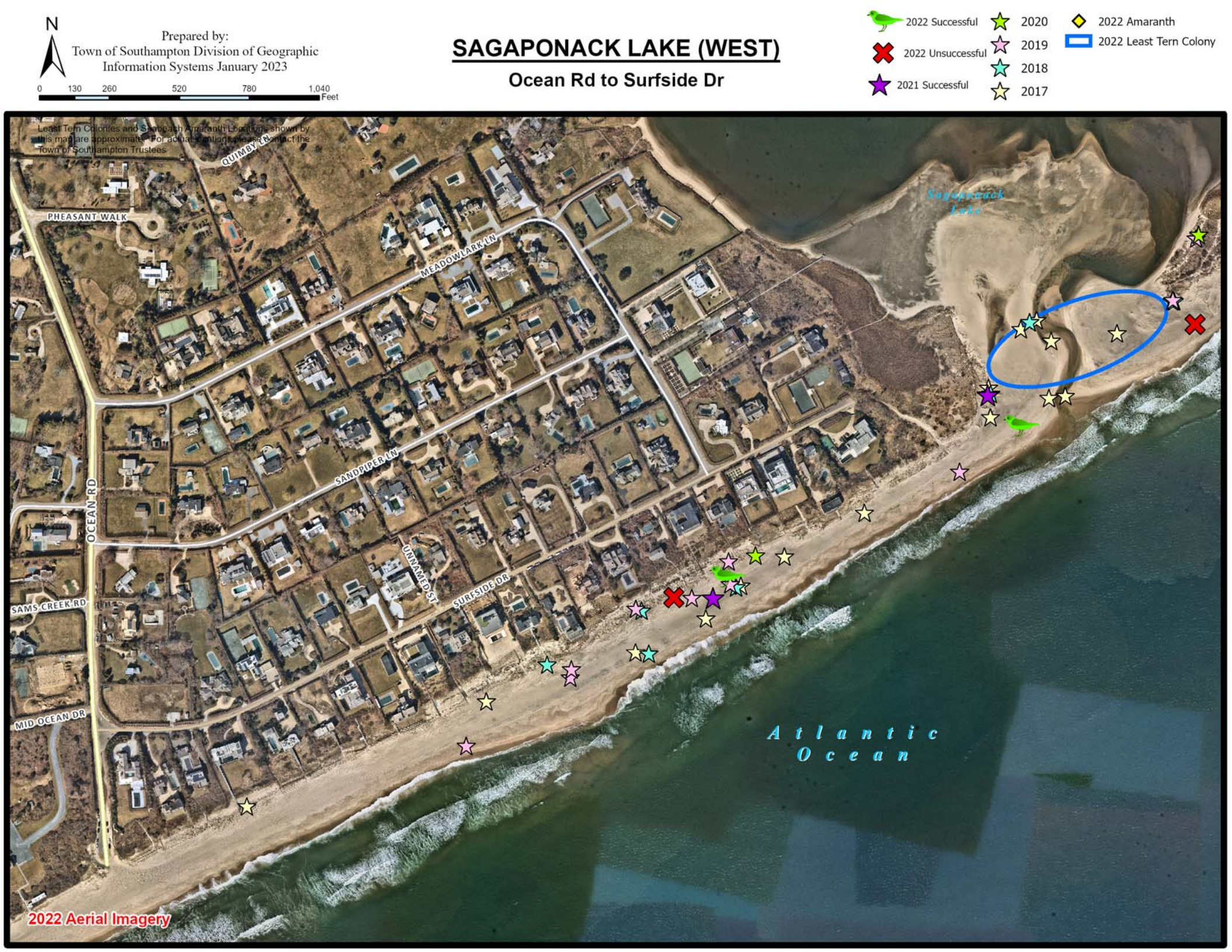

N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 105 210 420 630 840 Feet
GENET CREEK
North Haven
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Shelter Island Sound
Genets Creek
NORTH DR
WEST DR
SOUTH DR
EAST DR
STOCK FARM LN
EZEKIELS HOLLOW
WIDOW COOPERS PATH
SEAPONACK DR
NORTH HAVEN WAY
2022 Aerial Imagery

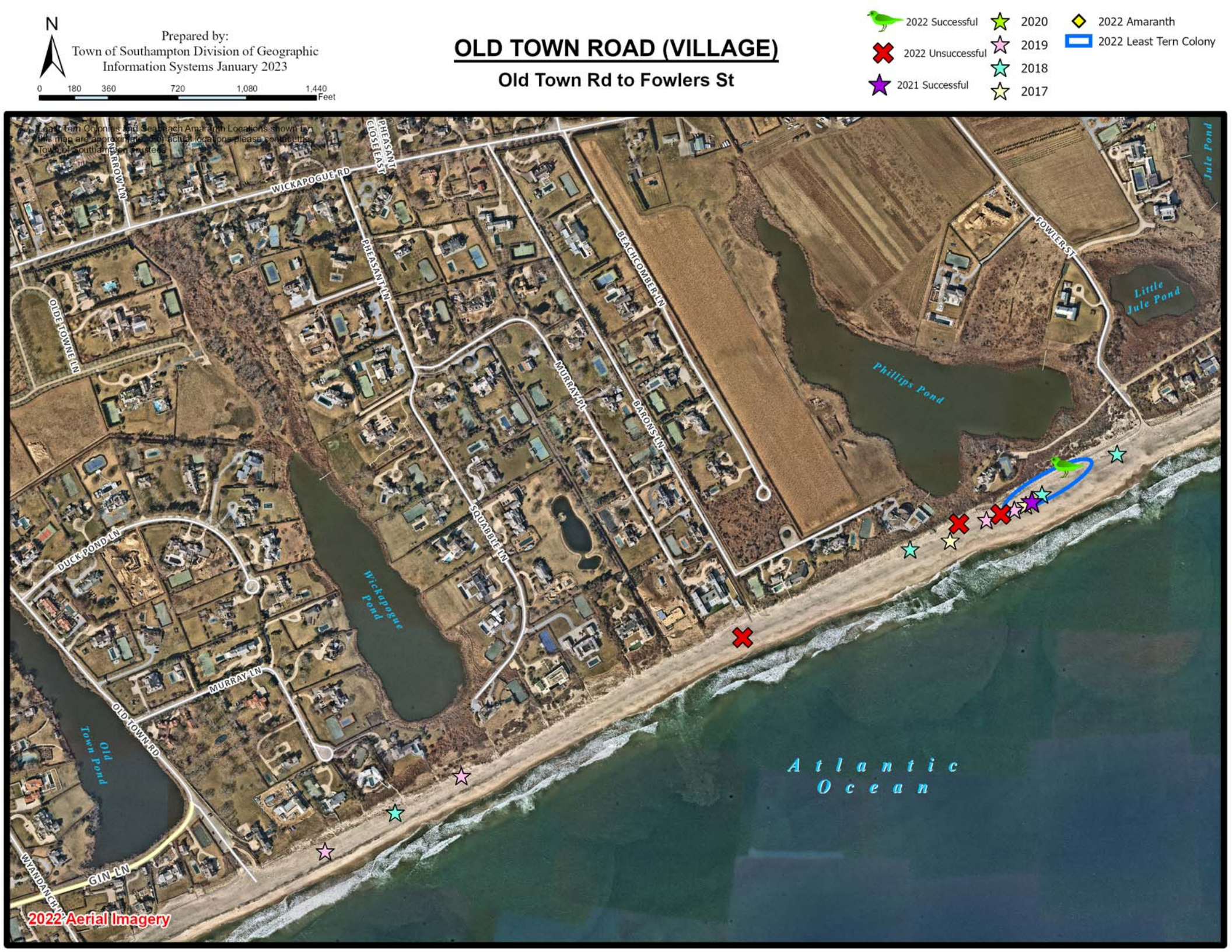

N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 105 210 420 630 840 Feet
SHORT BEACH
North Haven / Noyac
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
SUNSET BEACH RD
COXS WALK
TYNDALL RD
MAUNAKEA ST
114
SEA GULL HILL RD
Poules Creek
1ST ST
SHORT BEACH RD
COVE RD
2ND ST
Noyac Bay
60
3RD ST
COVE VIEW RD
COVE END LN
LONG BEACH RD
Sag Harbor Cove
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 287.5 575 1,150 1,725 2,300 Feet
FISH COVE / NORTH SEA HABOR
North Sea
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Little Peconic Bay
Davis Creek
North Sea Harbor
Scallop Pond
Island Creek
Fish Cove
COW NECK RD
WEST ST
CENTER ST
BAY ST
EAST ST
SOUTH ST
JORDAN LN
CEDAR CREST RD
OLD ORCHARD RD
SEAWEED RD
TURTLE COVE DR
OAK PL
WARFIELD WAY
OLD SAG HARBOR RD
CEDAR FIELD CT
HIDDEN COVE CT
ASHWOOD CT
INDIAN RD
TOWD POINT RD
NORTON PL
THIRD RD
CEDARBERRY LN
PRIVATE ROW
COVE RD NORTH
COVE RD
COVE RD SOUTH
HELENS LN
WATERS EDGE RD
KNOLL RD
MAJORS PATH
THE NARROWS
ROBINS LN
WOODS LN
DORIS LN
MARIES LN
FISH COVE RD
GREAT HILL RD
NOYACK RD
NORTH SEA RD
CONSCIENCE POINT RD
OLD SCALLOP POINT RD
OLD SCALLOP POND RD
OLDFIELD RD
SCOTT RD
JENNINGS RD
HARRIS LN
SHORE RD
LOCUST AVE
CEDAR AVE
BAY AVE
CENTER AVE
OAK AVE
ROSE AVE
PECONIC AVE
HARRISON AVE
LINCOLN AVE
OLD FISH COVE RD
NORTH SEA DR
SPINAKER WAY
COVE NECK LN
STRAIGHT PATH
JOHNSON AVE
KENNEDY DR
HANNAHS CT
ANDREASSI WAY
NORTH SEA TRANSFER STATION
38
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 130 260 520 780 1,040 Feet
PINE NECK / MILL CREEK
Noyac
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Noyac Bay
Mill Creek
HAMPTON RD
PRIVATE RD
OAK ST
CEDAR ST
NOYACK AVE
MAPLE ST
RIGHT OF WAY (NOYACK AVE)
PINE RD
OAK RD
BRIAR LN
PINE NECK AVE
CHESTNUT ST
POPLAR ST
BIRCH ST
WALNUT ST
DOGWOOD ST
NOYACK BAY AVE
BERNARD PL
OAK DR NORTH
TREDWELL LN
LOCUST LN
MILL RD
HARRYS LN
BEACH PLUM RD
MUNCHOGUE DR
BURKESHIRE DR
NOYACK RD
NORTHVIEW DR
OAK DR
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 210 420 840 1,260 1,680 Feet
LONG BEACH
Noyac / Sag Harbor
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Noyac Bay
LONG BEACH RD
60
PARK ACCESS RD
NOYACK RD
2022 Aerial Imagery
Staff Paynes Creek
WHITNEY RD
CRESCENT ST
Sag Harbor Cove
COVES END LN
HARBOR DR
CLIFF DR
RIDGE DR
WINDERMERE DR
SUNSET DR
COVE DR
WHALERSWALK
BAY VIEW DR EAST
CORNELL RD
DARTMOUTH RD
REDWOOD RD
AMHERST RD
PRINCETON RD
NOTRE DAME RD


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 130 260 520 780 1,040 Feet
SAGAPONACK LAKE (WEST)
Ocean Rd to Surfside Dr
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual location, please contact the Town of Southampton Trustees
QUIMBY LN
PHEASANT WALK
MEADOWLARK LN
SANDPIPER LN
OCEAN RD
UNNAMED ST
SURFSIDE DR
SAMS CREEK RD
MID OCEAN DR
Sagaponack Lake
Atlantic Ocean
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 180 360 720 1,080 1,440 Feet
OLD TOWN ROAD (VILLAGE)
Old Town Rd to Fowlers St
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown on this map are approximate. For actual locations please contact the Town of Southampton Trustees
WICKAPOGUE RD
ARROW LN
PHEASANT CLOSE EAST
PHEASANT LN
BEACHCOMBER LN
FOWLER ST
Jule Pond
Little Jule Pond
Phillips Pond
OLDE TOWNE LN
MURRAY PL
BARONS LN
SQUABBLE LN
DUCK POND LN
Wickapogue Pond
MURRAY LN
OLD TOWN RD
Old Town Pond
GIN LN
WYANDANCH
Atlantic Ocean
2022 Aerial Imagery

N

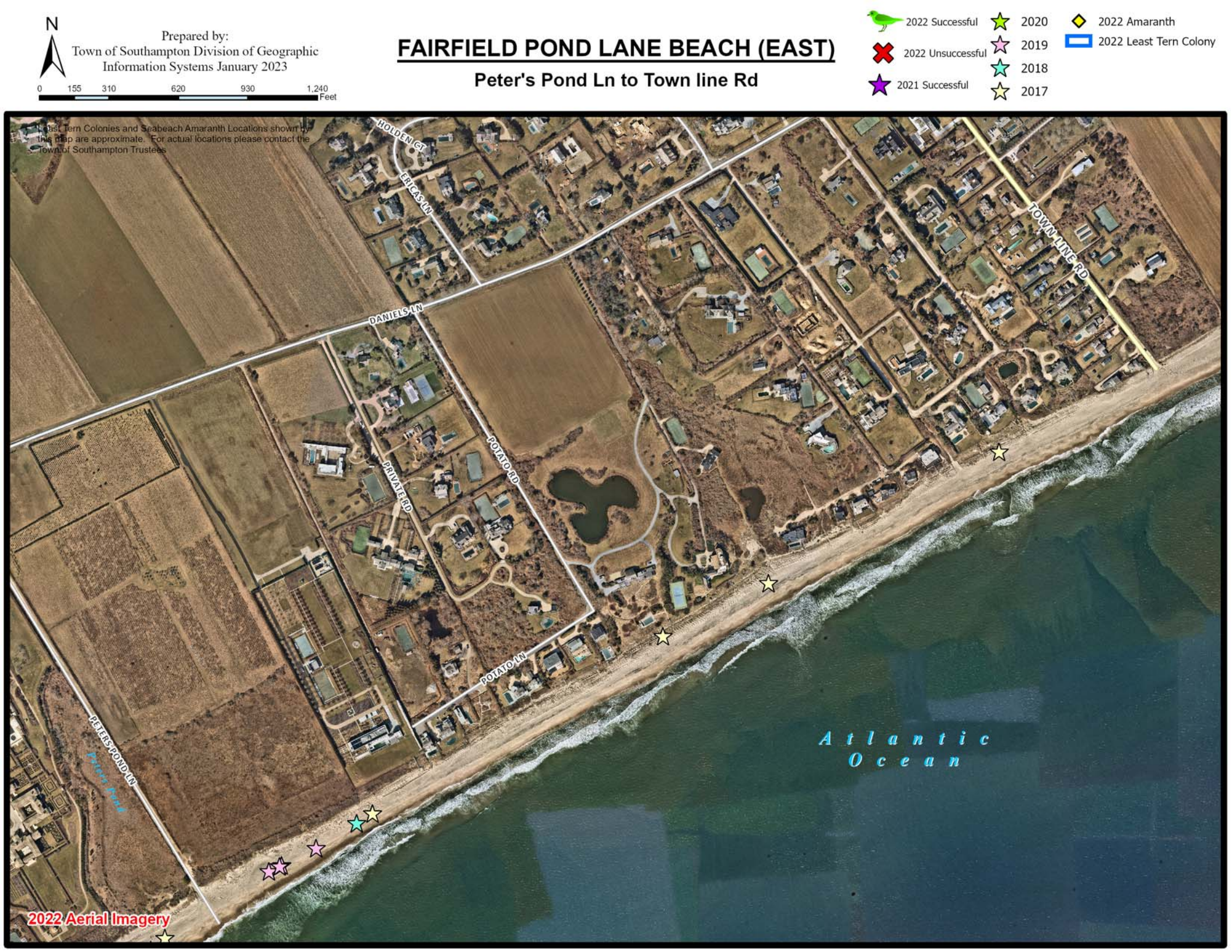
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

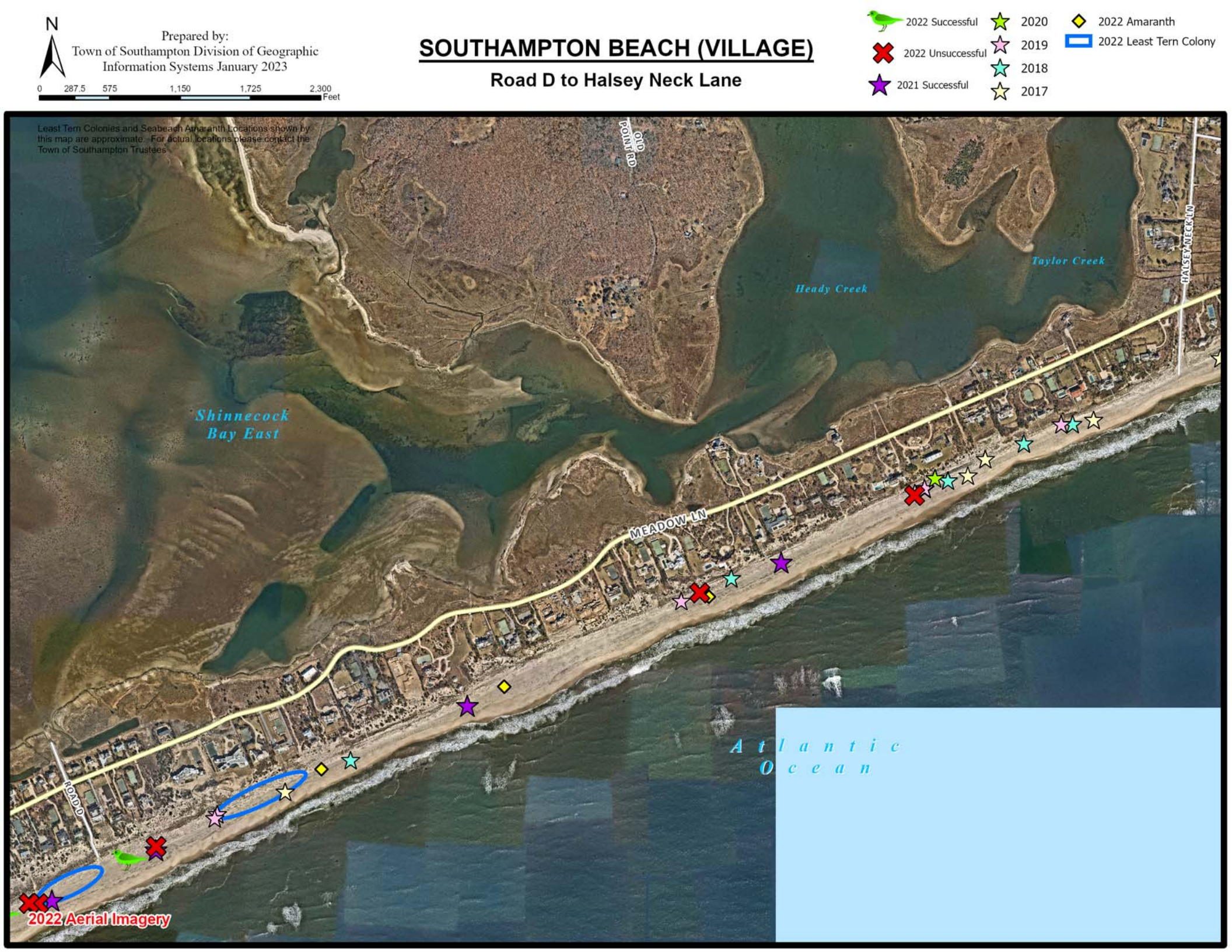
0 105 210 420 630 840 Feet

ROSES GROVE

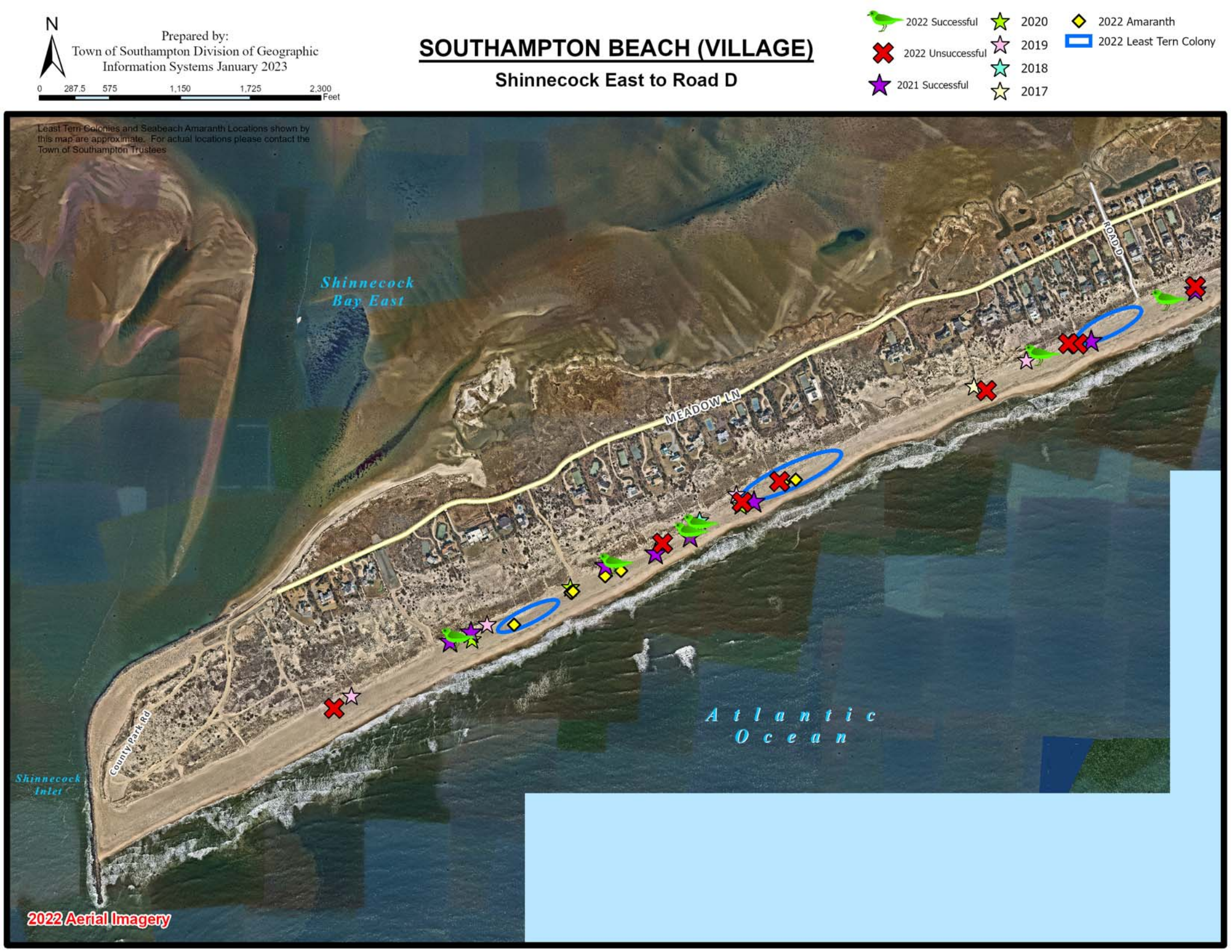
Peconic Bay Ave to Oak Grove Rd

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 155 310 620 930 1,240 Feet
FAIRFIELD POND LANE BEACH (EAST)
Peter's Pond Ln to Town line Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
HOLDEN CT
ERICAS LN
DANIELS LN
PRIVATE RD
POTATO RD
POTATO LN
TOWN LINE RD
PETERS POND LN
Peters Pond
Atlantic Ocean
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 287.5 575 1,150 1,725 2,300 Feet
SOUTHAMPTON BEACH (VILLAGE)
Road D to Halsey Neck Lane
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
OLD POINT RD
HALSEY NECK LN
Taylor Creek
Heady Creek
Shinnecock Bay East
MEADOW LN
ROAD D
Atlantic Ocean
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 180 360 720 1,080 1,440 Feet
SAGAPONACK LAKE (EAST)
Sagg Main St to Gibson Ln
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth locations shown in this map are approximate. For actual locations please contact the Town of Southampton Trustees
BRIDGE LN
SAGAPONACK MAIN ST
SAGG POND CT
SEASCAPE LN
SAGAPONACK MAIN ST
TREES LN
GIBSON LN
CRESTVIEW LN
ROW OFF GIBSON LN
SANDUNE CT
Sagaponack Lake
Atlantic Ocean
SURFSIDE DR
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 287.5 575 1,150 1,725 2,300 Feet
SOUTHAMPTON BEACH (VILLAGE)
Shinnecock East to Road D
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Shinnecock Bay East
MEADOW LN
ROAD D
County Park Rd
Shinnecock Inlet
Atlantic Ocean
2022 Aerial Imagery

MIDDLE POND

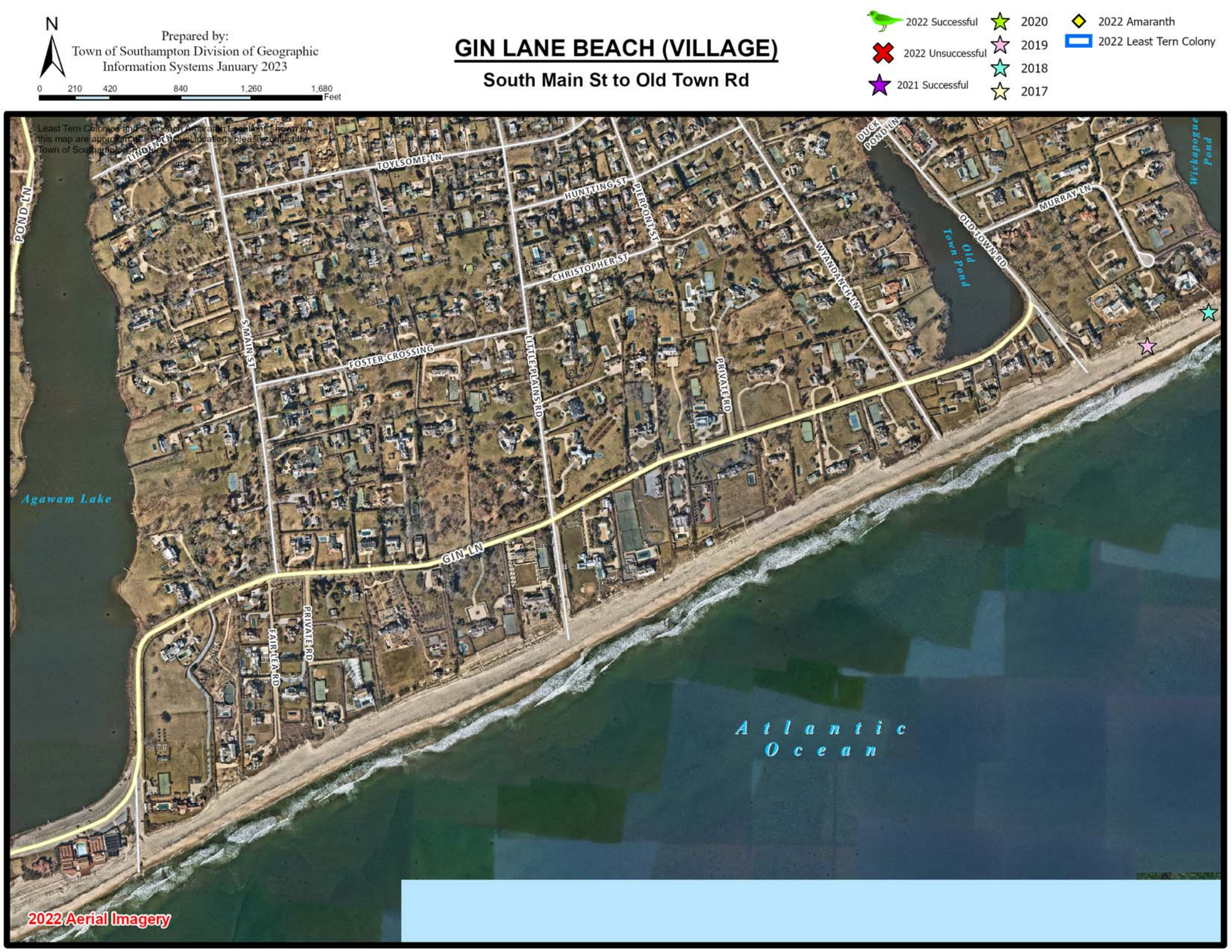
Shinnecock Hills

Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023

N

0 50 100 200 300 400 Feet

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 210 420 840 1,260 1,680 Feet
GIN LANE BEACH (VILLAGE)
South Main St to Old Town Rd
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown on this map are approximate. For precise locations please contact the Town of Southampton.
POND LN
LINGER LN
TOYLSOME LN
HUNTTING ST
PIERPONT ST
CHRISTOPHER ST
DUCK POND LN
MURRAY LN
OLD TOWN RD
WYANDANCH LN
Old Town Pond
Wickapogue Pond
S MAIN ST
FOSTER CROSSING
LITTLE PLAINS RD
PRIVATE RD
GIN LN
FAIR LEA RD
Agawam Lake
Atlantic Ocean
2022 Aerial Imagery

N

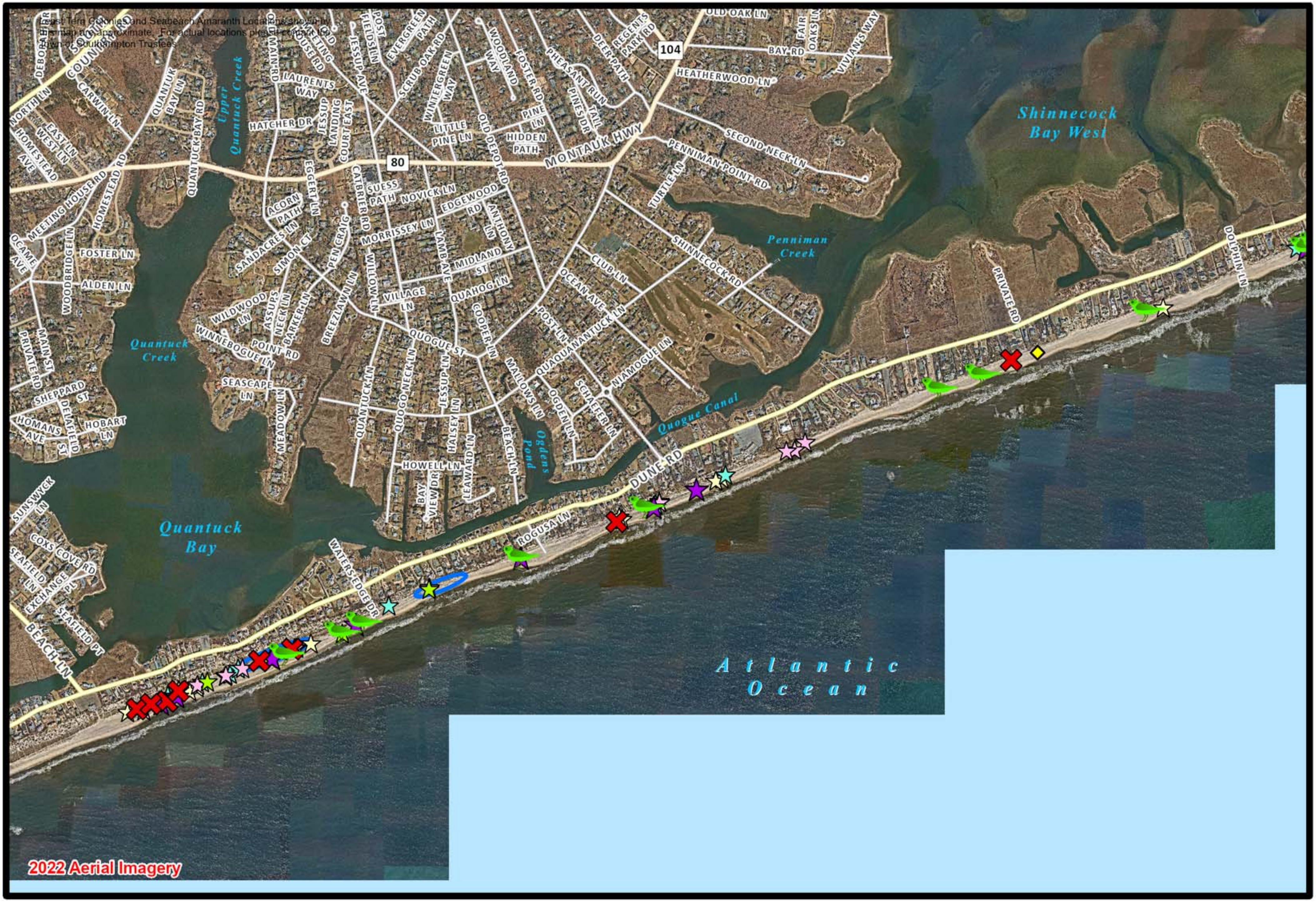
Prepared by:
Town of Southampton Division of Geographic
Information Systems January 2023

0 500 1,000 2,000 3,000 4,000
Feet

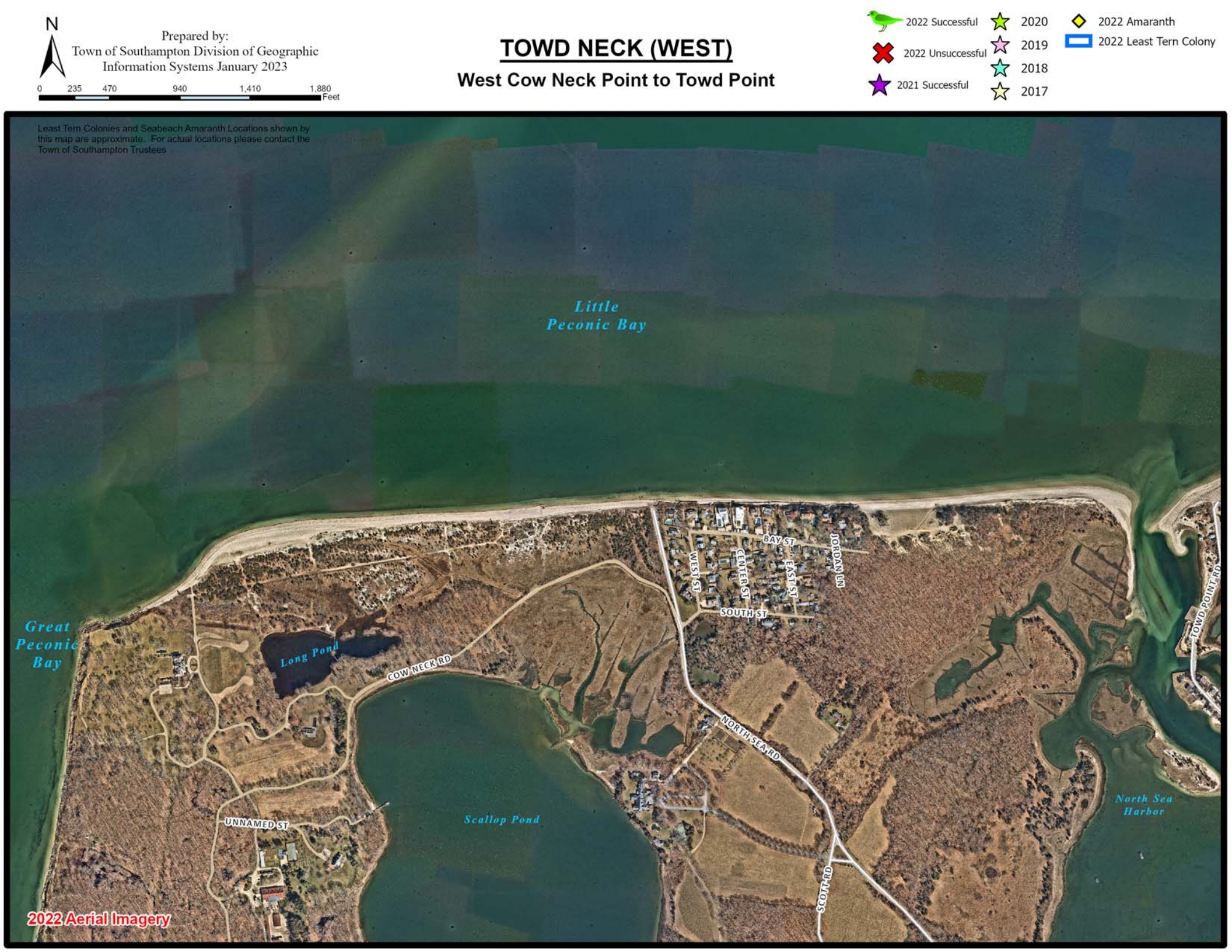
HAMPTON BEACH

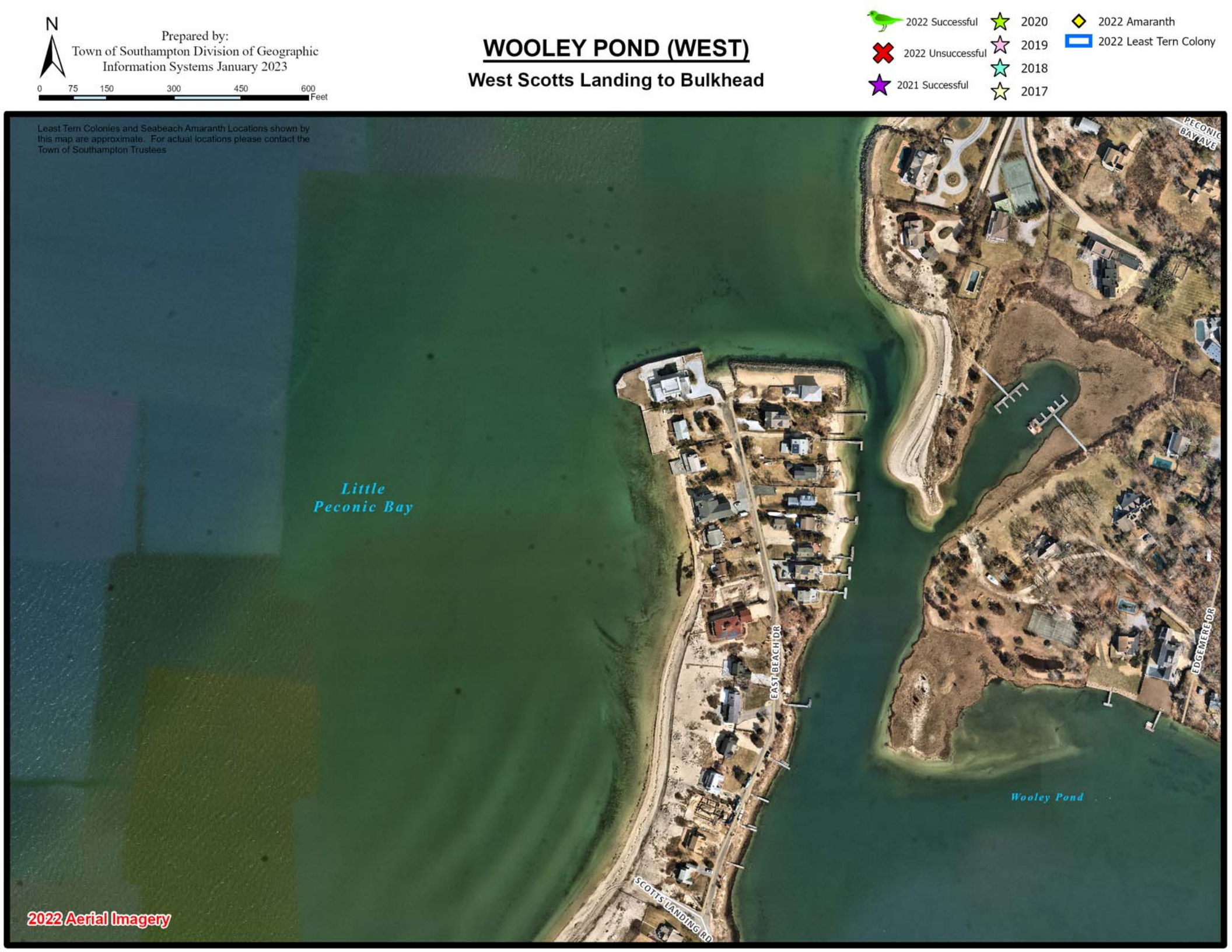
Village of Quogue

2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony



Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees.
Shinnecock Bay West
Penniman Creek
Quogue Canal
Upper Quantuck Creek
Quantuck Creek
Quantuck Bay
Ogdens Pond
Atlantic Ocean
MONTAUK HWY
DUNE RD
80
104
OLD OAK LN
BAY RD
HEATHERWOOD LN
SECOND NECK LN
PENNIMAN POINT RD
SHINNECOCK RD
CLUB LN
OCEAN AVE
QUAQUANANTUCK LN
NIAMOGUE LN
QUOGUE ST
ROGUSA LN
WATERSEDGE DR
HOWELL LN
BEACH LN
PRIVATE RD
DOLPHIN LN
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 235 470 940 1,410 1,880
Feet
TOWD NECK (WEST)
West Cow Neck Point to Towd Point
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Little Peconic Bay
Great Peconic Bay
Long Pond
COW NECK RD
BAY ST
WEST ST
CENTER ST
EAST ST
JORDAN LN
SOUTH ST
TOWD POINT RD
NORTH SEA RD
SCOTT RD
UNNAMED ST
Scallop Pond
North Sea Harbor
2022 Aerial Imagery


N
Prepared by:
Town of Southampton Division of Geographic Information Systems January 2023
0 75 150 300 450 600 Feet
WOOLEY POND (WEST)
West Scotts Landing to Bulkhead
2022 Successful
2022 Unsuccessful
2021 Successful
2020
2019
2018
2017
2022 Amaranth
2022 Least Tern Colony
Least Tern Colonies and Seabeach Amaranth Locations shown by this map are approximate. For actual locations please contact the Town of Southampton Trustees
Little Peconic Bay
Wooley Pond
EAST BEACH DR
SCOTTS LANDING RD
EDGEMERE DR
PECONIC BAY AVE
2022 Aerial Imagery