

**INVENTORY OF TERNS, LAUGHING GULLS, AND BLACK SKIMMERS
NESTING IN MASSACHUSETTS IN 2012**

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Abstract

Cooperators in Massachusetts surveyed more than 144 coastal sites in 2012 for the presence of breeding Roseate Terns (*Sterna dougallii*), Common Terns (*Sterna hirundo*), Arctic Terns (*Sterna paradisaea*), Least Terns (*Sternula antillarum*), Laughing Gulls (*Larus atricilla*), and Black Skimmers (*Rhynchops niger*). Ninety-two sites were occupied by nesting birds of one or more of these species. Total nesting pairs of Roseate Terns (1,269 pairs; the lowest recorded in the last 27 years), Common Terns (14,773.5 pairs), Black Skimmers (3 pairs), and Laughing Gulls (1,253 pairs) all declined from 2011 levels. One Arctic Tern individual nested. In the case of Common Terns, Least Terns, and possibly Roseate Terns, most or all of the “decline” may be due to a protracted and severe early June storm during a period of extreme tides; thousands of nests were washed out before they could be counted in peak censuses.

Introduction

Coastal waterbirds are a vulnerable group of species. Of Massachusetts’ four nesting tern species, the Common Tern, the Least Tern and the Arctic Tern are listed as “Special Concern” pursuant to the Massachusetts Endangered Species Act. The Roseate Tern is listed as “Endangered” pursuant to both the Massachusetts and U.S. Endangered Species Acts.

Terns, Laughing Gulls, and Black Skimmers in Massachusetts are protected and monitored by an extensive network of cooperators throughout the state. These cooperators provide census data and other reproductive information to the Massachusetts Division of Fisheries & Wildlife (MDFW). This allows wildlife managers to determine abundance and status of, and threats to, these species.

This report summarizes data on distribution, abundance, and productivity of terns, Laughing Gulls, and Black Skimmers in Massachusetts during the 2012 nesting season.

Methods

Sites surveyed: Cooperators are asked to survey all sites at which terns, Laughing Gulls, and Black Skimmers have been known to nest. Any new nesting sites are reported.

Timing of Census: Depending upon the species, either one or two censuses are conducted. The “A-count” (or “peak season” count) is conducted between 5 and 20 June. Laughing Gulls, Black Skimmers, and all tern species are censused during the A-count. For Roseate and Common Terns, the count is ideally conducted as closely as possible to the first hatch. Laughing Gull and Black Skimmer counts are timed to be coincident with Common Tern counts, and Arctic Tern counts with counts of any sympatric nesting seabird species. Least Tern colonies ideally are visited multiple times during the A-count window, and maximum estimates are reported. The “B-count” (or “post-peak” count) is conducted after 20 June. For Roseate Terns, the B-count is timed 25 days after the A-count. For Arctic Terns and Black Skimmers, which nest in very low numbers in the state, any additional pairs that appear after 20 June are reported. A B-count for Least Terns is not necessary unless there is a significant change in numbers from the A-count, or a site that was not used during the A-period window was used after 20 June. Because Least Terns frequently shift among sites in response to disturbance, B-counts do not contribute to the overall census numbers (to avoid double-counting the same birds); however, the B-count does document use of the site. B-counts are not required for Common Terns or Laughing Gulls.

Survey Method: Observers are asked to classify their survey method as one of the following: Nest Count, Partial/Extrapolated Nest Count, or Adult Count. All counts are expressed as “number of pairs”. Nests must contain at least one egg to be counted, unless it is obvious that chicks have already hatched. Empty scrapes and abandoned nests are not counted, unless they are known to have been active during the census window. Adults are only counted if it appears that they are nesting at a site; birds that are not suspected to be nesting at a site (*e.g.*, resting or feeding birds) are not counted as nesting pairs. The number of breeding adults present (*i.e.*, in the nesting area, not loafing on the shoreline) is multiplied by a correction factor of 0.8 to arrive at the number of pairs.

Survey Quality and Productivity Estimate: Observers are asked to rate the quality of their survey as Low Confidence, Reasonable Confidence, or High Confidence. Observers also provide a qualitative assessment of productivity: none, poor, fair to good, or excellent. In a few cases, typically for Roseate and Common Terns at large colonies where detailed monitoring occurs, quantitative estimates of productivity (*e.g.*, fledglings/nest) are provided. Productivity assessments in Table 1 that are expressed as ranges may represent uncertainty or estimates from different subcolonies within a site. Single estimates for a site may represent either a single colony or an average value for multiple subcolonies.

Reporting: Observers completed a standard “Massachusetts Tern Census Form”. This form requests the following information for each site surveyed: observer name and affiliation, contact information, ownership of site, dates of A- and B-counts, number of pairs observed, survey method, quality of survey, qualitative productivity estimates, dates of first eggs laid and first hatched, and evidence of predation, overwash, or disturbance.

Quality Control: All census forms are reviewed by MDFW, and observers are contacted to obtain missing data and clarify ambiguities.

Results and Discussion

In 2012, 144 sites with a history of nesting terns, Laughing Gulls, or Black Skimmers were surveyed. (Additional sites with no nesting history were surveyed but are not included in this report unless nesting was detected.) Ninety-two sites were occupied by nesting birds of one or more of these species. Results for each site are summarized in Table 1.

The event of the season was a severe Northeast storm in early June that lasted several days and coincided with extreme tides. Observers reported nest overwash at a minimum of 42 sites with nesting birds; overwash probably went unreported at additional sites. A large number of nests (probably thousands) were affected, particularly those of Least Terns and Common Terns. The timing of the storm was such that it occurred just before census dates at many sites. For sites that could not delay censuses until after birds renested, nests lost to overwash are not reflected in peak (A-period) census numbers. Renesting did occur, but for many birds it occurred during the B-period. Thus, those nests did not contribute to statewide peak census totals because of potential double-counting issues (see Methods). **Therefore, statewide totals for Common Terns and Least Terns should be regarded as minima that are likely well below true totals.**

Roseate Tern: Roseate Terns decreased 6.6% to 1,269 pairs (*vs.* 1,359 pairs in 2011). This is the lowest recorded number of pairs since careful record-keeping began in 1985. The June storm event was responsible for at least some of this decrease. The U.S. (or “Northeast”) population as a whole was stable at 3,089 pairs (*vs.* 3,042; Roseate Tern Recovery Team, preliminary unpubl. data). The population declined steeply after 2000, but essentially has been stationary since 2008 – this is close to the 1987 level, when it was first listed as Endangered in the U.S.

Roseates were confirmed to have nested at six sites in 2012. The largest colony was at Bird I., Marion (814 vs. 937); productivity was good, 1.12 fledglings/nest. Ram I., Mattapoissett was the second largest site at 439 pairs (vs. 377); productivity was very good, 1.31 fledglings/nest. Reduced Peregrine Falcon (*Falco peregrinus*) disturbance this year at Ram (compared to 2011) probably caused some Roseates to shift from Bird back to Ram. Other sites included Penikese I., Gosnold (9 vs. 34; all nests overwashed, no productivity), Minimoy I., Chatham (6 vs. 3; 0.5 fledglings/pair), S. Monomoy I., Chatham (1 vs. 7; 1.00 fledglings/pair), and Norton Beach, Edgartown (5 B-period pairs vs. 0; fair to good productivity). Two dead Roseate Terns were found at Plymouth Beach, Plymouth on 18 June; it is unclear if they nested. (At least one pair nested in 2011.) At Gray's Beach, Yarmouth, one to two pairs of Roseate Terns were observed acting defensively on a couple dates in June, but no nesting was detected.

Since 1985, Roseate numbers in the state have fluctuated between 1,269 and 2,124 pairs, averaging 1,576 pairs during this time period (Fig. 1).

Common Tern: Common Terns nested at 32 sites in Massachusetts in 2012. Numbers dropped to 14,773.5 pairs (vs. 16,760 pairs in 2011; -11.9%). Again, this total is best viewed as a minimum because of the high level of nest loss from June overwash that occurred in some of the state's largest colonies prior to censuses. The largest site was S. Monomoy I. (7,762 vs. 6,904); productivity was 1.26 fledglings/nest. The next-largest colony was Ram I. (minimum of 2,693 pairs vs. 3,345). Hundreds of nests were overwashed in early June and thus were not counted during the census; productivity was 0.97 fledglings/nest. Bird I. supported 1,902 pairs (vs. 1,872); overwash was relatively minor and productivity was 0.82 fledglings/nest. Plymouth Beach supported 704 pairs (vs. 2,686); productivity was poor due to heavy predation (coyote, fox, Great Horned Owl, and other birds) and some overwash. At Penikese I., at least 636.5 pairs nested (vs. 1,206) but productivity was poor (0.32 fledglings/nest), due to heavy predation (Herring Gulls, Great Black-backed Gulls, Black-crowned Night Herons, and Northern Harriers). Additionally, hundreds of nests were overwashed prior to the census. At this site, a Common Tern that paired with an Arctic Tern accounted for the 0.5 pair.

Other sites with more than 100 pairs of nesting Common Terns included Minimoy I. (344 vs. 342; poor or no productivity due to overwash and predation by coyotes, gulls, and Black-crowned Night Herons), Norton Beach (231 vs. 0; excellent) and Spinnaker I., Hull (130 vs. 106).

The ten largest A-period colonies supported 98% of the state's Common Tern pairs; 84% of the state's pairs were concentrated in the three largest colonies.

From 1985 to 2003, Common Tern numbers rose fairly steadily in Massachusetts. Since then, however, the population seems to have stabilized (with the exception of 2012) at about 16,000-17,000 pairs. Since 1985, population size has ranged from 6,483 to 16,760 pairs (mean, 12,511 pairs) (Fig. 2).

Least Tern: Our most widely distributed tern, the Least Tern, nested at 70 sites in the state in 2012. Numbers plummeted 36.5% to 2,738 pairs (vs. 4,309 in 2011). Least Tern nesting sites experienced a tremendous amount of overwash, and the statewide total is best viewed as a minimum estimate.

Norton Beach was the largest nesting site, supporting 674 pairs (vs. 0 in 2011); productivity was excellent. The next largest colonies were Little Beach, Edgartown (254 B-period vs. 55 B-period; good to excellent), Duxbury Beach (217 vs. 53), S. Monomoy I. (152 B-period vs. 104; fair to good), Third Cliff, Scituate (148 vs. 96; fair to good), South Beach, Chatham (134 vs. 60 B-period; none to excellent, depending on subcolony), Tern I., Chatham (129 vs. 81; poor), Esther I.-Smith Pt., Nantucket (127 B-period vs. 32; fair to good), Gray's Beach, Yarmouth (106 B-period vs. 111; fair to good), and Dead Neck-Sampson I., Barnstable (98 vs. 211). Note that high numbers at several of these sites were recorded in the B-period, reflecting the renesting effort by Least Terns after storm washout.

The three largest A-period Least Tern sites supported 38% of the pairs. The top ten A-period sites supported 65% of the pairs.

Least Tern numbers in Massachusetts increased from 1985 to 2001, declined subsequently, and increased sharply after 2006. Since 1985, numbers have ranged from 2,109 to 4,309 pairs with a mean of 2,876 pairs (Fig. 1).

Arctic Tern: In 2012, just one Arctic Tern individual was documented to nest. It paired with a Common Tern at Penikese I.; the nest was overwashed. One dead Arctic Tern was encountered at Plymouth Beach on 12 May and another was observed for a short period in late-May, but nesting was not observed. In 2011 no Arctic Terns were documented nesting in Massachusetts.

Since 1985, numbers of this range-edge species have ranged from 0 to 29 pairs (mean, 9 pairs), with an overall downward trend (Fig. 3).

Black Skimmer: In 2012, three pairs of Black Skimmers nested at Norton Beach during the peak census window and another in the B-period; productivity was excellent, 2.75 fledglings/nest. At S. Monomoy I., one abandoned skimmer egg was found in early June. At Dead Neck-Sampson I., Barnstable, four adult skimmers were seen in mid-May; one pair scraped, but then left. In 2011, five pairs of skimmers nested, all at Minimoy I.

Black Skimmers, at the northern end of their breeding range here, have ranged from 0 to 7 pairs (mean, 4) since 1985, with no clear population trend (Fig. 3).

Laughing Gull: In 2012, Laughing Gull numbers decreased 20.7% to 1,253 pairs (vs. 1,581 in 2011). Laughing Gulls nested at Plymouth Beach (812 pairs vs. 1,186; fair to good productivity) and S. Monomoy I. (441 pairs vs. 395; fair to good).

From 1985 to present, Laughing Gulls have averaged 1,128 pairs, fluctuating between 542 and 1,629 pairs (Fig. 4). The overall trend since 1998 has been upward, with growth slowing since 2006.

Acknowledgements

Thanks to dozens of cooperators that worked at these sites and collected and submitted data for this report.

Table 1. Numbers of pairs and productivity of terns, Laughing Gulls, and Black Skimmers nesting in Massachusetts in 2012. All sites were censused unless noted as “nd” (no data). Data in parentheses refer to B-period counts. Data in brackets were collected prior to the A-period census window.

| COLONY NAME, TOWN | <u>Roseate Tern</u> | | | <u>Common Tern</u> | | | <u>Arctic Tern</u> | | | <u>Least Tern</u> | | | <u>Black Skimmer</u> | | | <u>Laughing Gull</u> | | | Censusing Agency ^c |
|--|---------------------|----------------|----------------|--------------------|---|---|--------------------|---|---|-------------------|-------|---|----------------------|---|---|----------------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| NORTH SHORE | | | | | | | | | | | | | | | | | | | |
| Blackwater River Group, Salisbury | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Woodbridge I., Newburyport | 0 | | | 58 | A | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| Chaces I., Newbury | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| Plum I. River Group, Newbury (marshes-incl. Pine I., Little Pine I. and Jericho Creek) | 0 | | | 13 | A | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| Parker River Group (marshes) | 0 | | | 18 | A | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| Plum I. Beach, Newbury-Rowley-Ipswich | 0 | | | 0 | | | 0 | | | 84 | A | 2 | 0 | | | 0 | | | USFWS |
| Rowley Salt Marshes | 0 | | | 1 | A | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Roger I., Ipswich | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Bagwell I., Ipswich | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Lords I., Ipswich | 0 | | | 6 | A | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Ipswich Salt Marshes | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | ECGA |
| Crane Beach, Ipswich | 0 | | | 0 | | | 0 | | | 80 (16) | N (N) | 1 | 0 | | | 0 | | | TTOR |
| Saugus River (Gen. Edwards) Bridge, Lynn-Revere | 0 | | | 23 | A | | 0 | | | 0 | | | 0 | | | 0 | | | Factor |
| Winthrop Beach, Winthrop | 0 | | | 0 | | | 0 | | | 55 | A/N | 3 | 0 | | | 0 | | | MAS |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|---|----------------|----------------|----------------|-------------|---|---|----------------|---|---|------------|-------|---|---------------|---|---|---------------|---|---|-------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Yirrell Beach, Winthrop | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Snake I., Winthrop | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| Mystic River, Everett-Boston-Somerville-Medford | 0 | | | 14 | A | | 0 | | | 0 | | | 0 | | | 0 | | | Factor, Fager |
| Chelsea River, Chelsea-Revere-Boston | nd | | | nd | | | nd | | | nd | | | nd | | | nd | | | |
| Belle Isle Marsh, Boston | nd | | | nd | | | nd | | | nd | | | nd | | | nd | | | |
| Logan Airport, Boston | 0 | | | 0 | | | 0 | | | 11 | N | 0 | 0 | | | 0 | | | Smith |
| Central Square Piers, East Boston | 0 | | | 82 | A | | 0 | | | 0 | | | 0 | | | 0 | | | Factor |
| Jeffries Point, East Boston | 0 | | | 42 | A | | 0 | | | 0 | | | 0 | | | 0 | | | Factor |
| Rainsford I., Boston | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| Lovell I., Boston | 0 | | | 0 | | | 0 | | | 4 | N | 0 | 0 | | | 0 | | | NPS |
| Spinnaker I. (formerly Hog I. Pier), Hull | 0 | | | 130 | A | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| | | | | | | | | | | | | | | | | | | | |
| SOUTH SHORE | | | | | | | | | | | | | | | | | | | |
| The Glades, Scituate | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Third Cliff (North R. mouth), Scituate | 0 | | | 1 | N | 0 | 0 | | | 148 | A | 2 | 0 | | | 0 | | | MAS |
| Fourth Cliff (North R. mouth), Scituate | 0 | | | 0 | | | 0 | | | [14] 1 | [A] A | 0 | 0 | | | 0 | | | MAS |
| Duxbury Beach, Duxbury | 0 | | | 0 | | | 0 | | | 217 | A | | 0 | | | 0 | | | MAS |
| Plymouth Beach, Plymouth | 0 ^d | | | 704 | N | 1 | 0 ^d | | | 20 (13) | N (N) | 1 | 0 | | | 812 | N | 2 | Plymouth |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|---|--------------|----------------|----------------|--------------|-----|---|--------------|---|---|----------------|--------------|-----|----------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Ellisville Harbor, Plymouth | 0 | | | 0 | | | 0 | | | 14 (12) | A (A) | 0 | 0 | | | 0 | | | MAS |
| Sagamore Beach, Bourne and Sandwich | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Scusset Beach, Sandwich | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| UPPER CAPE | | | | | | | | | | | | | | | | | | | |
| Menauhant, Falmouth | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Washburn I., Falmouth | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | WBNERR, MDCR |
| South Cape Beach- Waquoit, Mashpee | 0 | | | 0 | | | 0 | | | [8] 6 | [N] N | 2 | 0 | | | 0 | | | WBNERR, MDCR |
| Popponeset Spit, Mashpee | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Town Neck Beach, Sandwich | 0 | | | 0 | | | 0 | | | [80] 5 (30) | [A] N (A) | | 0 | | | 0 | | | MAS |
| Springhill Beach, Sandwich | 0 | | | 0 | | | 0 | | | 68 (68) | N (A) | | 0 | | | 0 | | | MAS |
| East Sandwich Beach, Sandwich | 0 | | | 0 | | | 0 | | | 6 | N | 2 | 0 | | | 0 | | | MAS |
| Scorton (Neck) Creek, Sandwich | 0 | | | 0 | | | 0 | | | 3 (7) | N (N) | 2 | 0 | | | 0 | | | MAS |
| Scorton Shores, Sandwich | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Sandy Neck, Barnstable | 0 | | | [13] 0 | [A] | 0 | 0 | | | 75 (38) | A (A) | 0-1 | 0 | | | 0 | | | Barnstable, MAS |
| Dead Neck-Sampson I., Barnstable | 0 | | | 16 | A | | 0 | | | 98 (88) | A (A) | | 0 ^e | | | 0 | | | MAS |
| Craigville-Long Beach, Barnstable | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Squaw I., Barnstable | 0 | | | 0 | | | 0 | | | 6 (1) | N (A) | 0 | 0 | | | 0 | | | MAS |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|--|----------------------------------|----------------|----------------|------------------|-----------------|--------------|--------------|---|---|-----------------|--------------|-----|----------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Dowdes Beach, Barnstable | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | Barnstable |
| Dunbar Point (Kalmus Park), Barnstable | 0 | | | 0 | | | 0 | | | 60 (78) | A (A) | 1 | 0 | | | 0 | | | Barnstable |
| Gray's Beach, Yarmouth | 1 ^f (2 ^f) | A (A) | | [40] 69 (141) | [A] A (N) | 2 | 0 | | | [64] 2 (106) | [A] A (N) | 2 | 0 | | | 0 | | | MAS |
| Great I., Yarmouth | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Seagull Beach | 0 | | | 0 | | | 0 | | | 6 (17) | A (A) | 2 | 0 | | | 0 | | | MAS |
| West Dennis Beach, Dennis | 0 | | | 0 | | | 0 | | | 33 | N | 2 | 0 | | | 0 | | | Dennis |
| Miramar Beach, Dennis | 0 | | | 0 | | | 0 | | | 2 (0) | N | 0 | 0 | | | 0 | | | MAS |
| LOWER CAPE | | | | | | | | | | | | | | | | | | | |
| Forest Beach, Chatham | 0 | | | 0 | | | 0 | | | 1 | N | 0 | 0 | | | 0 | | | MAS |
| Ridgevale Beach, Chatham | 0 | | | 0 | | | 0 | | | 22 (7) | N (N) | 0 | 0 | | | 0 | | | MAS |
| Harding's Beach and Point, Chatham | 0 | | | 0 | | | 0 | | | [60] 24 | [A] A | 0 | 0 | | | 0 | | | MAS |
| S. Monomoy I., Chatham | 1 (1) | N (N) | 1.00 fl/n | 7,762 | N | 1.26 fl/n | 0 | | | 52 (152) | N (N) | 2 | 1 ^g | N | 0 | 441 | N | 2 | USFWS |
| Minimoy I., Chatham | 6 (0) | N | 0.50 fl/n | 344 | N | 0-1 | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| N. Monomoy I., Chatham | 0 | | | + ^h | | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |
| South Beach I., Chatham | 0 | | | 0 | | | 0 | | | 134 (95) | A (A) | 0-3 | 0 | | | 0 | | | MAS, MDFW |
| Nauset (North) Beach (incl. N. Bch. I.), Chatham | 0 | | | 0 | | | 0 | | | 10 (20) | N (N) | 0-3 | 0 | | | 0 | | | Chatham |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|---|--------------|----------------|----------------|----------------|---|---|--------------|---|---|--------------|-------|-----|---------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Tern I., Chatham | 0 | | | 2 | N | | 0 | | | 129 (80) | N (N) | 1 | 0 | | | 0 | | | MAS |
| Nauset (North) Beach, Orleans (Chatham line north to Nauset Harbor Inlet) | 0 | | | 0 | | | 0 | | | 33 | A | 0-2 | 0 | | | 0 | | | Orleans |
| Nauset-New I., Orleans | 0 | | | 1 | N | 0 | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| S. Sunken Meadow, Eastham | 0 | | | 0 | | | 0 | | | [6] 0 | [A] | 0 | 0 | | | 0 | | | MAS |
| Lieutenant I., Wellfleet | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Nauset-Eastham ("Coast Guard Beach" & "Plover I.") | 0 | | | 0 | | | 0 | | | 34 | N | 2 | 0 | | | 0 | | | NPS |
| Great I.-Jeremy Pt., Wellfleet | 0 | | | 1 ⁱ | | 0 | 0 | | | 40 (63) | A (A) | 0-1 | 0 | | | 0 | | | NPS |
| Marconi Beach, Wellfleet | 0 | | | 0 | | | 0 | | | 34 (15) | N (N) | 0 | 0 | | | 0 | | | NPS |
| Marconi Station/LeCount Hollow, Wellfleet | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| Cahoon Hollow, Wellfleet | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| Pamet Harbor Bar/Corn Hill, Truro | 0 | | | 0 | | | 0 | | | 29 | N | 1 | 0 | | | 0 | | | MAS |
| Beach Point/Pilgrim Beach, Truro | 0 | | | 0 | | | 0 | | | 10 (1) | N (N) | 0 | 0 | | | 0 | | | MAS |
| Ballston Beach, Truro | 0 | | | 0 | | | 0 | | | 0 (13) | (N) | 0 | 0 | | | 0 | | | NPS |
| High Head, Truro | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NPS |
| Head of the Meadow, Truro | 0 | | | 0 | | | 0 | | | 12 (50) | N (N) | 2 | 0 | | | 0 | | | NPS |
| Wood End-Long Point Area, Provincetown | 0 | | | 0 | | | 0 | | | 14 (36) | N (N) | 1 | 0 | | | 0 | | | NPS |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|--|--------------|----------------|----------------|--------------|---|--------------|--------------|---|---|--------------|------------|-----|---------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Race Point South, Truro-Provincetown | 0 | | | 0 | | | 0 | | | 5 (20) | N (N) | 0-2 | 0 | | | 0 | | | NPS |
| Race Point North, Provincetown | 0 | | | 0 | | | 0 | | | 12 (26) | N (N) | 1 | 0 | | | 0 | | | NPS |
| BUZZARDS BAY | | | | | | | | | | | | | | | | | | | |
| Black Beach- Sippewisset, Falmouth | 0 | | | 0 | | | 0 | | | 13 (2) | N (N) | 0-2 | 0 | | | 0 | | | MAS |
| Bird I., Marion | 814 | N | 1.12 fl/n | 1,902 | N | 0.82 fl/n | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| Strawberry Pt., Mattapoisset | 0 | | | 0 | | | 0 | | | 2 | | | 0 | | | 0 | | | MAS, MDFW |
| Ram I., Mattapoisset | 439 | N | 1.31 fl/n | 2,693 | N | 0.97 fl/n | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| S. Shore Marshes WMA, Little Bay, Fairhaven | 0 | | | 0 | | | 0 | | | 12 | A | | 0 | | | 0 | | | MDFW |
| Fish I., Fairhaven | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| West I., Fairhaven | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | LCES |
| Long I., Fairhaven | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| Winsegansett Hts., Fairhaven | 0 | | | 0 | | | 0 | | | 0 (1) | A | 0 | 0 | | | 0 | | | LCES |
| Nonquitt, Dartmouth | 0 | | | 1 | N | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Round Hill Beach, Dartmouth | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Salter's Pt. and Pd., Dartmouth | 0 | | | 2 | N | 0 | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Demarest Lloyd State Park, Dartmouth | 0 | | | 0 | | | 0 | | | 24 (13) | A (N) | 2 | 0 | | | 0 | | | LCES |
| Barney's Joy-Allen's Pd.-Little Beach, Dartmouth | 0 | | | 0 | | | 0 | | | [29] 8 | [A/N] N | 0-1 | 0 | | | 0 | | | MAS |
| Gooseberry Neck, Westport | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | LCES |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|---|--------------|----------------|----------------|----------------|------|--------------|--------------|---|---|--------------------|-------|---|---------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Horseneck Beach, Westport | 0 | | | 0 | | | 0 | | | 1 (2) | N (N) | 3 | 0 | | | 0 | | | LCES |
| Speaking Rock, Westport | 0 | | | 5 | N | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Fishing Rock, Westport | 0 | | | 1 | N | 0 | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Jug Rock, Westport | nd | | | nd | | | nd | | | nd | | | nd | | | nd | | | |
| Cockeast Pd.- Acoaxet, Westport | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TNCRI |
| Richmond Pd., Westport | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TNCRI |
| Bay Point, S. Swansea | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | Waring |
| Pasque I., Gosnold | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| Nashawena I., Gosnold | 0 | | | 14 | N | | 0 | | | 0 | | | 0 | | | 0 | | | MDFW |
| Penikese I., Gosnold | 9 (0) | N | 0.11 fl/n | 636.5 (219) | (N)N | 0.32 fl/n | 0.5 | N | 0 | 0 | | | 0 | | | 0 | | | MDFW |
| Cuttyhunk I., Gosnold | 0 | | | 0 | | | 0 | | | 19 | A | | 0 | | | 0 | | | MDFW |
| MARTHA'S VINEYARD | | | | | | | | | | | | | | | | | | | |
| Eastville Beach, Oak Bluffs | 0 | | | 0 | | | 0 | | | [6] 0 ⁱ | [A] | 0 | 0 | | | 0 | | | MAS |
| Harthaven Beach, Oak Bluffs | 0 | | | 0 | | | 0 | | | [3] 0 ⁱ | [A] | 0 | 0 | | | 0 | | | MAS |
| Sylvia State Beach, Oak Bluffs | 0 | | | 0 | | | 0 | | | 5 | N | 0 | 0 | | | 0 | | | MAS |
| Cow Bay, Edgartown | 0 | | | 0 | | | 0 | | | 31 (48) | A (A) | 3 | 0 | | | 0 | | | MAS |
| Sarson I., Sengekontacket Pd., Oak Bluffs | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Haystack Pt., Sengekontacket Pd., Edgartown | 0 | | | [83] 0 | [N] | 0 | 0 | | | 0 | | | 0 | | | 0 | | | MAS |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|--|--------------|----------------|----------------|--------------|----------|---|--------------|---|---|----------------------|--------------|-----|---------------|----------|--------------|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Little Beach, Edgartown | 0 | | | [7] 2 | [N] N | 2 | 0 | | | [240] 96 (254) | [A] A (A) | 2-3 | 0 | | | 0 | | | BW |
| Cape Poge Elbow, Edgartown | 0 | | | 0 | | | 0 | | | 0 (3) | (N) | 0 | 0 | | | 0 | | | TTOR |
| Little Neck, Edgartown | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TTOR |
| East Beach and Poucha Pond, Edgartown | 0 | | | 0 | | | 0 | | | 18 | N | 0 | 0 | | | 0 | | | TTOR |
| Wasque, Edgartown | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TTOR |
| Norton Beach ("Katama"), Edgartown | 0 (5) | (N) | 2 | 231 | N | 3 | 0 | | | 674 | N | 3 | 3 (1) | N (N) | 2.75 fl/n | 0 | | | TTOR |
| Edgartown Great Pd., Edgartown | 0 | | | 0 | | | 0 | | | 56 | A | 0 | 0 | | | 0 | | | MVLBC, BW |
| Oyster Pd., Edgartown | 0 | | | 0 | | | 0 | | | 6 (20) | N (A) | 2 | 0 | | | 0 | | | BW |
| Watcha Pd., W. Tisbury | 0 | | | 0 | | | 0 | | | 1 | N | 0 | 0 | | | 0 | | | BW |
| Quansoo Area (Long Pt. Wildlife Refuge; Tisbury Great Pond, W. Tisbury; & Black Point Pond, Chilmark) | 0 | | | 0 | | | 0 | | | [48] 18 (42) | [A] N (A) | | 0 | | | 0 | | | MVLBC, MAS, BW |
| Lamberts Cove- James Pd., W. Tisbury | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | BW |
| Chilmark Pd., Chilmark | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | BW |
| Stonewall Beach, Chilmark | 0 | | | 0 | | | 0 | | | 10 (0) | A | 1 | 0 | | | 0 | | | BW |
| Long Beach, Aquinnah & Squibnocket Beach, Chilmark | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | BW |
| Nomans Land, Chilmark | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | USFWS |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|--|--------------|----------------|----------------|-------------|---|---|-------------|---|---|-------------|-------|---|---------------|---|---|---------------|---|---|-------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Lobsterville (incl. "Dogfish Bar"), Aquinnah | 0 | | | 0 | | | 0 | | | 8 (3) | N (N) | 3 | 0 | | | 0 | | | BW |
| Menemsha Pd., Aquinnah-Chilmark (encompasses Edy's I., Chilmark) | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Tashmoo, Tisbury | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Mink Meadows, Tisbury | 0 | | | 0 | | | 0 | | | [30] 12 (0) | A | 0 | 0 | | | 0 | | | MAS |
| NANTUCKET | | | | | | | | | | | | | | | | | | | |
| Great Point (including "The Galls"), Nantucket | 0 | | | 0 | | | 0 | | | 0 (2) | (N) | 2 | 0 | | | 0 | | | TTOR, USFWS |
| The Glades, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TTOR |
| Coskata-Coatue, Nantucket | 0 | | | 0 | | | 0 | | | 2 (0) | N | 0 | 0 | | | 0 | | | NCF |
| Wauwinet, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Squam Head & Pond, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NCF, MAS |
| Quidnet (including Sesachacha Pd.), Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS |
| Ram I. (Polpis Harbor), Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NCF |
| Quaise, Nantucket | 0 | | | 0 | | | 0 | | | 12 (0) | N | 0 | 0 | | | 0 | | | NMCRD |
| Siasconset (Sankaty-Low Beach), Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NMCRD |
| Tom Nevers Head, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NMCRD |
| Surfside, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NMCRD |
| Cisco Beach-Hummock Pond, Nantucket | 0 | | | 0 | | | 0 | | | 5 (9) | N (N) | 1 | 0 | | | 0 | | | NCF |

| COLONY NAME, TOWN | Roseate Tern | | | Common Tern | | | Arctic Tern | | | Least Tern | | | Black Skimmer | | | Laughing Gull | | | Censusing Agency ^c |
|-------------------------------------|--------------|----------------|----------------|-----------------|---|---|--------------|---|---|--------------|-------|---|---------------|---|---|---------------|---|---|----------------------------------|
| | No. pairs | M ^a | P ^b | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | No. pairs | M | P | |
| Esther I.-Smith Pt., Nantucket | 0 | | | 0 | | | 0 | | | 106 (127) | N (N) | 2 | 0 | | | 0 | | | NMCRD, MAS |
| Eel Point, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | NCF |
| Tuckernuck I., Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | TLT, Veit |
| Muskeget I., Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS, Veit |
| Muskeget sandbars, Nantucket | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | MAS, Veit |
| TOTAL 2012 NESTING PAIRS | 1,269 | | | 14,773.5 | | | 0.5 | | | 2,738 | | | 3 | | | 1,253 | | | |
| TOTAL 2011 NESTING PAIRS | 1,359 | | | 16,760 | | | 0 | | | 4,309 | | | 5 | | | 1,581 | | | |
| PERCENT CHANGE FROM 2011 | -6.6 | | | -11.9 | | | + | | | -36.5 | | | -40.0 | | | -20.7 | | | |

^a Method: A = adult count; E = partial/extrapolated count; N = nest count. See text of “Methods” for more details.

^b Productivity: 0 = none; 1 = poor; 2 = fair to good; 3 = excellent. Quantitative estimates are given as fledglings/nest or fledglings/pair.

^c In addition to the names of towns, counties, and individuals, the following abbreviations are used: BW=BiodiversityWorks; ECGA=Essex County Greenbelt Association; LCES=Lloyd Center for Environmental Studies; MAS=Massachusetts Audubon Society-Coastal Waterbird Program; MDCR=Massachusetts Department of Conservation & Recreation; MDFW=Massachusetts Division of Fisheries & Wildlife; MVLBC=Martha's Vineyard Land Bank Commission; NCF=Nantucket Conservation Foundation; NMCRD=Town of Nantucket Marine and Coastal Resources Department; NPS=National Park Service; TLT=Tuckernuck Land Trust; TNCRI=The Nature Conservancy - Rhode Island; TTOR=The Trustees of Reservations; USFWS=U.S. Fish & Wildlife Service; WBNERR=Waquoit Bay National Estuarine Research Reserve.

^d At Plymouth Beach, two dead Roseate Terns (on 6/18) and a dead Arctic Tern (on 5/12) were found in colony. One Arctic Tern was observed for a short period in late-May.

^e At Dead Neck-Sampson I., four adult Black Skimmers were seen in mid-May; one pair scraped, but then left. These birds were not included in state totals.

^f At Gray's Beach, Yarmouth, a pair of Roseates was calling around the colony on 6/6; on 6/23, four Roseates were defensive over and around the colony. These birds were not included in state totals.

^g At S. Monomoy I., one abandoned Black Skimmer egg was found in early June. This nest was not included in state totals.

^h Common Terns nested at N. Monomoy I., but the site was overwashed before nests could be counted; the birds did not reneest there.

ⁱ A Common Tern pair scraped at Great I.-Jeremy Pt., but no nest was found. This pair is not included in state totals.

^j At Eastville Beach and Harthaven Beach, Least Terns courted but did not nest.

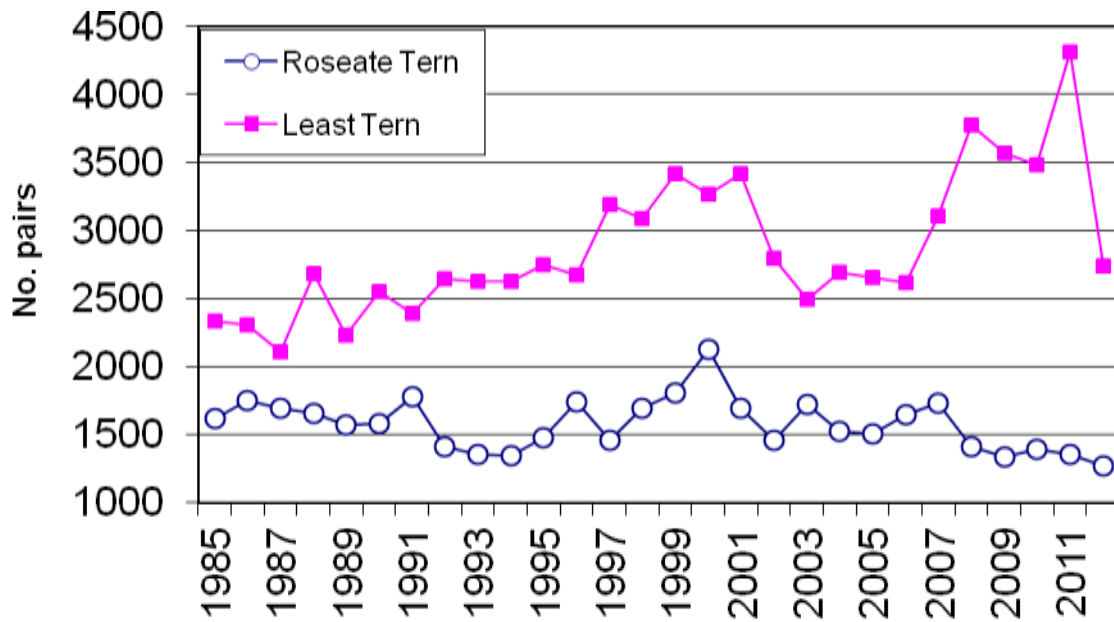


Figure 1. Numbers of nesting Roseate and Least Terns in Massachusetts, 1985-2012.

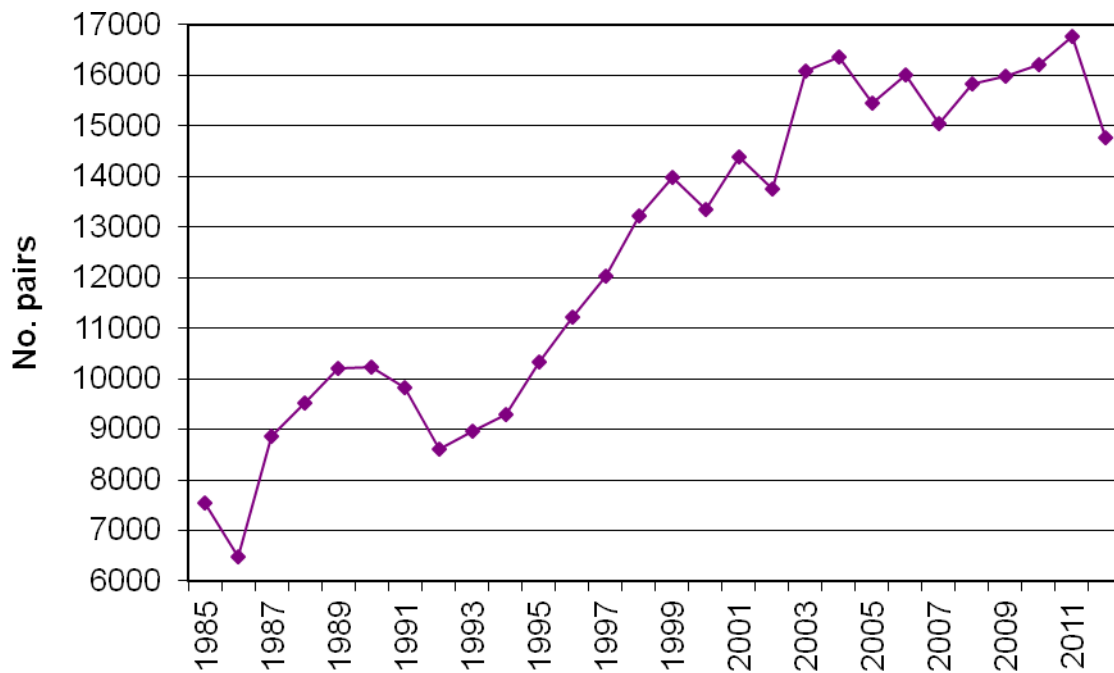


Figure 2. Numbers of nesting Common Terns in Massachusetts, 1985-2012.

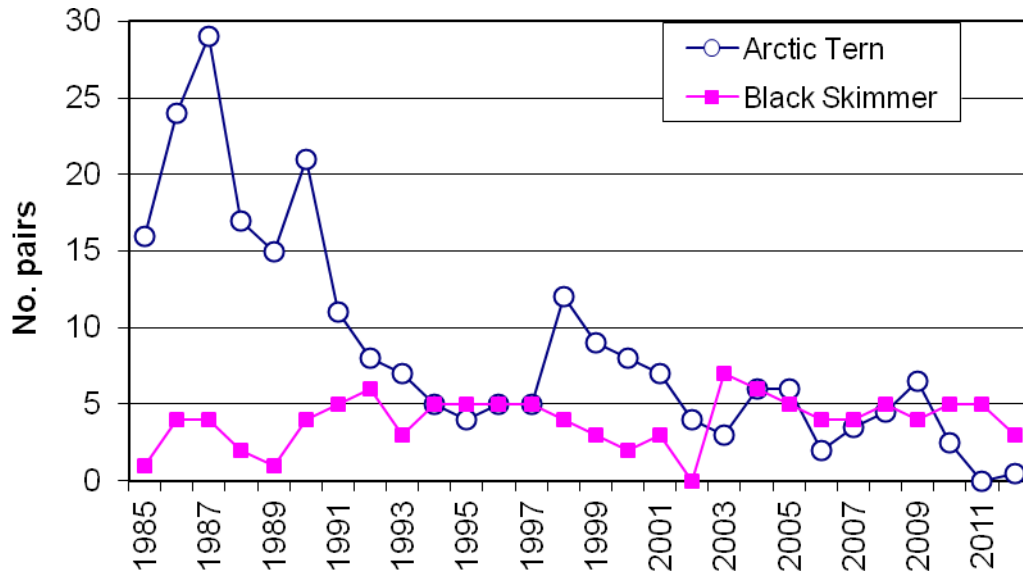


Figure 3. Numbers of nesting Arctic Terns and Black Skimmers in Massachusetts, 1985-2012.

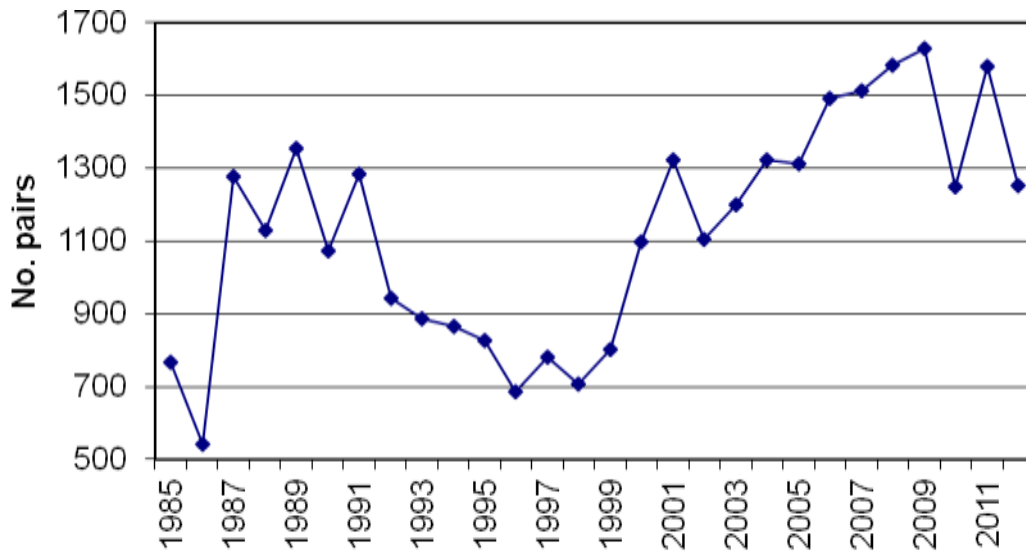


Figure 4. Numbers of nesting Laughing Gulls in Massachusetts, 1985-2012.