NOAA Technical Memorandum NMFS-NE-211

Trends in Selected Northeast Region Marine Industries

US DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts
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ABSTRACT

The Northeast Fisheries Science Center provides scientific assessments and management advice for managed fishery resources in the "Northeast region" ranging from the US/Canada border in Maine to Cape Hatteras, NC. This study examines the performance and relative contribution of marine industries in coastal states bordering this Northeast region over time. These states include the New England states of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. The "mid-Atlantic region" is defined for study purposes as New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina. For purposes of this study, the Northeast region marine-based economy identifies 14 industrial sectors classified under the North American Industry Classification System and/or the Standard Industrial Classification system, depending on year. In addition to a combined marine-based sector, trends in performance of these sectors are reported separately as well as in three industry groupings: seafood commerce (commercial fishing, seafood dealers, seafood processors, and retail fish markets), recreational boating (boat building, boat dealers, marinas, and sightseeing excursion services), and water transportation (shipping, ship building, marine cargo handling, port operations, and navigational services). Measures of performance include total employment, number of establishments, the location quotient, and the Herfindahl index. The location quotient provides a relative measure of regional specialization while the Herfindahl index measures changes in industry concentration.

The principal source of data used in this study was annual County Business Patterns data for the years 1986-2005. Methods to estimate employment where data have been suppressed because of confidentiality concerns are described. For commercial fishing, nonemployer statistics from the US Census Bureau and quarterly employment data from the Bureau of Labor Statistics were used.

The marine sector represents about 0.5% of total employment in the Northeast region. Employment growth has been positive, increasing at about the same rate as employment in the general economy. However, important differences exist in performance among the three marine subgroups and across states. Employment has been declining in both the seafood commerce and the water transportation subgroups, albeit at an average annual rate of less than 1%. Overall employment growth has been positive only because employment growth in the marine recreational boating subgroup has more than offset the employment declines in the seafood commerce and water transportation sectors. This also implies that employment in the marine recreational boating subgroup has been expanding at a rate greater than that of the general economy. Among the Northeast states marine sector employment has been declining in Maryland, Maine, New York, and Virginia. In each of these states positive growth in marine recreational boating employment has not been sufficient to offset declines in other marine subgroups.

INTRODUCTION

Although the principal focus of social and economic analysis of fisheries regulation is on fishing and fishing-related entities, the marine economy consists of a broader range of activities that take place in the coastal zone. Pontecorvo et al. (1980) defined the marine economy as including any activity that utilizes the ocean in a productive process or that exists because the demand for the sector's output is due to some attribute of the ocean. On the production side, Pontecorvo et al. distinguished between activities that extracted living (fish) or nonliving (minerals) resources from those that directly utilized the ocean (shipping). On the demand side, a distinction was drawn between activities that are attributable to the ocean (seafood processing) and activities that were located in proximity to the ocean (a gift shop). This conceptual framework has been used to estimate the economic activity supported by Large Marine Ecosystems (Hoagland et al. 2005) and to examine the role of the marine economy in the state of Massachusetts (Georgianna 2000; Donahue Institute 2006).

As conceived by Pontecorvo et al. (1980), proper delineation of the ocean sector would require a change in data collection protocol to what was then the Standard Industrial Classification (SIC) system to apportion activity in specific sectors between ocean and nonocean components[1]. For example, ice is used both by commercial fishing vessels and, among other things, by consumers to chill beverages. Apportionment to the marine economy would require an accounting of how much ice was used in its various marine and nonmarine uses. Such a change was never adopted. This means that the data upon which most studies of marine economies depend contain a mixture of marine and nonmarine related establishments (i.e., businesses). Depending on which sectors are included, the economic activity attributed to the marine environment may be under- or overestimated. For purposes of this study, only sectors that (1) are associated with extractive uses of the marine environment, (2) are directly associated with extractive uses, or (3) make direct use of the ocean were included.

Changes in the marine economy may be attributable to many different factors. For fishing and fishing-related industries, change may be driven by resource conditions and the regulatory actions taken to rebuild a fishery. These changes may also be driven by demand for alternative uses of shore-front property. The objective of this report is to document trends in numbers of establishments and level of employment for selected marine industries. In each case indicators of performance are developed to identify sectors that may be increasing or decreasing or those sectors whose structure or relative role in a local or regional economy may be changing over time. Spatial differences in performance among states as well as coastal counties within states are identified.

The remainder of this report contains four major sections. The first section identifies the marine sectors that were selected. The second section describes the data used in the report. Special considerations made because of changes in industrial classification as well as data suppression are discussed. The third section identifies the performance indicators, their calculation, and their interpretation. The last section identifies specific groupings of marine sectors to evaluate how commercial fishing and fishing-related sectors as a whole may be changing as compared to recreation-based or shipping/water transportation sectors. Finally, results for individual marine sectors are also presented.

MARINE SECTORS

The study objective is to examine how the relative contribution of fishing and fishing-related industries to the Northeast regional economy has been changing over time. In this study the "Northeast region" is defined as the New England states of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut, and the "mid-Atlantic region" states of New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina. These New England and mid-Atlantic states border the fishery resources assessed by the Northeast Fisheries Science Center.

In this study the range of marine industries considered is somewhat narrower in scope than the more general treatments of the contribution of the marine-related sectors as a whole that were done by Georgianna (2000) and the Donahue Institute (2006). The latter study grouped 56 different industrial sectors based on North American Industy Classification System (NAICS) codes into five major sectors: commercial seafood, marine transportation, coastal tourism and recreation, marine science and technology, and coastal construction[2].

Neither the SIC nor NAICS-based industrial classification systems provides the level of detail necessary to distinguish between many types of establishments that primarily service fishing or fishing-related activities from establishments that serve nonfishing clients (e.g., welding, trucking, ice manufacturing). For this reason, construction of a marine sector for purposes of this study was limited to a smaller set of industries that are more likely to be predominately associated with direct use of coastal waters or directly related to those uses. These industries include seafood harvest; seafood processing; seafood wholesale; retail fish markets; boat building; boat dealers; marinas; marine sightseeing; ship building; water transportation of passengers and cargo; and water transportation services, including marine cargo handling, dock and pier operations, and navigation services to shipping. These sectors were classified into three groupings: commercial seafood, marine recreational boating, and water transportation (see Table 1). Note that these groupings bear some similarities to the groupings used in the Donahue Institute report (2006).

DATA

Data for this study come from County Business Patterns (CBP) from the US Census Bureau for calendar years 1986-2005 (US Census Bureau 2008). County Business Patterns is an annual series that provides detailed employment and payroll data by industrial classification for counties and states. These data are obtained through several sources including annual surveys conducted by the Census Bureau and the administrative records of the Internal Revenue Service and the Social Security Administration (US Census Bureau 2007). The unit of observation is an establishment, which is defined as a single physical location or place of business. In cases where multiple activities are carried out under the same ownership, all activities are classified under a single establishment. The industrial classification for that multiactivity establishment is based on its major activity. This means that the reported number of establishments may underestimate the total number of establishments that may be engaged in a particular kind of activity. For example, seafood businesses may process fish or shellfish and may also act as wholesale distributors or buyers/sellers of unprocessed seafood. Any such establishment would be assigned to a single industrial classification (either processing or wholesale trade) depending on which activity was

the larger source of revenue. Note that this also means that from one year to the next, the industrial classification of an establishment may change as the major activity changes.

Table 1. Summary of marine sector groupings and individual sectors by 2002 North American Industry Classification (NAICS)

2002 NAICS Code	Description
Seafood Commerce	
1141	Commercial Fishing
42246	Fish and Seafood Wholesale
31171	Seafood Canning and Fresh and Frozen Seafood Processing
44522	Fish and Seafood Retail Markets
Marine Recreational Boating	
336612	Boat Building and Repairing
441222	Boat Dealers
713930	Marinas
487210	Scenic and Sightseeing Water Transportation
Water Transportation	
48311	Deep Sea, Coastal, and Great Lakes Water Transportation
336611	Ship Building and Repairing
48831	Port and Harbor Operations
48832	Marine Cargo Handling
48833	Navigational Services to Shipping
48839	Other Support Activities to Water Transportation

Covered establishments include any business with paid employees during the mid-March pay period. That is, the CBP data represent a point-in-time estimate rather than an annual estimate of employment throughout the year. For businesses with a strong seasonal pattern of employment, the CBP data would tend to underestimate total employment unless March is an average or above average season. Additionally, sole proprietorships or self-employed individuals are not covered nor are railroad, domestic service, agricultural production, government, or foreign workers.

Data collected over the time series were based on two different major industrial classification systems: 1986-1997 were SIC-based while 1998-2005 data were based on the newer NAICS. Additionally, the time series covers two sets of revised industry codes for both SIC and NAICS. Specifically, 1986-1987 data were based on the 1972 SIC codes while 1988-1997 data were based on 1987 SIC codes, and 1998-2002 data were based on 1998 NAICS codes while 2003-2005 data were based on the 2002 NAICS codes. In some cases no changes were made to the types of activities that were included in an industrial classification while in others substantial revisions were made. For sectors where the SIC and NAICS codes are consistent, all available years were used (see Table 2). Where the changeover from SIC to NAICS classification systems created a discontinuity in the time series, only data from 1998-2005 were used.

In accordance with federal statute, employment and payroll data may be suppressed where disclosure would violate confidentiality restrictions. However, neither the total number of establishments nor their distribution by employment size class is considered disclosure.

Table 2. County Business Patterns (CBP) available time series by marine sector

Sector	Available Time Series
Seafood Commerce	
Commercial Fishing	1986 - 2005
Fish and Seafood Wholesale	1986 - 2005
Seafood Canning and Fresh and Frozen Seafood Processing	1986 - 2005
Fish and Seafood Retail Markets	1998 – 2005
Marine Recreational Boating	
Boat Building and Repairing	1998 – 2005
Boat Dealers	1986 – 2005
Marinas[a]	1988 – 2005
Scenic and Sightseeing Water Transportation	1998 – 2005
Water Transportation	
Deep Sea, Coastal, and Great Lakes Water Transportation	1998 – 2005
Ship Building and Repairing	1986 – 2005
Port and Harbor Operations	1998 – 2005
Marine Cargo Handling	1998 – 2005
Navigational Services to Shipping	1998 – 2005
Other Water Transportation Support Activities	1998 - 2005

[a] 1986 and 1987 CBP data were based on 1972 Standard Industrial Classification codes which did not provide a unique code for marinas.

The amount of suppressed data differed by industrial sector and level of aggregation (i.e., state or county). Data suppression was particularly prevalent for industrial sectors such as mining which have only a small presence in the Northeast region. Similarly, data suppression was more prevalent at the county level than at the state level.

Proration of suppressed data followed a procedure similar to that described in Minnesota IMPLAN Group (2000). Both SIC and NAICS industrial classification systems are organized at major industry levels as well as by subgroupings within each major industry where employment data at each level of aggregation sum to the totals at the next higher level of aggregation. For a SIC-based classification scheme, this means that employment for all 4-digit codes add up to the 3-digit codes, the 3-digit codes add up to the 2-digit codes, and so on. An estimate of employment is obtained by multiplying an adjustment factor A_i to an initial estimate of employment $\hat{E}_i$ where A_i is calculated as:

$$[1]\ A_i = [E_{i+1} - \Sigma E_i]/\Sigma \hat{E}_i,$$

where i denotes the level of aggregation for the suppressed sector, i+1 denotes employment at the next higher level of aggregation, E denotes unsuppressed employment and $\hat{E}_i$ denotes the initial estimate of employment for suppressed data. The initial estimate for $\hat{E}_i$ was obtained by taking advantage of the fact that numbers of establishments are reported by employee size class (1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1,000-1,499, 1,500-2,499, 2,500-4,999, 5,000+). For all but the terminal size class, employment in each size class was estimated by multiplying the midpoint of the size class interval by the number of establishments. Since the upper bound for the terminal size class is indeterminate, a different approach was required.

To derive an initial estimate for the 5,000+ size class, one approach would be to make an assumption about the average number of employees then multiply by the number of establishments to get an estimate of total employment in the terminal size class. Unfortunately the choice of average employees is arbitrary and could introduce a downward or upward bias to the adjustment factor if employment is over- or underestimated. For suppressed employment data, a suppression flag is included where each flag corresponds to a range estimate of total employment. These ranges and suppression flags include 0-19 (A), 20-99 (B), 100-249 (C), 250-499 (E), 500-999 (F), 1,000-2,499 (G), 2,500-4,999 (H), 5,000-9,999 (I), 10,000-24,999 (J), 25,000-49,999 (K), 50,000-99,999 (L), and 100,000 or More (M). Of these intervals only the last five (I-M) were used to estimate employment in the 5,000+ size class since any other suppression flags would correspond with total employment of less than 5,000. Procedurally, employment in the 5,000+ size class was estimated by subtracting the sum of the estimated employment in all size classes below 5000+ (described above) from the midpoint of the total employment interval. For example, the midpoint estimate for the suppression flag K would be 37,499. Since actual employment is uncertain, this estimate may still under- or overestimate the adjustment factor, but rather than being set at an arbitrary average, the initial estimate of employment in the terminal size class is allowed to vary by industry and is grounded in reported total employment.

The initial estimate of total employment ($\hat{E}_i$) is obtained by summing the estimated employment in all size classes. Note that it would have been possible, and simpler, to obtain $\hat{E}_i$ by using the midpoint of the employment range corresponding to the data suppression flag. This method was not selected because it does not take into account potential changes in employment as the number of establishments change from one year to the next. That is, total employment may fall within the same range but may increase/decrease as establishments enter/exit. The method used for this study permits these changes to be reflected in the employment estimate.

The initial employment estimate is adjusted as in [1] from the bottom up to obtain an adjusted estimate of total employment. For example, ship and boat building (NAICS 33661) is a 4-digit NAICS industry that is further broken out into two 5-digit subsectors (ship building and boat building). To illustrate the procedure, consider that New Jersey employment at the 4-digit NAICS code for ship and boat building was 2,030 people in 2005. However, the separate 5-digit codes for boat building and ship building were suppressed. The reported number of establishments in each employee size class interval for each sector is shown in Table 3. Multiplying the number of establishments in each size class by the size-class midpoint and then summing these counts results in an initial employment estimate of 825.5 and 1,376 for boat building and ship building respectively.

Applying [1] to these data yields an adjustment factor of 1.054 (2320/825.5 + 1376). Note that in this example, 2,320 corresponds to the unsuppressed E_{i+1} in [1], (825.5 + 1376) corresponds to $\Sigma\hat{E}_i$, and ΣE_i is set to zero since there were no unsuppressed sectors at the 5-digit level. Multiplying the adjustment factor by the initial employment estimate produces a final estimate of 870 employees in the boat building sector and 1,450 employees in ship building. If, for example, employment for the 4-digit code was also suppressed, then employment for NAICS 33661 would have to be estimated by proration to total employment at the 3-digit level before adjusting the suppressed 5-digit data. Once all suppressed data have been adjusted from bottom to top, a second pass is made from top to bottom to make any final adjustment to ensure that all data add to the overall total.

Because a large amount of data had been suppressed for fishing establishments in the CBP data, employment for fishing was estimated by using Quarterly Census of Employment and

Wages (QCEW) data from the Bureau of Labor Statistics (BLS), and from nonemployer statistics from the Census Bureau. The QCEW data are based on the quarterly census of employment and wages, and this data collection program is administered jointly by the US Department of Labor and state Employment Security agencies. As a quarterly census, the QCEW data represent annual employment, unlike the CBP data which are point-in-time estimates. Data reported in the QCEW program include employment and wages covered under state unemployment insurance programs and federal workers covered by the Unemployment Compensation for Federal Employees program. Like the CBP data, reported information is subject to confidentiality restrictions, but since establishments by size class are not reported, it is difficult to estimate employment for nondisclosures. Data for the entire time series from 1986-2005 were obtained from the BLS, where all data from 1986-2000 were based on the SIC classification system and from 2001-2005 were based on NAICS codes[3]. No adjustments to the data were necessary since there is direct correspondence between the two industrial classification systems for commercial fishing.

Table 3. Example summary of establishments by size for New Jersey ship and boat building sectors

		Boat Building		Ship Building	
Employment Size Class	Size Class Midpoint	Number of Establishments	Midpoint Employment Estimate	Number of Establishments	Midpoint Employment Estimate
1 to 4	2.5	14	35	6	15
5 to 9	7	0	0	4	28
10 to 19	14.5	2	29	1	14.5
20 to 49	34.5	4	138	2	69
50 to 99	74.5	1	74.5	0	0
100 to 249	174.5	1	174.5	0	0
250 to 499	374.5	1	374.5	0	0
500 to 999	749.5	0	0	0	0
1000 to 1499	1249.5	0	0	1	1249.5
Initial Employment Estimate			825.5		1376

The QCEW data includes individuals who are covered by unemployment insurance, whereas the fishing industry includes a large number of individuals who may be self-employed crew or owner-operators. These sole proprietorships are covered under the nonemployer series available from the Census Bureau. The nonemployer series contains numbers of individuals and total receipts for any business that file federal income tax but that did not report any paid employees. Data are reported for calendar years 1997-2005 on a NAICS basis. Total fishing employment was then the sum of QCEW employment and the number of sole proprietorships.

PERFORMANCE INDICATORS

Four performance indicators were used: employment, number of establishments, location quotient, and Herfindahl index. Employment and number of establishments provide a direct indicator of the presence or absence of a marine sector in a given region as well as how either

may be changing over time. The location quotient provides a measure of the relative role of a marine sector within a given region, while the Herfindahl index provides a measure of the firm size structure for a given industry.

The location quotient (L) is calculated as:

[2] $L_{ij} = [E_{ij}/E_{iR}]/[E_j/E_R]$,

where E_{ij} is employment in sector i in region j, E_{iR} is total employment in sector i across all regions, E_j is total employment in region j for all sectors, and E_R is total employment across all regions and sectors. The numerator in the location quotient is equivalent to the employment share in region j for sector i, while the denominator is essentially the average employment share for region j across all sectors. If the employment share for sector i exceeds its regional average, the location quotient will be greater than 1 and industry i may be said to play a proportionally larger role in the regional economy relative to other regions. From the standpoint of impact assessment, the relative impact in a region with a location quotient above 1 is likely to be larger compared to regions where employment in an affected marine sector may be proportionally lower.

The Herfindahl index (H) for a given sector is calculated as:

[3] $H = \Sigma(e_i)^2/E^2$,

where e_i is employment in establishment i and E is total employment in the sector. The Herfindahl index is bounded between 1 and 1/N. That is, the index takes on a value of 1 if there is a single establishment and 1/N if every establishment is of equal size. The Herfindahl index provides a measure of industry concentration. In general terms, a high Herfindahl index is indicative of an industry that is dominated by a few large firms whereas a low index is indicative of an industry with many small firms. A Herfindahl index that is increasing over time suggests that industry consolidation may be occurring whereas a decline in the index suggests that the industry is becoming more dispersed. Note that the Herfindahl index calculated herein is only a rough approximation of industry consolidation for two reasons. First, the CBP definition of an establishment does not take into account the potential for ownership control over multiple establishments at different sites. This means that the Herfindahl index calculated for this report cannot be used to measure changes in consolidation in ownership control or market power, the more traditional use of the index. Second, a precise measure of the Herfindahl index requires employment data for each individual establishment, which are not available in the CBP data. Instead, an approximation of the index was derived by assuming that the number of employees in each establishment in a given employment size class was equal to the size class midpoint. Thus this approximation of the Herfindahl index ($\hat{H}$) was calculated as:

[4] $\hat{H} = \Sigma(\hat{e}_i)^2 n_i/[\Sigma\hat{e}_i n_i]^2$,

where $\hat{e}_i$ is the midpoint estimate for the employee size class i and n_i is the number of establishments in the size class.

As noted above, the value of the Herfindahl index depends on the number of establishments and the size of each establishment. Kelly (1981) showed that the Herfindahl could be decomposed into "fewness" and "standardized dispersion" effects. These effects provide a

means for determining whether a change in the Herfindahl is predominately due to a change in the number of establishments or to a change in the size structure of the sector. Specifically, the fewness effect is measured by 1/N while the standardized dispersion effect is measured by the ratio of the observed variance in establishment size and the variance if the sector were a "virtual monopoly," that is, the sector is dominated by a single large establishment. The dispersion effect is bounded between 0 and 1. As the dispersion effect approaches 1, the sector is trending toward virtual monopoly. Conversely, the sector is trending toward uniform size as the dispersion effect approaches zero.

MARINE INDUSTRY TRENDS

Although data for some marine sectors were available for the entire time series, a consistent time series for all sectors was only available from 1998-2005. These data include the combined seafood commerce, marine recreational boating, and water transportation industry groups defined herein. Note that because of data suppression in the QCEW series during calendar years 1998, 1999, and 2000 for seafood harvest in Maine and Massachusetts in particular, total marine industry establishments and employment were underestimated in these two states. This means that Northeast region totals for those years were also underestimated but that the relative magnitude of the underestimate was less pronounced. For purposes of reporting, the number of establishments only includes reporting units that had paid employees. Sole proprietorships included in the nonemployer series for seafood harvesting were included in employment totals.

The number of combined establishments in the seafood commerce, marine recreational boating, and marine transportation sectors totaled an average of about 6,700 from 1998-2005 (Table 4). These establishments represented less than 0.5% of total establishments in all industrial sectors in the Northeast region (Table 5). Across states, New York had the largest number of marine industry establishments and averaged more than 1,700 establishments from 1998-2005 although the marine sector only accounted for 0.35% of total establishments in the state. By contrast, marine sector establishments represented nearly 2% of establishments in Maine, highest among Northeast region states.

Table 4. Total Northeast Region (NER) marine sector establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	360	90	1,202	704	**593**	648	135	977	1,744	255	633	6,736
1999	356	94	**800**	703	707	657	139	987	1,704	280	637	6,688
2000	344	98	**783**	700	**586**	639	133	991	1,711	277	644	6,644
2001	340	95	1,180	714	727	648	146	982	1,685	288	649	6,665
2002	362	104	1,221	716	771	658	139	975	1,779	286	668	6,868
2003	336	119	1,208	722	767	644	148	937	1,770	303	665	6,782
2004	367	112	1,197	719	805	655	148	920	1,767	305	670	6,769
2005	367	107	1,132	709	805	655	136	913	1,747	305	643	6,627

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Table 5. Northeast Region (NER) marine sector percent of total establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.39%	0.39%	0.72%	0.56%	**1.55%**	0.33%	0.37%	0.42%	0.36%	0.90%	0.37%	0.42%
1999	0.39%	0.40%	**0.46%**	0.55%	1.82%	0.33%	0.37%	0.43%	0.35%	0.99%	0.37%	0.41%
2000	0.37%	0.41%	**0.44%**	0.54%	**1.48%**	0.31%	0.36%	0.42%	0.35%	0.97%	0.37%	0.41%
2001	0.37%	0.39%	0.67%	0.55%	1.83%	0.32%	0.39%	0.42%	0.34%	1.01%	0.37%	0.41%
2002	0.39%	0.43%	0.69%	0.54%	1.91%	0.32%	0.37%	0.41%	0.36%	0.99%	0.37%	0.41%
2003	0.37%	0.48%	0.68%	0.54%	1.88%	0.31%	0.39%	0.39%	0.35%	1.03%	0.36%	0.41%
2004	0.39%	0.44%	0.68%	0.53%	1.95%	0.31%	0.38%	0.38%	0.35%	1.02%	0.35%	0.40%
2005	0.39%	0.42%	0.65%	0.51%	1.92%	0.30%	0.35%	0.38%	0.35%	1.01%	0.33%	0.39%

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

The share of total marine industry establishments was at least 25% in New York from 1998-2005 (Table 6). In Massachusetts the share of establishments was at least 18% in 1998 and from 2001-2003, but declined in 2004 and in 2005 to 17.1%. For the most part, however, the share of marine industry establishments has been quite stable with only a small increase in Maine and small decreases in Massachusetts and New Jersey.

Table 6. Northeast Region (NER) marine sector establishment shares by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	5.3%	1.3%	17.8%	10.5%	**8.8%**	9.6%	2.0%	14.5%	25.9%	3.8%	9.4%
1999	5.3%	1.4%	**12.0%**	10.5%	10.6%	9.8%	2.1%	14.8%	25.5%	4.2%	9.5%
2000	5.2%	1.5%	**11.8%**	10.5%	**8.8%**	9.6%	2.0%	14.9%	25.8%	4.2%	9.7%
2001	5.1%	1.4%	17.7%	10.7%	10.9%	9.7%	2.2%	14.7%	25.3%	4.3%	9.7%
2002	5.3%	1.5%	17.8%	10.4%	11.2%	9.6%	2.0%	14.3%	25.9%	4.2%	9.7%
2003	5.0%	1.8%	17.8%	10.6%	11.3%	9.5%	2.2%	13.8%	26.1%	4.5%	9.7%
2004	5.4%	1.7%	17.7%	10.6%	11.9%	9.7%	2.2%	13.6%	26.1%	4.5%	9.8%
2005	5.5%	1.6%	17.1%	10.7%	12.1%	9.9%	2.1%	13.8%	26.4%	4.6%	9.7%

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Combined marine industry mid-March employment averaged 137,000 employees in the Northeast region from 1998-2005 (Table 7). Total employment was a time series low of 133,700 in 2002 but increased in each of the last three years reaching 140,000 employees in 2005. Virginia had the largest number of employees (an average of 32,000 employees) primarily because of the state's dominance in the ship building sector.

Total marine industry employment was approximately 0.5% of total Northeast region employment ranging from 0.52% in 2001 to 0.57% in 1998 (Table 8). Because of the large ship building sector in Virginia, total marine industry employment was at least 1% of total employment in all sectors of the Virginia economy. Marine sector employment was also at least 1% of total state employment in Rhode Island, and in Maine marine employment represented about 3.6% of total state employment.

The share of Northeast region marine sector employment was largest in Virginia averaging 23.7% from 1998-2000 (Table 9). Maine's share of regionwide marine sector

employment was as high as 15.3% in 1999 but has been on a slight declining trend to 13.5% in 2005. By contrast, the employment share in Connecticut has been increasing in every year since 2002. In other states the regionwide employment share has fluctuated without any notable trend from one year to the next.

Table 7. Total Northeast Region (NER) marine sector mid-March employment by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	11,413	1,701	13,157	11,248	**20,134**	10,472	1,353	17,068	14,586	4,173	33,055	138,360
1999	11,064	1,870	**12,684**	11,509	20,755	10,828	1,391	14,017	14,603	4,258	32,544	135,524
2000	10,544	1,656	**13,341**	11,464	**18,781**	11,488	1,446	15,561	14,925	4,329	33,482	137,017
2001	10,903	1,903	14,835	10,861	19,097	11,490	1,414	15,504	15,112	4,604	31,384	137,107
2002	10,272	1,873	14,909	10,376	16,941	11,470	1,500	14,708	15,480	4,451	31,738	133,719
2003	11,410	1,856	15,659	10,871	17,818	12,130	1,783	15,140	15,264	4,551	32,955	139,437
2004	11,953	1,942	15,545	11,039	17,878	11,825	1,862	15,751	15,120	4,558	32,758	140,232
2005	12,303	1,838	15,130	11,166	17,220	11,623	1,772	16,463	14,446	4,665	33,562	140,187

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Table 8. Northeast Region (NER) marine sector percent of total employment by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.76%	0.48%	0.45%	0.58%	**4.41%**	0.32%	0.26%	0.51%	0.21%	1.04%	1.22%	0.57%
1999	0.72%	0.52%	**0.43%**	0.58%	4.37%	0.33%	0.26%	0.41%	0.20%	1.05%	1.17%	0.54%
2000	0.68%	0.44%	**0.43%**	0.56%	**3.82%**	0.34%	0.26%	0.44%	0.20%	1.04%	1.15%	0.53%
2001	0.70%	0.49%	0.47%	0.52%	3.82%	0.33%	0.25%	0.43%	0.20%	1.11%	1.07%	0.53%
2002	0.66%	0.48%	0.49%	0.50%	3.48%	0.35%	0.27%	0.41%	0.21%	1.07%	1.09%	0.52%
2003	0.74%	0.48%	0.53%	0.52%	3.64%	0.36%	0.33%	0.42%	0.21%	1.06%	1.12%	0.54%
2004	0.78%	0.50%	0.52%	0.51%	3.62%	0.35%	0.34%	0.44%	0.20%	1.05%	1.07%	0.54%
2005	0.80%	0.47%	0.50%	0.52%	3.46%	0.34%	0.32%	0.46%	0.19%	1.05%	1.10%	0.54%

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Table 9. Marine sector employment shares by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	8.2%	1.2%	9.5%	8.1%	**14.6%**	7.6%	1.0%	12.3%	10.5%	3.0%	23.9%
1999	8.2%	1.4%	**9.4%**	8.5%	15.3%	8.0%	1.0%	10.3%	10.8%	3.1%	24.0%
2000	7.7%	1.2%	**9.7%**	8.4%	**13.7%**	8.4%	1.1%	11.4%	10.9%	3.2%	24.5%
2001	8.0%	1.4%	10.9%	7.9%	13.9%	8.4%	1.0%	11.3%	11.0%	3.4%	22.9%
2002	7.7%	1.4%	11.1%	7.8%	12.7%	8.6%	1.1%	10.9%	11.6%	3.3%	23.7%
2003	8.2%	1.3%	11.2%	7.8%	12.8%	8.7%	1.3%	11.2%	10.9%	3.3%	23.6%
2004	8.5%	1.4%	11.1%	8.0%	12.3%	8.4%	1.3%	11.7%	10.8%	3.3%	23.4%
2005	8.8%	1.3%	10.5%	8.0%	13.5%	8.3%	1.1%	11.3%	10.3%	3.3%	23.9%

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

As a measure that takes into account both differences in sector employment and total employment shares among parts of a larger region, the location quotient provides a means for comparing the relative role of specified economic sectors across states. For example, New York's marine employment share was about three times that of Rhode Island's. However, since the share of total employment in Rhode Island in 2005 was much less than that of New York, the Rhode Island marine sector location quotient was 2.0 while New York's was 0.4 (Table 10).

Note that the location quotient provides only a comparative measure of relative importance among states; it does not provide a measure of the magnitude or importance of any given sector to a state. The location quotient exceeded one in Connecticut, Maine, Rhode Island, and Virginia. This means that marine sector employment is overrepresented in these states relative to their total employment share.

Table 10. Marine sector location quotient by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	1.3	0.8	0.8	1.0	7.8	0.6	0.5	0.9	0.4	1.8	2.2
1999	1.3	1.0	0.8	1.1	8.0	0.6	0.5	0.8	0.4	1.9	2.1
2000	1.3	0.8	0.8	1.0	7.2	0.6	0.5	0.8	0.4	2.0	2.2
2001	1.3	0.9	0.9	1.0	7.3	0.6	0.5	0.8	0.4	2.1	2.0
2002	1.3	0.9	0.9	1.0	6.7	0.7	0.5	0.8	0.4	2.0	2.1
2003	1.4	0.9	1.0	1.0	6.7	0.7	0.6	0.8	0.4	2.0	2.0
2004	1.5	0.9	1.0	1.0	6.7	0.7	0.6	0.8	0.4	1.9	2.0
2005	1.5	0.9	0.9	1.0	6.4	0.5	0.6	0.8	0.4	2.0	2.0

The marine sector includes three subgroups representing commerce in seafood products: marine recreational boating activities and sectors related to shipping and ship building. Seafood commerce represented similar proportions of both numbers of establishments and employment in the Northeast region from 1998-2005 (Table 11). That is, the share of establishments and employment in the seafood commerce marine sector subgroup was approximately one-third of total marine sector establishments and employment. Note that the share of seafood commerce establishments has been declining from 35.1% in 2002 to 30.2% in 2005 while the share of employment declined from 34.4% in 2002 to 32.7% in 2003 but held steady in both 2004 and 2005.

Marine recreational boating establishments accounted for over one-half of all marine sector establishments in the Northeast but accounted for between 17-22% of employment. The opposite was the case for the water transportation marine subgroup. Primarily because of the underlying structure of the ship building sector within the water transportation subgroup, the subgroup accounted for about 12% of total establishments but represented more than 45% of total employment.

Table 11. Northeast Region establishment and employment shares by marine sector group (1998-2005)

	Establishments			Employment		
Year	Seafood Commerce	Marine Recreational Boating	Water Transportation	Seafood Commerce	Marine Recreational Boating	Water Transportation
1998	34.7%	50.6%	14.8%	34.2%	17.3%	48.5%
1999	34.6%	50.6%	14.8%	34.3%	18.3%	47.4%
2000	34.2%	50.9%	15.0%	33.9%	19.3%	46.8%
2001	34.1%	51.1%	14.8%	34.7%	19.7%	45.6%
2002	35.1%	50.8%	14.1%	34.4%	19.6%	46.0%
2003	33.1%	53.1%	13.8%	32.7%	21.0%	46.3%
2004	32.9%	53.4%	13.6%	33.0%	21.4%	45.6%
2005	30.2%	55.8%	14.0%	32.7%	21.3%	46.0%

In the following sections, trends in establishments and employment for each of the marine sector subgroups are reported. In each case, trends for the subgroup as a whole as well as trends for each sector that comprise the subgroup are discussed.

Seafood Commerce

The seafood commerce subgroup includes commercial fishing, seafood dealers, seafood processors, and retail seafood markets. The available time series for each of these sectors differed, and trends for each are reported for the longest period of time possible. However, trends for the seafood commerce sector subgroup were available for all sectors only for the period 1998-2005. As noted previously, available data for the commercial fishing sector include establishments with hired employees and sole proprietorships. For reporting purposes, the former were included as establishments to be consistent with the CBP definition of establishment while the latter were included with total seafood commerce employment.

The total number of seafood commerce establishments in the Northeast region ranged from a high of 2,409 in 2002 to a low of 2,001 in calendar year 2005 (Table 12). The decline in number of establishments was most notable from 2002-2003 and from 2004-2005. In each of these cases, the number of seafood commerce establishments fell by 163 and 229 reporting units, respectively. Note that this pattern was evident across all states, so the decline in seafood commerce establishments was a regionwide phenomenon not associated with a precipitous decline in any one state. At least some of these declines were attributable to data suppression in the QCEW data used to estimate commercial fishing establishments and employment. However, other than in Maine and Massachusetts, the number of establishments subject to suppression was quite low, so any underestimation in numbers of establishments at the Northeast region level from 2001 onward would be small.

Table 12. Total number of Northeast Region (NER) seafood commerce establishments (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	83	**19**	798	209	**273**	**194**	35	313	701	**79**	236	2,335
1999	87	21	**400**	209	386	197	36	324	686	112	233	2,315
2000	76	23	**380**	211	**268**	187	32	320	688	110	238	2,271
2001	75	**18**	764	220	404	189	35	323	689	112	233	2,273
2002	78	**23**	793	212	437	199	**32**	333	768	104	241	2,409
2003	**55**	28	763	206	440	189	**34**	299	738	104	227	2,246
2004	74	24	752	198	472	193	37	302	733	105	236	2,230
2005	69	21	689	177	460	179	25	274	708	92	199	2,001

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Total Northeast region employment in the seafood commerce subgroup was 47,341 employees in 1998 and 45,817 employees in 2005 (Table 13). Note that the effects of underestimation of employment in the seafood harvesting sector are less than that of establishments because in states other than Massachusetts fishing employment associated with sole proprietorships was 80% and in most cases more than 90% of commercial fishing employment. This means that even though some data suppression occurs in one or more states from 1998-2003, underestimation of total employment in the Northeast region and of employment in each state for that matter is likely to be a concern only in years (1999 and 2000) where Massachusetts data were suppressed.

In a manner similar to that of total establishments, total employment declined from 2002-2003 and from 2004-2005. However, the proportional reduction in employment was substantially less than that of the change in establishments, suggesting potential employment loss from the reduced number of establishments was at least partially absorbed by those that remained.

Table 13. Total Northeast Region (NER) seafood commerce employment (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	910	**720**	9,744	4,482	**9,821**	**4,904**	795	3,707	5,220	**2,083**	4,955	47,341
1999	856	718	**8,634**	4,446	9,848	5,044	758	3,699	5,362	2,291	4,810	46,466
2000	892	513	**9,177**	4,359	**9,470**	5,325	734	3,833	5,375	2,240	4,584	46,503
2001	898	**662**	10,404	4,305	9,404	5,154	750	4,122	5,271	2,235	4,327	47,531
2002	920	**683**	10,358	4,097	8,762	4,850	**809**	3,864	5,534	2,057	4,022	45,956
2003	**856**	535	10,604	3,809	8,827	4,787	**803**	3,595	5,453	2,225	4,065	45,559
2004	884	638	10,592	4,067	8,731	4,937	918	3,697	5,583	2,057	4,170	46,275
2005	937	638	10,405	4,303	8,843	4,494	921	3,838	5,355	1,925	4,158	45,817

Bolded text denotes underestimate caused by data suppression in the commercial fishing sector.

Since data suppression is likely to misrepresent seafood commerce employment in Massachusetts, employment shares were calculated for calendar years 2001-2005 (Table 14). Employment share has been declining in Virginia from 10.5% in 2001 to 8.8% in 2005 while employment share has been increasing in Massachusetts from 18.6% in 2002 to 22.5% in 2005. Employment shares in other states have been relatively stable although Maine's share of seafood commerce employment has been gradually eroding since 2002.

Table 14. Aggregate seafood commerce employment shares by state (2001-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
2001	1.9%	1.5%	20.6%	9.5%	20.7%	10.4%	1.7%	7.8%	11.0%	4.4%	10.5%
2002	1.8%	1.5%	18.6%	9.6%	21.2%	10.9%	1.6%	8.0%	11.5%	4.9%	10.4%
2003	1.9%	1.1%	19.7%	9.4%	20.4%	11.5%	1.6%	8.2%	11.6%	4.8%	9.9%
2004	1.9%	1.4%	21.9%	9.1%	19.8%	10.8%	1.6%	8.7%	11.1%	4.7%	9.1%
2005	2.0%	1.5%	22.5%	8.9%	19.1%	10.6%	1.8%	8.4%	12.0%	4.5%	8.8%

In the Northeast region, more than half of seafood commerce employment is composed of commercial fishing employees (Table 15). Compared to 2001, commercial fishing employment in 2005 declined by only one percentage point while seafood dealer employment declined by 4.6 percentage points. Offsetting decline in fishing and seafood dealer employment shares was an increase in the employment share of both the seafood processing and the retail seafood market sectors. Among some states the pattern in changes in employment shares matched that of the region as a whole (Massachusetts, for example), while others did not. In Maine, the commercial fishing employment share increased in 2005 compared to 2001, but the seafood processing employment share declined. The following provides a discussion of trends in each of the seafood commerce sectors.

Table 15. Northeast Region (NER) seafood commerce employment composition by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
Commercial Fishing												
2001	51.6%	31.3%	50.8%	47.1%	74.6%	68.8%	45.8%	35.2%	30.1%	66.1%	46.0%	53.4%
2002	47.1%	29.1%	50.6%	47.2%	76.4%	68.2%	37.8%	36.4%	27.0%	65.2%	48.2%	52.9%
2003	46.9%	37.4%	49.9%	49.9%	79.4%	70.4%	39.5%	38.2%	27.2%	59.1%	46.8%	53.9%
2004	44.7%	29.9%	49.8%	45.7%	79.2%	67.8%	35.1%	39.3%	28.1%	62.2%	45.2%	52.9%
2005	42.9%	30.3%	50.2%	43.6%	77.9%	67.1%	36.4%	37.3%	28.3%	68.0%	44.8%	52.5%
Seafood Dealer												
2001	25.6%	8.0%	24.1%	21.2%	13.1%	19.1%	10.0%	24.8%	40.9%	17.1%	20.2%	22.0%
2002	26.5%	9.5%	23.1%	21.2%	14.3%	19.8%	9.6%	25.1%	41.0%	18.5%	19.6%	22.4%
2003	19.7%	8.4%	17.7%	18.0%	11.2%	13.1%	9.7%	25.6%	40.0%	17.7%	18.3%	19.1%
2004	20.5%	1.1%	17.8%	18.0%	12.0%	12.7%	8.9%	25.6%	37.5%	12.6%	18.1%	18.6%
2005	25.1%	1.6%	17.6%	16.5%	13.0%	15.6%	9.7%	23.8%	37.4%	10.7%	16.2%	18.6%
Seafood Processor												
2001	8.2%	50.9%	20.8%	20.7%	10.7%	7.4%	34.3%	26.7%	7.0%	10.7%	29.1%	17.0%
2002	8.4%	47.6%	21.5%	19.7%	7.3%	5.8%	45.5%	24.0%	6.4%	8.9%	25.7%	15.7%
2003	9.3%	31.1%	25.6%	20.0%	7.4%	10.2%	40.1%	23.5%	5.0%	16.0%	30.9%	17.4%
2004	12.0%	46.4%	25.9%	22.0%	6.6%	12.6%	48.8%	20.3%	5.8%	17.3%	29.5%	18.0%
2005	12.1%	46.5%	25.7%	26.5%	6.9%	10.2%	45.4%	25.2%	6.1%	14.0%	32.1%	18.8%
Retail Seafood Market												
2001	14.6%	9.8%	4.3%	11.0%	1.6%	4.8%	10.0%	13.3%	21.9%	6.0%	4.7%	7.6%
2002	17.9%	13.8%	4.7%	11.9%	2.0%	6.2%	7.1%	14.5%	25.7%	7.3%	6.4%	9.0%
2003	24.1%	23.2%	6.8%	12.1%	2.1%	6.4%	10.7%	12.6%	27.8%	7.3%	4.1%	9.6%
2004	22.8%	22.6%	6.5%	14.2%	2.2%	6.9%	7.2%	14.8%	28.7%	7.9%	7.1%	10.4%
2005	20.0%	21.6%	6.5%	13.4%	2.1%	7.0%	8.6%	13.7%	28.3%	7.3%	6.9%	10.1%

Commercial fishing NAICS 1141

The commercial fishing sector is composed of establishments engaged in the harvest of finfish, shellfish, and other marine products taken from their natural habitat. Any sector engaged in husbandry activities is included in the animal aquaculture sector (NAICS 1125). Animal aquaculture was excluded from this report because it is classified with agricultural production which is not covered by CBP. The CBP data were not adequate to characterize fishing employment for two reasons. First, a large portion of available data were suppressed since many engaged in the fishing industry are considered self-employed. Second, commercial fishing has a strong seasonal component meaning that a substantial amount of employment would be missed during the mid-March survey period used by CBP. For these reasons fishing employment was estimated by using QCEW and nonemployer statistics. Both of these data sources provide an estimate of total annual employment. The former captures establishments subject to payroll taxes while the latter captures self-employed or sole proprietorships. Data for both series were available from 1997-2005.

Massachusetts had the largest number of reporting units (Table 16) and the most employees (Table 17) in all years where data were not suppressed. These data indicate that the number of Massachusetts reporting units was larger in 2005 than in 1998 but has remained relatively constant from 2003-2005. However, the number of fishing employees has declined recently from 1,701 in 2003 to 1,682 in 2005, a reduction of about 1%. By contrast the number

of reporting units and fishing employees in Maine has increased in consecutive years from 2001-2005.

Table 16. Northeast Region number of reporting units for fishing by state (quarterly census of employment and wages 1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA
1997	21	S	S	S	S	S	72	52	S	S	27
1998	20	S	S	23	393	3	76	57	S	S	33
1999	19	4	113	24	S	3	75	58	9	39	32
2000	17	5	S	22	S	3	70	55	13	38	34
2001	14	S	148	24	392	3	69	54	14	36	35
2002	12	S	165	24	405	S	66	54	16	31	40
2003	S	4	180	23	423	S	67	54	16	30	40
2004	14	5	218	21	426	3	66	55	16	29	43
2005	13	4	234	23	422	3	61	47	12	29	44
S denotes suppressed data											

In addition to number of reporting units and employees, the QCEW data report total annual wages paid to employees. Adjusting for inflationary effects by using the Consumer Price Index (CPI) indicates that average annual wages paid to fishing employees have been increasing in most states, particularly from 2003-2005 (Table 18). For example, average annual wages in Maine increased from $21,640 in 2003 to $23,825 in 2005. Similarly, average annual wages paid to fishing employees in Massachusetts has increased to a time series high of $38,333 in 2005. Compared to state per capita personal income, adjusted by the CPI, average fishing wages were above the statewide average in Maine, Massachusetts, and Rhode Island (US Bureau of Economic Analysis 2009). By contrast, average fishing wages tended to be 40-60% lower than statewide per capita personal income in Delaware and North Carolina and 10-20% less than statewide amounts elsewhere.

Table 17. Northeast Region number of fishing employees by state (quarterly census of employment and wages 1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA
1997	100	S	S	S	S	S	267	129	S	S	85
1998	100	S	S	43	1,271	3	258	127	S	S	91
1999	90	5	252	41	S	3	257	131	81	112	75
2000	80	5	S	40	S	3	241	114	70	92	79
2001	60	S	279	102	1,499	3	268	106	50	81	74
2002	48	S	302	96	1,623	S	229	100	63	63	97
2003	S	3	336	105	1,701	S	228	85	54	90	97
2004	S	S	341	102	1,693	S	224	99	83	103	104
2005	S	S	367	95	1,682	S	207	59	22	98	96
S denotes suppressed data											

The number of sole proprietorships reporting fishing income averaged 22,300 from 1997-2005 (Table 19), representing almost 88% more people engaged in fishing as a sole proprietor either as captain, crew, or sole operator of a fishing boat compared to wage-based employment. Over time, the total number of sole proprietorships engaged in fishing has been declining at an average rate of 0.6% per year. The average annual change in sole proprietorships was positive in

Delaware, New Hampshire, New York, and New Jersey while annual change in sole proprietorships was negative in all other states. This negative change was at least 1% per year in the states of Maryland, North Carolina, and Virginia.

Table 18. Northeast Region consumer price index adjusted average annual fishing wages ($) (1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA
1997	18,173	S	S	S	S	S	17,087	18,712	S	S	17,105
1998	20,450	S	S	13,259	23,814	24,621	19,130	17,088	S	S	15,965
1999	19,420	8,657	26,875	12,915	S	20,861	18,102	17,528	7,459	22,304	15,289
2000	19,664	6,929	S	13,566	S	24,805	19,804	18,310	6,337	19,184	12,871
2001	16,891	S	22,430	14,618	29,123	26,959	18,785	15,827	7,425	19,471	14,558
2002	18,381	S	23,078	14,937	28,769	S	19,334	16,145	6,992	19,991	13,059
2003	S	9,842	21,640	17,992	27,824	S	18,232	14,739	9,729	24,593	13,986
2004	S	S	22,787	19,520	31,385	S	19,087	17,106	5,769	33,153	14,830
2005	S	S	23,825	20,877	38,333	S	18,069	18,012	14,062	31,546	15,973

S denotes suppressed data

Table 19. Annual number of Northeast Region (NER) sole proprietorships engaged in fishing by state (1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA	NER
1997	410	196	6,617	2,042	3,711	318	1,202	1,378	3,367	1,317	2,035	22,593
1998	431	224	6,759	2,057	3,782	316	1,282	1,555	3,301	1,409	2,050	23,166
1999	404	224	6,704	2,089	3,817	304	1,123	1,564	3,460	1,443	1,997	23,129
2000	402	221	6,714	2,048	3,806	304	1,177	1,509	3,574	1,413	1,960	23,128
2001	403	207	6,734	1,926	3,782	340	1,182	1,483	3,495	1,397	1,916	22,865
2002	385	199	6,392	1,836	3,621	306	1,179	1,392	3,245	1,279	1,841	21,675
2003	401	197	6,669	1,797	3,586	317	1,147	1,396	3,314	1,224	1,805	21,853
2004	395	191	6,577	1,758	3,580	322	1,229	1,468	3,263	1,177	1,782	21,742
2005	402	193	6,526	1,782	3,539	335	1,224	1,456	2,995	1,211	1,765	21,428
Annual Average Change	-0.2%	0.0%	-0.1%	-1.7%	-0.6%	0.8%	0.4%	0.8%	-1.4%	-0.9%	-1.8%	-0.6%

The number of fishing sole proprietorships in Maine was nearly twice as great as that of any other state, accounting for 27-29% of all such proprietorships from 1997-2005 (Table 20). Massachusetts also accounted for at least 20% of fishing sole proprietorships while the remaining New England states combined accounted for less than 10%.

Gross receipts for Northeast region fishing sole proprietorships adjusted by the CPI were nearly constant at about $22,000 (Table 21). Annual receipts were above the Northeast region average in Maine, Massachusetts, New Hampshire, New Jersey, and Rhode Island. Compared to average QCEW wages paid to fishing employees, gross receipts to sole proprietorships tended to be slightly higher in Maine and New York, and substantially higher in New Jersey, North Carolina, and Virginia. By contrast, wage-based income tended to be higher than sole proprietorship receipts in Massachusetts and Rhode Island.

An estimated location quotient was obtained by adding QCEW and sole proprietorship data. Note that this estimate would be biased downward in cases where QCEW data were

suppressed. This downward bias is likely to be larger where QCEW data were suppressed since wage-based employment was somewhat higher (Maine and Massachusetts, for example) compared to others.

Table 20. Shares of Northeast Region fishing sole proprietorships by state (1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA
1997	2.0%	0.8%	27.4%	8.2%	21.0%	1.3%	5.8%	6.0%	13.5%	5.6%	8.4%
1998	2.1%	0.9%	27.7%	8.2%	19.8%	1.2%	6.0%	6.6%	13.2%	5.9%	8.4%
1999	1.9%	0.9%	26.9%	8.2%	21.2%	1.2%	5.3%	6.6%	13.7%	6.0%	8.0%
2000	1.9%	0.9%	27.2%	8.1%	21.1%	1.2%	5.5%	6.3%	14.1%	5.8%	7.9%
2001	1.8%	0.8%	27.6%	8.0%	20.8%	1.4%	5.7%	6.3%	14.0%	5.8%	7.8%
2002	1.8%	0.8%	27.5%	7.9%	21.6%	1.3%	5.8%	6.1%	13.6%	5.5%	8.0%
2003	1.8%	0.8%	28.5%	7.7%	21.5%	1.3%	5.6%	6.0%	13.7%	5.3%	7.7%
2004	1.8%	0.8%	28.2%	7.6%	21.5%	1.3%	5.9%	6.4%	13.6%	5.2%	7.7%
2005	1.9%	0.8%	28.6%	7.8%	21.7%	1.4%	5.9%	6.3%	12.5%	5.4%	7.7%
Annual Average Change	-0.8%	0.5%	0.5%	-0.7%	0.4%	1.4%	0.4%	0.8%	-0.9%	-0.3%	-1.0%

The location quotient was consistently greater than one in the states of Maine, Massachusetts, Maryland, North Carolina, and Virginia (Table 22). These five states accounted for approximately 70% of total Northeast region fishing employment. A location quotient above one means that the commercial fishing employment share in a given state was higher than the state's total employment share, relative to other states in the Northeast region. Thus a reduction in commercial fishing employment in these states would be expected to have a proportionally greater impact on the state economy compared to other states.

The location quotient for states was calculated relative to the Northeast region as a whole. However, fishing employment may be comparatively more important to coastal areas within states than to the state as a whole. To examine the relative importance of fishing in coastal areas, the location quotient was recalculated for coastal counties in each state. The selected coastal counties correspond to the coastal regions developed by Steinback and Thunberg (2006). These coastal regions include a total of 143 counties and independent cities (see Figures 1-11). The location quotient for each county was calculated by using the fishing employment and total employment in the state as a base. For example, the location quotient for Washington County, ME, was the county's share of fishing employment in all coastal counties in Maine, divided by Washington County's share of total employment in all Maine coastal counties.

The location quotient exceeded one in 63 of the 143 coastal counties (Table 23). On average, these counties accounted for 75% of total fishing employment in the Northeast Region. As noted previously, counties where the location quotient exceeds one provide an indication of where changes in fishing employment would be expected to have a larger impact on the local economy as compared to counties where the location quotient was less than one. Note that counties where the location quotient exceeds one include those with more than 1,000 people working as sole proprietorships or wage employees (Hancock, Knox, and Washington Counties in Maine and Bristol and Essex Counties in Massachusetts) as well as counties where there were fewer than 50 people were engaged in fishing (Middlesex County, CT, Richmond County, NY, Middlesex and Salem Counties, NJ, and Wicomico County, MD). These large differences in employment levels highlight the difference between measuring the role of fishing in coastal

Table 21. Consumer price index adjusted average receipts for sole proprietorships in the Northeast Region (NER)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA	NER
1997	30,726	24,603	21,451	14,966	21,618	35,085	45,536	18,709	16,623	28,753	20,157	21,984
1998	31,704	26,266	20,823	15,323	21,547	31,376	47,516	18,636	17,315	29,232	20,037	22,124
1999	24,286	27,231	24,667	14,517	24,883	34,598	39,022	18,132	17,467	27,683	20,755	22,963
2000	19,108	24,861	25,177	14,207	26,025	38,211	36,770	17,185	18,517	29,038	22,056	23,419
2001	19,164	24,538	22,649	13,526	23,658	29,709	33,658	17,440	15,984	26,717	22,796	21,581
2002	16,239	23,504	24,942	13,929	25,002	30,022	33,957	18,453	16,904	27,505	22,033	22,698
2003	17,316	20,349	25,212	12,546	24,770	28,504	33,637	16,703	17,757	27,388	21,627	22,551
2004	20,330	21,992	24,805	14,667	23,253	28,297	32,107	17,242	17,418	27,538	20,663	22,277
2005	20,075	23,350	25,190	14,634	25,560	25,426	32,143	18,581	17,081	27,954	19,861	22,797
Annual Average Change	-4.2%	-0.4%	2.3%	0.0%	2.4%	-3.4%	-4.0%	0.1%	0.5%	-0.3%	-0.1%	0.5%

Table 22. Northeast Region annual fishing location quotient by state (1997–2005)

Year	CT	DE	ME	MD	MA	NH	NJ	NY	NC	RI	VA
1997	0.3	0.1	4.1	1.2	3.1	0.2	0.9	0.9	2.0	0.8	1.2
1998	0.3	0.1	4.1	1.2	2.9	0.2	0.9	1.0	1.9	0.9	1.2
1999	0.3	0.1	4.0	1.2	3.1	0.2	0.8	1.0	2.0	0.9	1.2
2000	0.3	0.1	4.2	1.2	3.2	0.2	0.8	1.0	2.2	0.9	1.2
2001	0.3	0.1	4.3	1.2	3.2	0.2	0.9	1.0	2.2	0.9	1.2
2002	0.3	0.1	4.2	1.2	3.3	0.2	0.9	0.9	2.1	0.8	1.2
2003	0.3	0.1	4.4	1.2	3.3	0.2	0.9	0.9	2.1	0.8	1.2
2004	0.3	0.1	4.4	1.2	3.4	0.2	0.9	1.0	2.1	0.8	1.2
2005	0.3	0.1	4.6	1.3	3.5	0.2	1.0	1.0	2.0	0.9	1.2

economies in terms of absolute numbers as compared to a relative measure like the location quotient. That is, even seemingly low levels of fishing employment may play a large role in coastal counties that have a small population and a comparatively smaller labor force.

Table 23. Annual number of fishing employees and sole proprietorships by coastal county with a location quotient greater than one (1997-2005)

	Year								
County, State	1997	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	1228	1264	1250	1232	1244	1199	1278	1264	1304
Knox County, ME	1252	1269	1277	1293	1478	1452	1524	1541	1492
Lincoln County, ME	929	938	925	908	938	868	904	875	823
Sagadahoc County, ME	299	309	290	268	297	S	288	292	305
Washington County, ME	1196	1283	1326	1362	1314	1252	1300	1323	1313
Barnstable County, MA	902	976	952	1039	1043	1028	981	958	910
Bristol County, MA	1889	1763	1739	1837	1984	2047	2164	2139	2170
Dukes County, MA	103	109	109	110	102	114	100	97	93
Essex County, MA	1077	1118	1094	1059	1023	987	989	991	975
Plymouth County, MA	502	551	569	547	540	522	520	493	544
Bristol County, RI	86	91	103	107	100	95	78	80	76
Newport County, RI	213	204	206	193	242	222	203	199	198
Washington County, RI	185	167	167	108	151	136	158	162	176
Middlesex County, CT	46	41	33	38	S	S	53	45	44
New London County, CT	163	170	153	153	161	162	16	172	166
Nassau County, NY	124	183	181	167	148	145	161	175	171
Richmond County, NY	20	27	28	27	28	28	33	31	29
Suffolk County, NY	841	970	942	895	967	787	735	835	743
Atlantic County, NJ	99	115	108	108	120	113	S	S	109
Camden County, NJ	201	205	204	197	195	166	158	156	162
Cape May County, NJ	336	349	302	349	345	352	320	358	356
Cumberland County, NJ	82	87	85	75	S	79	69	62	65
Middlesex County, NJ	22	22	23	24	35	S	S	S	25
Monmouth County, NJ	163	172	165	166	158	152	153	163	178
Ocean County, NJ	345	394	302	314	331	316	307	340	314
Salem County, NJ	28	21	29	24	19	24	S	20	18
Kent County, DE	66	67	65	S	73	72	68	64	64
Sussex County, DE	S	S	114	112	93	87	84	82	83
Calvert County, MD	62	57	54	63	73	70	59	63	69
Charles County, MD	76	78	82	81	75	66	69	69	69
Dorchester County, MD	332	319	339	332	311	289	261	257	257
Kent County, MD	134	128	145	130	115	111	112	105	108
Queen Anne's County, MD	201	201	200	186	184	155	144	153	155
Somerset County, MD	338	345	331	328	314	317	311	300	283
St. Mary's County, MD	154	164	168	164	169	S	144	128	139
Talbot County, MD	290	312	305	307	263	248	225	221	228
Wicomico County, MD	55	53	54	53	46	43	52	78	43
Worcester County, MD	77	94	104	99	110	119	110	98	86
S denotes suppressed data.									

Table 23 (continued). Annual number of fishing employees and sole proprietorships by coastal county with a location quotient greater than one (1997-2005)

	Year								
County, State	1997	1998	1999	2000	2001	2002	2003	2004	2005
Accomack County, VA	415	433	414	403	388	367	356	351	325
Gloucester County, VA	232	240	223	207	185	192	185	188	177
Hampton City, VA	78	90	91	81	80	75	83	86	76
Isle of Wight County, VA	20	19	15	12	18	15	21	15	17
King George County, VA	22	19	20	17	17	20	12	15	19
Lancaster County, VA	87	98	94	97	92	86	92	85	79
Mathews County, VA	107	99	87	93	88	92	78	74	71
Middlesex County, VA	89	90	78	89	77	71	65	65	72
Northampton County, VA	130	124	133	126	138	134	151	145	157
Northumberland County, VA	145	141	140	118	125	129	124	118	108
Poquoson City, VA	S	90	90	86	83	75	68	68	64
Richmond County, VA	23	29	30	28	28	24	20	24	16
Stafford County, VA	20	23	28	25	26	30	25	27	29
Westmoreland County, VA	119	123	119	111	98	98	88	83	86
York County, VA	68	72	65	52	43	47	42	29	32
Beaufort County, NC	296	274	295	293	264	239	283	264	213
Brunswick County, NC	239	226	232	210	218	219	265	253	191
Camden County, NC	24	26	30	28	44	S	41	S	39
Carteret County, NC	640	603	631	635	610	586	565	557	475
Currituck County, NC	93	87	82	90	85	84	75	71	62
Dare County, NC	551	564	562	579	568	496	510	527	495
Hyde County, NC	197	202	207	211	203	176	163	163	140
Pamlico County, NC	240	226	228	207	202	199	182	176	171
Pender County, NC	59	45	50	61	64	64	65	73	61
Perquimans County, NC	41	43	38	45	45	39	40	35	31
Tyrrell County, NC	57	62	64	68	72	68	63	68	62

S denotes suppressed data.

Figure 1. Maine coastal counties

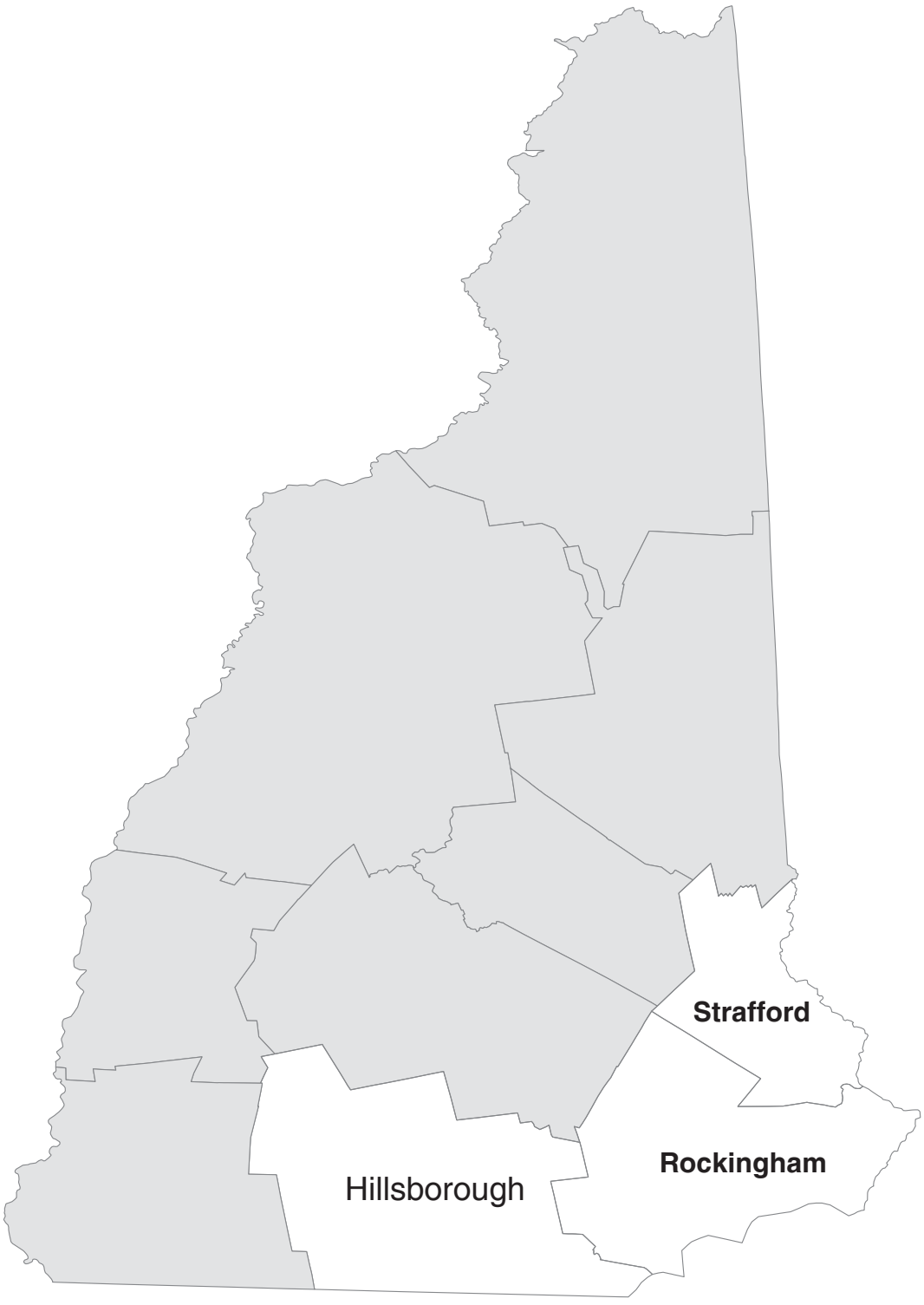

Figure 2. New Hampshire coastal counties

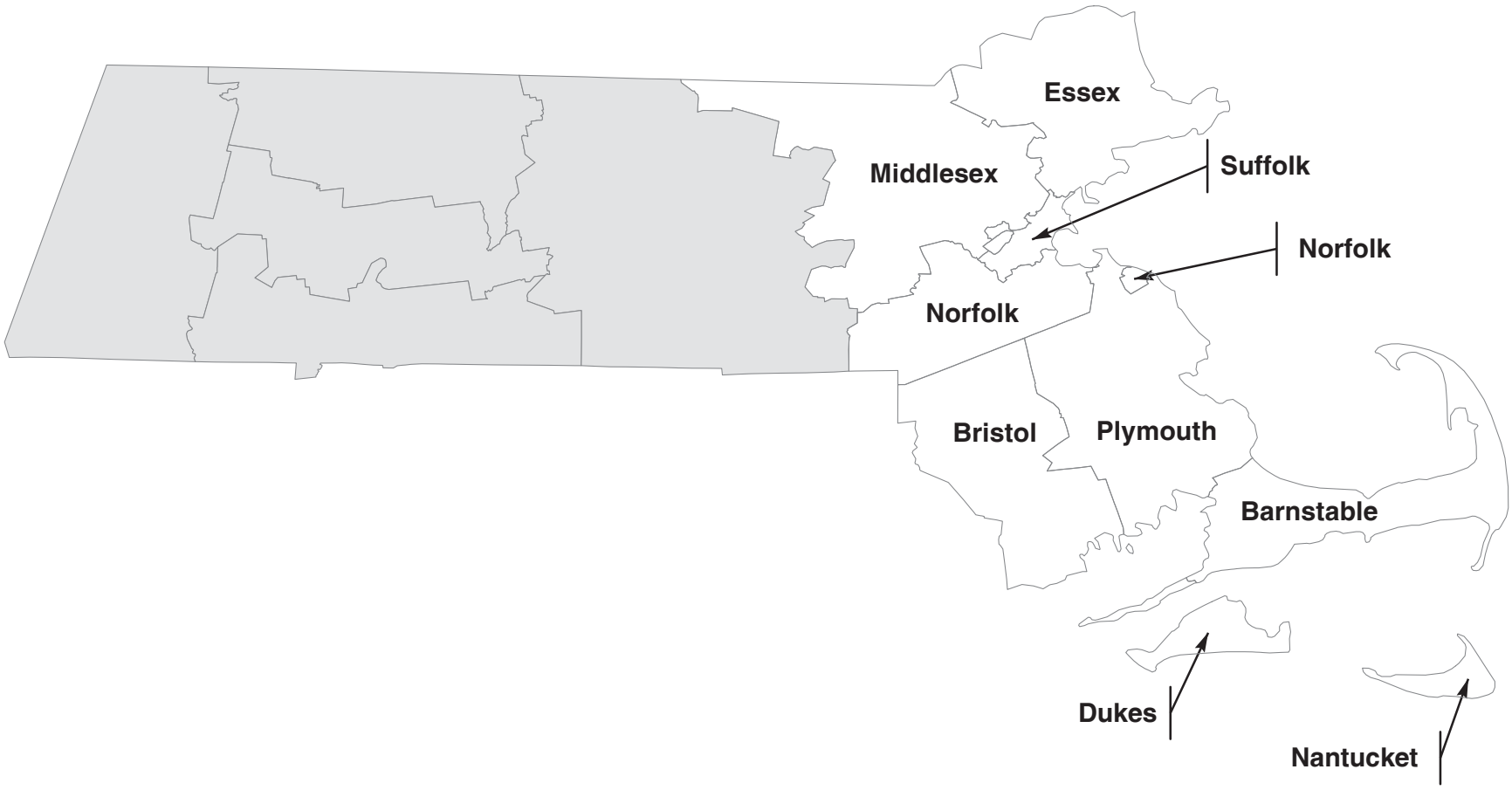

Figure 3. Massachusetts coastal counties

Figure 4. Rhode Island coastal counties

Figure 5. Connecticut coastal counties

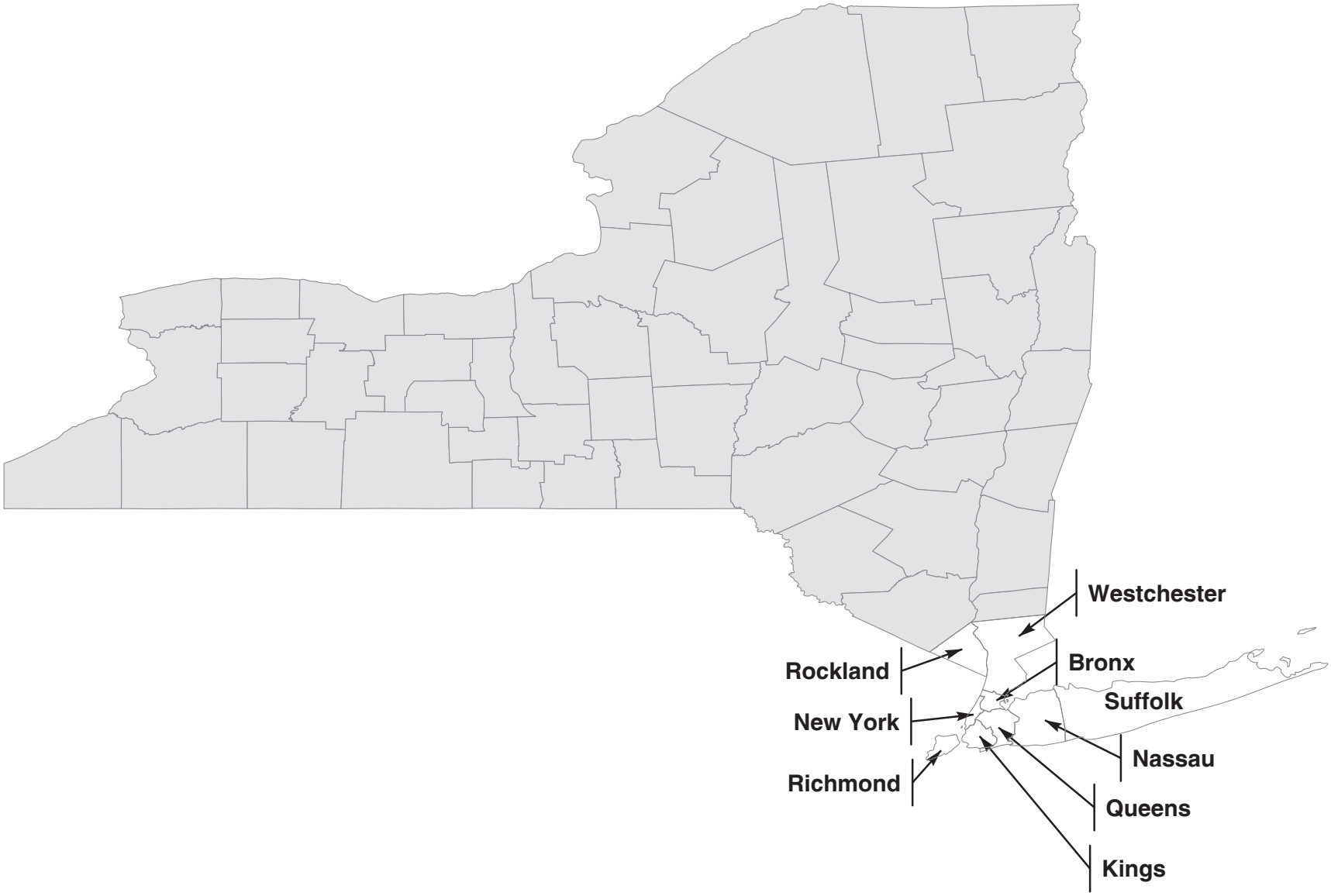

Figure 6. New York coastal counties

Figure 7. New Jersey coastal counties

Figure 8. Delaware coastal counties

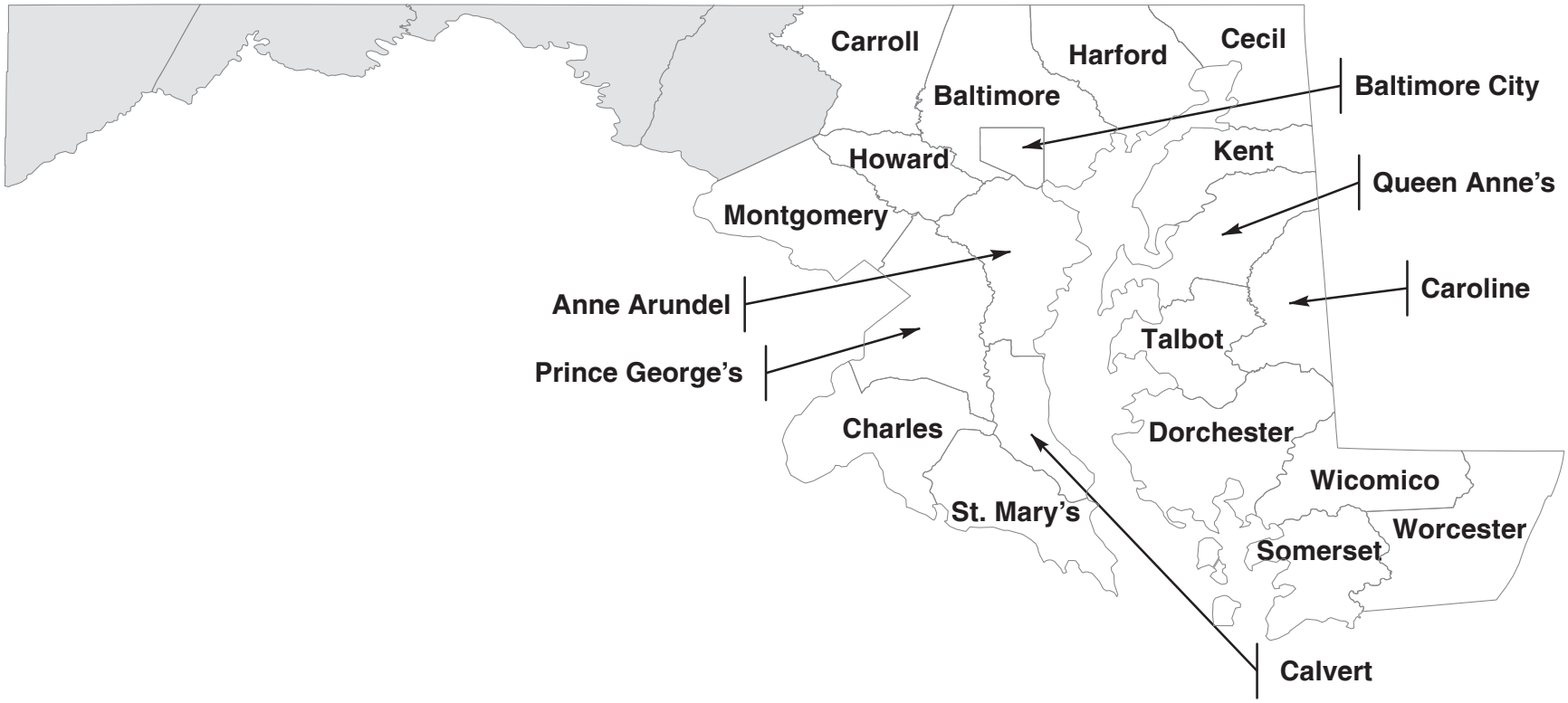

Figure 9. Maryland coastal counties

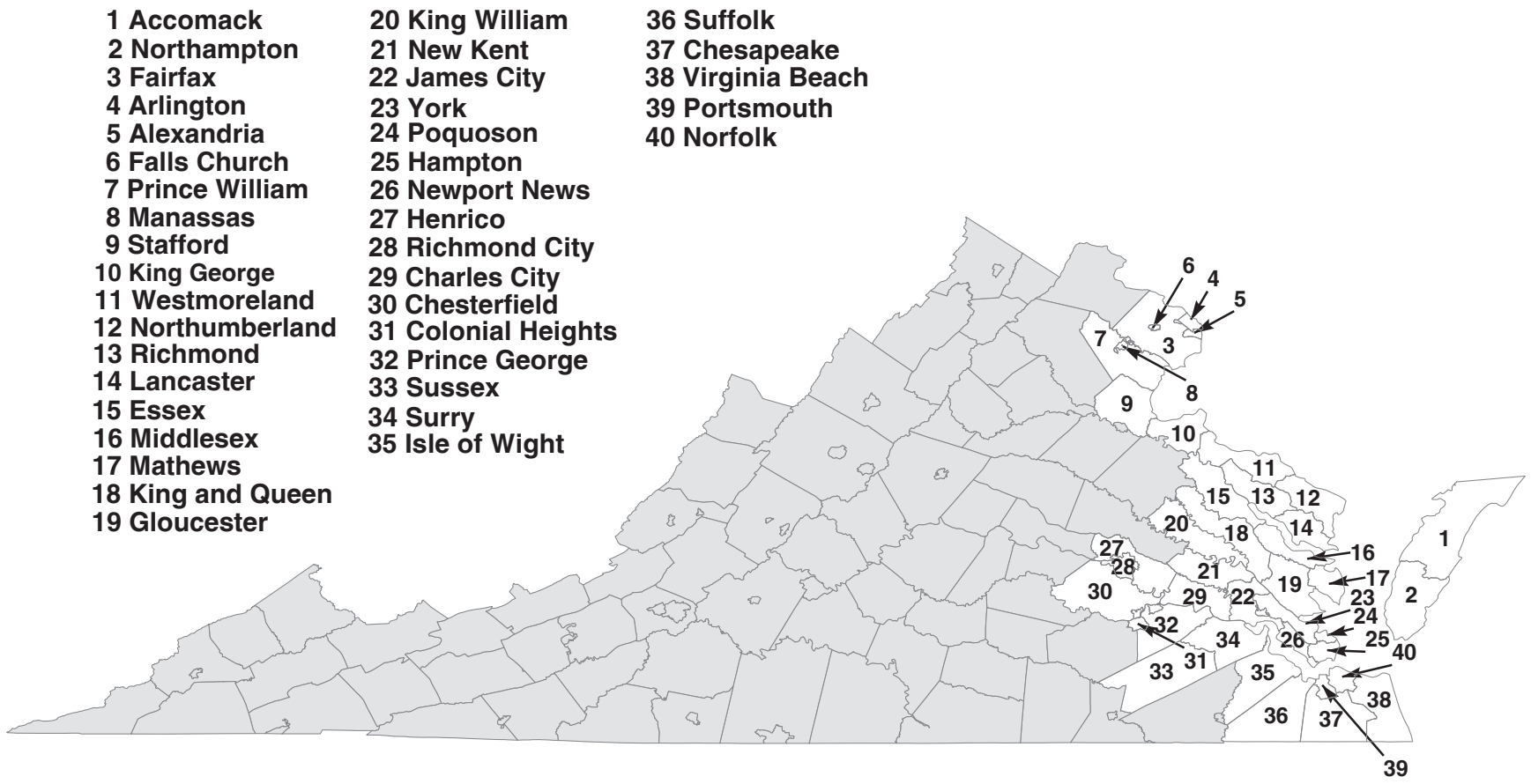

Figure 10. Virginia coastal counties

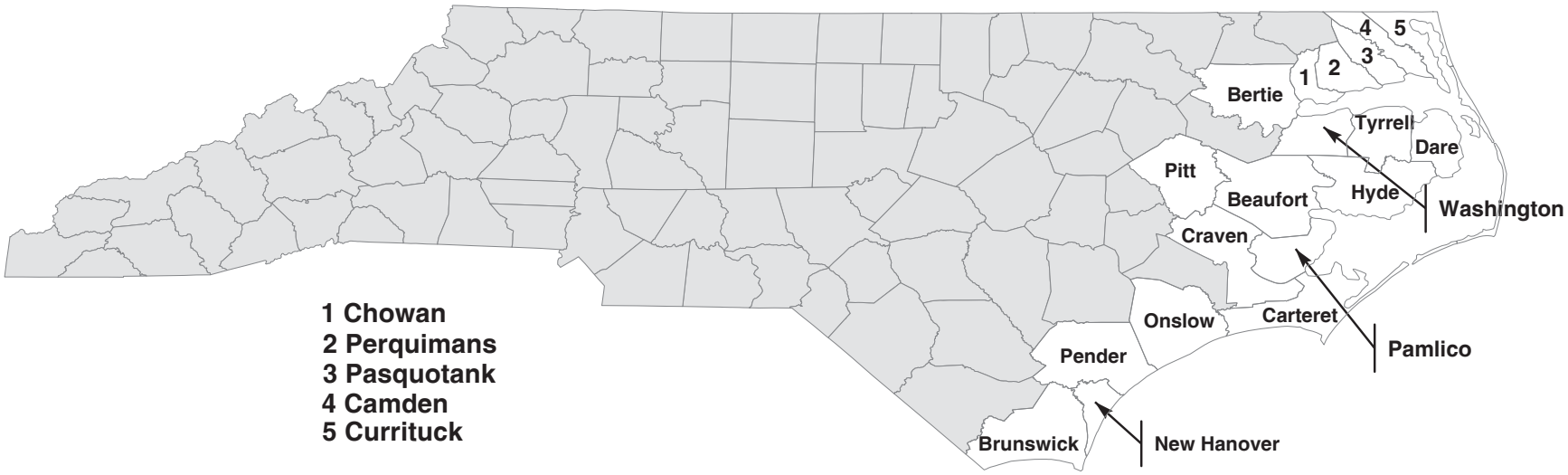

Figure 11. North Carolina coastal counties

Seafood wholesale NAICS 42446

The seafood wholesale sector includes establishments that purchase fish and seafood directly from fishing vessels as well as establishments engaged in the distribution of fish and seafood that may have been processed. These establishments do not include wholesalers that distribute either canned or frozen packaged seafood.

Employment in the seafood wholesale sector was increasing at an average rate of 1.1% per year from 1986-1996 (Table 24). Regionwide employment began falling in 1997 and has declined in almost every year. That is, total wholesale dealer employment has been declining at an average annual rate of 3.3% from 11,683 employees in 1996 to 8,532 in 2005. Over the same period employment attrition in the wholesale dealer sector declined at a higher average annual rate in Delaware, Maine, Rhode Island, and Virginia while New Hampshire was the only state with positive average annual employment growth from 1997-2005.

Table 24. Annual Northeast Region (NER) seafood dealer mid-March employment by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	175	45	2,079	891	969	1,069	63	1,246	2,494	274	1,178	10,483
1987	189	61	2,248	894	1,038	1,153	98	1,182	2,595	550	1,104	11,111
1988	238	28	2,273	870	1,158	1,146	104	1,032	2,313	607	1,151	10,919
1989	229	30	2,365	831	1,162	1,102	124	1,010	2,324	613	1,414	11,204
1990	204	31	2,498	848	1,066	928	107	1,229	2,137	544	1,359	10,952
1991	197	20	2,417	888	1,156	1,084	148	837	2,034	554	1,240	10,574
1992	195	53	2,148	789	1,295	1,021	121	1,013	1,843	531	1,518	10,528
1993	206	43	2,150	910	1,299	1,093	98	831	2,427	459	1,210	10,724
1994	186	46	2,411	975	1,241	1,005	89	874	2,629	404	1,382	11,242
1995	185	84	2,272	929	1,521	961	92	1,280	2,594	484	1,338	11,739
1996	185	99	2,370	891	1,792	900	88	969	2,617	513	1,260	11,683
1997	199	85	2,469	1,121	1,739	923	80	864	2,226	367	1,147	11,220
1998	194	77	2,408	1,001	1,840	905	81	936	2,195	401	1,087	11,125
1999	187	55	2,486	950	1,722	880	79	1,027	2,189	393	1,056	11,024
2000	203	56	2,685	903	1,631	969	68	1,028	2,265	411	1,072	11,292
2001	230	53	2,508	913	1,235	983	75	1,023	2,158	382	875	10,435
2002	244	65	2,393	870	1,256	961	78	969	2,269	380	790	10,275
2003	169	45	1,880	686	985	628	78	920	2,183	394	742	8,710
2004	181	7	1,890	733	1,048	627	82	948	2,091	259	756	8,622
2005	235	10	1,836	709	1,152	703	89	914	2,003	206	675	8,532
1986 - 1996 Average Change	1.0%	21.0%	1.5%	0.2%	6.7%	-1.3%	5.9%	0.0%	1.1%	9.9%	1.6%	1.1%
1997-2005 Average Change	4.0%	-12.2%	-2.4%	-1.8%	-4.1%	-1.7%	0.4%	-0.4%	-2.8%	-8.4%	-6.5%	-3.3%

The number of wholesale seafood establishments increased from 1,003 in 1986 to 1,324 in 1996, a time series high (Table 25). Since 1996 the number of establishments declined to fewer than 1,000 businesses in both 2004 and 2005. The same general trend has been occurring

across all Northeast region states although the average annual decline in number of wholesale seafood distributors from 1997-2005 was higher than the regionwide average in all New England states except Maine. By contrast, attrition in numbers of wholesale seafood distributors has occurred at lower average annual rates in most mid-Atlantic states.

Table 25. Annual number of Northeast Region (NER) seafood dealer establishments by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	22	6	171	82	123	77	11	96	266	45	104	1,003
1987	27	6	205	96	146	92	16	110	306	49	107	1,160
1988	25	4	200	90	138	95	17	97	265	54	98	1,083
1989	26	4	202	81	132	91	16	91	257	57	104	1,061
1990	24	4	210	86	130	85	13	84	266	66	107	1,075
1991	26	5	202	89	130	90	18	77	265	61	103	1,066
1992	31	4	223	82	160	84	17	89	275	60	105	1,130
1993	32	8	243	100	173	88	21	94	311	66	110	1,246
1994	32	9	252	98	174	83	22	110	317	65	110	1,272
1995	29	10	245	100	174	85	22	101	313	62	105	1,246
1996	33	8	264	105	189	91	20	105	335	62	112	1,324
1997	27	6	255	98	195	89	17	108	310	52	104	1,261
1998	28	7	256	94	210	97	17	101	323	49	108	1,290
1999	29	5	247	93	201	90	16	110	313	43	108	1,255
2000	26	4	229	92	194	86	14	107	305	40	105	1,202
2001	25	5	212	94	182	84	14	112	296	41	100	1,165
2002	28	7	207	77	190	84	14	102	315	39	89	1,152
2003	19	5	163	63	181	68	11	84	291	38	84	1,007
2004	19	2	148	58	177	72	12	85	274	35	86	968
2005	17	3	151	59	177	77	10	85	269	32	86	966
1986 - 1996 Average Change	4.7%	7.5%	4.7%	3.0%	4.8%	2.0%	7.9%	1.5%	2.6%	3.5%	0.9%	3.0%
1997-2005 Average Change	-6.2%	-3.4%	-5.8%	-5.9%	-0.6%	-1.5%	-6.9%	-2.0%	-2.3%	-6.9%	-2.8%	-3.4%

The location quotient exceeded one in the states of Massachusetts, Maine, and Rhode Island in every year from 1986-2005 (Table 26). In relative terms, a change in seafood dealer employment in these New England states may be expected to have a larger impact than in other Northeast region states. The location quotient was greater than one in Virginia up to 1995 but has since fallen below one, indicating a decline in the share of wholesale employment in Virginia relative to the state's share of total regional employment.

The Herfindahl index depends on the number of establishments as well as the size distribution of the industry. Since the seafood dealer sector is predominantly composed of establishments with fewer than 100 employees, the value of the index as well as changes in the index are largely determined by the number of establishments. This is why the Herfindahl index for the seafood dealer sector in the Northeast region as a whole is substantially lower than the

index value for individual states (Table 27). This is also why the index value increases so much in Delaware, as the number of seafood dealers has declined to only two establishments in 2005. Since 1997 the average annual change in the Herfindahl index has been positive in all states except Maine. In most cases the change in the Herfindahl has been due primarily to changes in the size structure of the seafood dealer sector as the dispersion effect exceeded the fewness effect at least for states other than Delaware.

Table 26. Annual Northeast Region seafood dealer location quotient by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1986	0.2	0.4	1.5	1.1	5.3	0.9	0.3	0.8	0.8	1.4	1.2
1987	0.3	0.4	1.6	1.0	5.2	0.9	0.4	0.7	0.7	2.7	1.0
1988	0.3	0.2	1.7	1.0	5.7	0.9	0.5	0.7	0.7	3.1	1.1
1989	0.3	0.2	1.7	1.0	5.4	0.9	0.5	0.6	0.7	3.1	1.3
1990	0.3	0.2	1.9	1.0	5.3	0.7	0.5	0.8	0.6	2.9	1.2
1991	0.3	0.1	1.9	1.1	6.0	0.9	0.7	0.6	0.6	3.1	1.2
1992	0.3	0.4	1.7	1.0	6.7	0.8	0.6	0.7	0.6	3.0	1.4
1993	0.3	0.3	1.7	1.1	6.5	0.8	0.5	0.6	0.8	2.5	1.1
1994	0.3	0.3	1.8	1.1	5.9	0.7	0.4	0.6	0.8	2.2	1.1
1995	0.3	0.5	1.6	1.0	6.9	0.6	0.4	0.8	0.7	2.5	1.1
1996	0.3	0.6	1.7	1.0	8.2	0.6	0.4	0.6	0.8	2.7	1.0
1997	0.3	0.5	1.8	1.3	8.3	0.6	0.3	0.6	0.7	2.0	0.9
1998	0.3	0.5	1.8	1.1	8.8	0.6	0.3	0.6	0.7	2.2	0.9
1999	0.3	0.3	1.9	1.1	8.2	0.6	0.3	0.7	0.7	2.2	0.9
2000	0.3	0.3	2.0	1.0	7.6	0.7	0.3	0.7	0.7	2.3	0.8
2001	0.4	0.3	2.0	1.1	6.2	0.7	0.3	0.7	0.7	2.3	0.7
2002	0.4	0.4	2.0	1.0	6.4	0.7	0.4	0.7	0.8	2.3	0.7
2003	0.3	0.3	1.9	1.0	5.9	0.6	0.4	0.8	0.9	2.7	0.7
2004	0.4	0.1	1.9	1.0	6.4	0.6	0.4	0.8	0.8	1.8	0.7
2005	0.5	0.1	1.9	1.0	7.1	0.6	0.5	0.8	0.8	1.4	0.7

Of the 143 coastal counties from Maine to North Carolina, the location quotient was greater than one in 55. Seafood dealer employment (Table 28, see Table 29 for numbers of establishments) in these counties ranges from fewer than 10 to several hundred, highlighting the fact that the relative importance of marine industries within a region or state is not solely measured by numbers of employees alone. For example, Cumberland County, ME, has the largest number of seafood dealer employees in the state but also accounts for the largest share of total employment in Maine such that the location quotient for the county is less than one. Note that this does not mean that seafood dealer employment is unimportant to Cumberland County, it only means that in relative terms, other Maine counties have a higher dependence on seafood dealer employment.

Table 27. Annual Northeast Region (NER) seafood dealer Herfindahl Index by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	0.092	0.204	0.018	0.032	0.021	0.050	0.220	0.044	0.016	0.046	0.026	0.003
1987	0.085	0.190	0.015	0.024	0.016	0.041	0.152	0.030	0.015	0.113	0.029	0.003
1988	0.116	0.321	0.013	0.028	0.031	0.027	0.120	0.034	0.017	0.097	0.039	0.003
1989	0.117	0.327	0.016	0.034	0.025	0.028	0.130	0.050	0.017	0.094	0.034	0.003
1990	0.145	0.327	0.019	0.035	0.021	0.047	0.166	0.053	0.018	0.046	0.031	0.004
1991	0.132	0.253	0.018	0.033	0.019	0.045	0.113	0.058	0.016	0.089	0.029	0.004
1992	0.138	0.473	0.016	0.036	0.028	0.054	0.115	0.058	0.016	0.104	0.036	0.004
1993	0.127	0.213	0.012	0.031	0.034	0.046	0.114	0.032	0.013	0.036	0.034	0.003
1994	0.075	0.267	0.016	0.032	0.028	0.033	0.077	0.030	0.015	0.048	0.035	0.003
1995	0.070	0.204	0.015	0.028	0.028	0.049	0.078	0.086	0.016	0.046	0.037	0.004
1996	0.067	0.238	0.012	0.029	0.052	0.034	0.086	0.026	0.015	0.056	0.034	0.004
1997	0.082	0.266	0.012	0.043	0.051	0.052	0.097	0.049	0.017	0.059	0.050	0.004
1998	0.080	0.252	0.013	0.044	0.022	0.050	0.092	0.043	0.016	0.055	0.040	0.003
1999	0.081	0.393	0.012	0.035	0.026	0.036	0.100	0.040	0.013	0.046	0.041	0.003
2000	0.128	0.425	0.016	0.035	0.028	0.052	0.123	0.041	0.015	0.057	0.039	0.003
2001	0.087	0.393	0.020	0.049	0.019	0.064	0.116	0.042	0.013	0.048	0.027	0.004
2002	0.111	0.332	0.017	0.072	0.031	0.051	0.124	0.047	0.012	0.065	0.035	0.004
2003	0.114	0.524	0.020	0.076	0.022	0.047	0.204	0.048	0.013	0.146	0.038	0.004
2004	0.123	0.612	0.018	0.077	0.023	0.046	0.181	0.047	0.014	0.055	0.057	0.004
2005	0.122	0.427	0.017	0.056	0.023	0.065	0.187	0.048	0.015	0.055	0.040	0.004
1986-1996 Average Change	-1.1%	9.2%	-2.5%	0.0%	16.5%	0.9%	-6.8%	10.9%	0.5%	17.5%	3.6%	1.2%
1997-2005 Average Change	9.6%	10.2%	5.6%	10.7%	-3.1%	10.8%	10.8%	9.5%	0.2%	10.0%	5.4%	1.0%

Table 28. Annual seafood dealer employees in coastal counties with a location quotient greater than one (1998–2005)

County, State	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	237	210	221	172	169	181	175	186
Knox County, ME	273	277	253	247	210	178	181	179
Lincoln County, ME	146	167	203	147	95	113	93	105
Washington County, ME	139	118	105	123	76	88	105	108
York County, ME	100	104	95	99	94	170	191	172
Rockingham County, NH	72	68	60	61	62	72	79	74
Barnstable County, MA	165	161	173	198	152	112	92	88
Bristol County, MA	710	780	917	703	625	603	585	548
Essex County, MA	516	446	440	387	412	247	279	357
Suffolk County, MA	649	671	715	779	841	615	601	633
Newport County, RI	70	76	86	103	128	173	83	61
Washington County, RI	172	152	142	148	121	89	75	70
Middlesex County, CT	7	3	14	31	32	31	35	33
New London County, CT	33	41	48	50	29	38	33	34
Kings County, NY	422	427	443	391	457	558	524	538
Queens County, NY	334	278	357	323	280	257	199	214
Rockland County, NY	30	61	47	46	57	56	53	45
Burlington County, NJ	60	44	58	80	63	42	47	50
Cape May County, NJ	82	83	84	83	33	36	31	43
Cumberland County, NJ	67	68	52	29	66	44	39	36
Essex County, NJ	145	187	213	204	97	66	65	74
Hudson County, NJ	58	62	62	87	74	56	60	101
Monmouth County, NJ	71	75	51	56	48	87	106	111
Ocean County, NJ	56	56	53	45	54	61	77	66
Passaic County, NJ	2	34	12	17	56	56	63	60
Union County, NJ	196	198	196	207	255	264	253	185
New Castle County, DE	25	20	19	21	32	33	11	7
Sussex County, DE	30	34	28	30	34	2		2
Anne Arundel County, MD	16	9	12	9	115	126	131	120
Dorchester County, MD	62	55	31	33	21	19	12	12
Howard County, MD	238	267	239	247	166	237	266	283
Kent County, MD	33	38	18	17	7	5	6	31
Queen Anne's County, MD	166	148	173	182	174	156	150	94
Somerset County, MD	119	127	131	100	62	43	70	66
Talbot County, MD	44	29	37	28	19	13	23	11
Worcester County, MD	49	28	51	33	26	5	5	7
Accomack County, VA	49	49	40	51	17	12	10	13
Gloucester County, VA	256	246	207	104	55	94	84	54
Hampton City, VA	70	85	72	84	94	111	117	85
Lancaster County, VA	67	48	72	73	64	94	131	89
Mathews County, VA	15	17	18	20	19	26	25	32
Middlesex County, VA	36	32	44	43	39	11	14	22
Newport News City, VA	16	32	38	34	33	38	45	37
Northampton County, VA	68	78	96	55	57	46	38	38
Northumberland County, VA	136	120	130	112	106	24	33	23
Poquoson City, VA	48	39	23	23	5	2	3	4
Westmoreland County, VA	4	5	2	4	4	7	9	9
York County, VA	46	14	14	15	54	11	5	11

Table 28 (continued). Annual seafood dealer employees in coastal counties with a location quotient greater than one (1998–2005)

County, State	1998	1999	2000	2001	2002	2003	2004	2005
Beaufort County, NC	36	46	51	48	56	58	58	59
Brunswick County, NC	73	72	91	85	97	59	25	51
Carteret County, NC	67	55	35	42	47	42	24	41
Chowan County, NC	61	68	59	60	33	13	12	36
Dare County, NC	183	149	211	210	185	40	35	53
Hyde County, NC	18	27	50	33	22	15	21	22
Pamlico County, NC	83	49	54	59	44	34	58	76
Pasquotank County, NC	48	58	63	62	119	88	93	95
Pender County, NC	57	45	50	48	53	14	29	15
Perquimans County, NC	2	6	7	14	7	6	8	7

Table 29. Annual number of seafood dealer establishments in coastal counties with a location quotient greater than one (1998–2005)

County/State	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	37	36	37	33	34	37	34	32
Knox County, ME	41	38	36	34	35	33	33	33
Lincoln County, ME	26	23	24	24	25	24	22	22
Washington County, ME	32	32	29	25	30	30	27	31
York County, ME	20	19	21	20	16	16	18	16
Rockingham County, NH	12	12	10	9	9	9	9	9
Barnstable County, MA	30	29	28	24	20	15	13	13
Bristol County, MA	57	54	51	43	39	31	26	27
Essex County, MA	66	57	51	47	53	33	32	31
Suffolk County, MA	46	49	48	44	46	43	41	44
Newport County, RI	11	9	8	8	11	10	9	8
Washington County, RI	18	15	14	16	14	11	12	12
Middlesex County, CT	2	2	2	2	2	2	2	2
New London County, CT	5	4	5	3	4	4	4	4
Kings County, NY	49	49	45	43	53	56	50	52
Queens County, NY	38	35	40	35	38	33	35	41
Rockland County, NY	6	7	6	6	7	6	5	4
Burlington County, NJ	5	4	4	4	3	5	3	4
Cape May County, NJ	6	6	6	6	5	4	4	3
Cumberland County, NJ	5	6	4	4	4	4	4	4
Essex County, NJ	13	15	13	13	11	9	9	8
Hudson County, NJ	6	5	4	7	5	2	2	3
Monmouth County, NJ	9	9	8	9	7	11	11	13
Ocean County, NJ	6	7	7	6	6	6	9	9
Passaic County, NJ	1	1	2	4	2	2	2	1
Union County, NJ	6	5	4	4	6	7	7	7
New Castle County, DE	3	2	2	2	3	4	2	2
Sussex County, DE	3	3	2	3	4	1		1

Table 29 (continued). Annual number of seafood dealer establishments in coastal counties with a location quotient greater than one (1998–2005)

County/State	1998	1999	2000	2001	2002	2003	2004	2005
Anne Arundel County, MD	7	7	6	4	7	6	3	3
Dorchester County, MD	15	13	12	12	10	7	6	5
Howard County, MD	9	9	8	9	6	8	7	8
Kent County, MD	3	4	4	3	4	3	3	4
Queen Anne's County, MD	9	8	8	7	6	5	5	4
Somerset County, MD	12	10	9	8	5	6	6	7
Talbot County, MD	8	9	10	9	9	8	8	8
Worcester County, MD	5	5	6	5	5	3	3	3
Accomack County, VA	13	10	11	9	6	5	6	6
Accomack County, VA	13	10	11	9	6	5	6	6
Gloucester County, VA	13	12	11	10	7	8	8	7
Hampton City, VA	3	4	3	3	3	5	4	4
Lancaster County, VA	5	5	4	5	7	7	7	6
Mathews County, VA	4	3	3	3	4	5	5	4
Middlesex County, VA	3	3	3	3	4	3	5	6
Newport News City, VA	2	2	2	1	3	4	4	4
Northampton County, VA	10	11	11	11	8	6	6	5
Northumberland County, VA	11	10	10	10	10	7	6	6
Poquoson City, VA	5	5	3	2	1	1	2	2
Westmoreland County, VA	2	4	3	3	2	4	4	4
York County, VA	2	2	2	2	2	1	1	1
Beaufort County, NC	6	5	5	5	6	7	6	7
Brunswick County, NC	9	8	7	7	7	7	7	8
Carteret County, NC	15	13	13	13	13	11	12	13
Chowan County, NC	1	1	1	1	1	1	1	1
Dare County, NC	10	9	9	8	9	8	9	9
Hyde County, NC	5	4	4	5	4	3	3	3
Pamlico County, NC	9	8	8	7	6	7	7	8
Pasquotank County, NC	4	4	4	4	4	3	3	3
Pender County, NC	2	2	2	2	2	1	1	1
Perquimans County, NC	1	1	1	1	1	1	1	1

Seafood processing NAICS 3117

Seafood processing is a subgroup included in the industry group of food manufacturing. Under the NAICS seafood processing is further broken down into seafood canning (NAICS 311711) and fresh and frozen seafood processing (NAICS 311712). The former includes canning, smoking, curing of seafood as well as factory ships that harvest and can seafood on-board. The latter includes fresh and frozen processing of finfish and shellfish as well as processing of marine fats and oils. From 1986-1997 these activities were included in SIC codes 2091 (canning), 2092 (fresh, frozen processing), and 2077 (animal and marine fats and oils). The two classification systems made no change to the classification of establishments engaged in seafood canning, but establishments engaged in processing marine fats and oils formerly included in SIC 2077 were reclassified to NAICS 311712 creating a discontinuity between SIC 2092 and 311712 at least at the national level. As will be noted below, no evidence of such a discontinuity between SIC and NAICS years was apparent in the Northeast region.

For purpose of analysis, seafood canning and fresh/frozen processing were combined into a single higher subgroup (NAICS 3117 and SIC 2090). Since this also resulted in higher numbers of total establishments in each state, the number of instances of data suppression that required estimation of employment was reduced. In 1986 there were 309 seafood processing establishments (Table 30). The number of establishments declined by an average of 2.7% from 1986-1996 after which the number of seafood processors stabilized at about 235 establishments through calendar year 2000. In 2001 the number of processors in the Northeast region declined to 228 and fell again to 216 establishments in 2002. Although the number of processing establishments rebounded to 224 in 2003, the number of processors declined in both 2004 and 2005 to a time series low of 212 establishments in 2005.

The general decline in seafood processing establishments resulted in a decline in seafood processing employment in the Northeast region by an average annual rate of 5% from 1986-1996 (Table 31). By 1995 this declining trend appears to have been halted as processing employment hovered around 8,000 people from 1996-2001. Processing employment fell to a time series low of 7,227 employees in 2002. However, even as the number of seafood establishments declined in both 2004 and 2005, seafood employment actually increased in these years to 8,611 in 2005.

Performance of seafood processing employment and number of establishments varied considerably across states. Connecticut, New Jersey, and New Hampshire were the only states that showed an increasing trend in both processing establishments and employment both from 1986-1997 and from 1998-2005. By contrast, Maine was the only state that experienced a decline in employment and in the number of processing establishments over the same time periods. Since 1996 the average annual change in number of processing establishments was negative in the states of Maryland, North Carolina, and Virginia. However, the average annual change in total seafood processing employment was actually positive in these states, suggesting that at least some of the processing employment was being absorbed by other processors as establishments were closed.

Table 30. Annual number of Northeast Region (NER) seafood processing establishments by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	1	3	62	36	39	32	4	16	23	13	80	309
1987		2	53	36	34	34	5	17	22	12	73	288
1988	1	2	51	35	32	35	5	17	19	11	71	279
1989	1	2	48	34	29	33	6	19	18	8	63	261
1990	1	2	46	33	32	32	5	17	16	8	62	254
1991	1	3	45	32	30	33	5	17	15	9	58	248
1992	1	2	46	33	30	34	10	17	12	9	52	246
1993	3	2	44	29	30	35	10	16	13	6	46	234
1994	2	2	45	32	30	33	10	13	11	5	45	228
1995	2	2	42	37	32	33	10	13	11	7	44	233
1996	3	1	36	38	32	31	9	16	13	6	49	234
1997	4	1	42	33	35	30	8	14	12	9	46	234
1998	4	1	41	28	35	33	8	14	18	8	46	236
1999	3	1	42	27	43	27	8	18	19	6	42	236
2000	3	1	42	27	40	32	10	16	18	6	41	236
2001	2	1	41	26	36	27	8	18	21	6	42	228
2002	2	1	45	24	33	21	9	17	16	9	39	216
2003	2	1	55	23	35	18	11	16	18	7	38	224
2004	3	1	53	23	28	18	10	15	17	7	42	217
2005	3	1	50	23	27	17	10	17	18	7	39	212
1986-1996 Average Change	27.1%	-6.7%	-5.1%	0.8%	-1.7%	-0.2%	11.8%	0.6%	-4.9%	-5.5%	-4.6%	-2.7%
1997-2005 Average Change	2.8%	0.0%	4.1%	-5.3%	-1.2%	-5.6%	2.2%	1.5%	5.4%	4.6%	-2.3%	-1.1%

Table 31. Annual number of mid-March employees in the Northeast Region (NER) seafood processing sector by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	14	835	3,560	1,229	1,693	1080	172	789	562	499	3,228	13,662
1987		500	3,505	1,197	1,633	997	194	1,098	552	301	2,582	12,558
1988	145	335	3,484	1,182	1,483	918	368	969	458	280	2,394	12,016
1989	144	503	3,430	1,077	1,536	894	457	1,126	445	176	2,173	11,961
1990	129	499	3,116	919	1,458	667	345	1,273	444	197	2,141	11,188
1991	126	711	2,685	997	1,051	816	243	1,308	458	202	2,232	10,829
1992	142	456	2,319	1,034	984	822	354	1,384	305	189	1,377	9,365
1993	77	432	2,171	1,009	772	854	437	1,451	328	116	1,328	8,974
1994	157	497	2,025	928	998	655	607	1,089	270	119	1,209	8,552
1995	74	394	1,960	981	1,227	581	526	1,263	274	115	1,439	8,833
1996	86	387	1,806	912	1,232	458	383	1,133	269	142	1,213	8,021
1997	84	410	1,782	967	1,146	576	308	807	268	201	1,070	7,618
1998	96	344	1,841	1,006	1,084	448	340	803	339	194	1,515	8,010
1999	84	370	1,880	967	1,024	383	298	863	452	241	1,515	8,076
2000	95	163	2,251	894	992	474	298	816	374	227	1,230	7,814
2001	74	337	2,164	889	1,007	381	257	1,100	370	240	1,259	8,078
2002	78	325	2,231	807	639	280	368	928	352	184	1,035	7,227
2003	80	166	2,717	762	656	487	322	846	271	355	1,256	7,918
2004	106	296	2,743	895	576	624	448	749	323	355	1,231	8,347
2005	113	297	2,671	1,141	614	458	418	969	324	270	1,336	8,611
1986-1996 Average Change	2.6%	-3.0%	-6.5%	-2.7%	-1.7%	-7.2%	14.0%	5.1%	-6.2%	-9.2%	-8.1%	-5.1%
1997-2005 Average Change	4.1%	8.3%	4.8%	3.1%	-6.6%	4.7%	3.1%	0.1%	3.6%	12.0%	2.6%	1.0%

The location quotient for seafood processing exceeded one in all years for Delaware, Massachusetts, Maryland, Maine, and Virginia (Table 32). In New Hampshire and Rhode Island, the location quotient was above one in most years and has remained above one in both states in every year since 1996. Notably, the location quotient in Maine has been declining because of its falling share of regional processing employment. However, Maine's processing employment share is still much larger than Maine's share of total regional employment. This means that in relative terms, a change affecting processing employment would have a larger impact in Maine than in other states.

Table 32. Annual Northeast Region seafood processing location quotient by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1986	0.0	5.1	2.0	1.2	7.1	0.7	0.6	0.4	0.1	2.0	2.5
1987	0.0	3.2	2.2	1.2	7.3	0.7	0.8	0.6	0.1	1.3	2.2
1988	0.2	2.2	2.3	1.3	6.6	0.7	1.5	0.6	0.1	1.3	2.1
1989	0.2	3.2	2.3	1.2	6.7	0.7	1.9	0.7	0.1	0.8	1.8
1990	0.2	3.3	2.3	1.0	7.0	0.5	1.6	0.8	0.1	1.0	1.9
1991	0.2	4.7	2.1	1.2	5.3	0.6	1.2	0.9	0.1	1.1	2.0
1992	0.2	3.5	2.1	1.4	5.8	0.7	2.0	1.1	0.1	1.2	1.4
1993	0.1	3.5	2.0	1.4	4.6	0.8	2.5	1.2	0.1	0.8	1.4
1994	0.3	4.2	2.0	1.4	6.2	0.6	3.6	0.9	0.1	0.8	1.3
1995	0.1	3.2	1.9	1.4	7.4	0.5	3.0	1.0	0.1	0.8	1.5
1996	0.2	3.4	1.9	1.4	8.2	0.4	2.3	1.0	0.1	1.1	1.4
1997	0.2	3.7	2.0	1.6	8.0	0.6	2.0	0.8	0.1	1.6	1.3
1998	0.2	3.0	1.9	1.6	7.2	0.4	2.0	0.7	0.1	1.5	1.7
1999	0.2	3.2	2.0	1.5	6.7	0.4	1.7	0.8	0.2	1.8	1.7
2000	0.2	1.4	2.4	1.4	6.6	0.5	1.8	0.8	0.2	1.8	1.4
2001	0.2	2.8	2.2	1.4	6.5	0.4	1.5	1.0	0.2	1.9	1.4
2002	0.2	3.0	2.6	1.4	4.6	0.3	2.4	0.9	0.2	1.6	1.3
2003	0.2	1.4	3.0	1.2	4.4	0.5	1.9	0.8	0.1	2.7	1.4
2004	0.2	2.4	2.9	1.3	3.6	0.6	2.5	0.6	0.1	2.5	1.3
2005	0.2	2.3	2.7	1.6	3.7	0.4	2.3	0.8	0.1	1.8	1.3

The seafood processing Herfindahl index for the Northeast Region remained quite low in all years, a finding consistent with a sector with a large number of establishments not dominated by a few large establishments (Table 33). Over time the regional Herfindahl index has increased, averaging an annual change of 5.2% and 6.0% respectively from 1986-1996 and from 1997-2005. The majority of this change was accounted for by changes in dispersion rather than by changes in the number of establishments. That is, standardized dispersion has been increasing, indicating a slight trend toward larger establishment size. Note that standardized dispersion and the Herfindahl index itself are still very low, so the processing sector is far from becoming dominated by a few large entities, at least at the level of individual establishments.

Because of very low numbers of establishments in Connecticut and Delaware, the Herfindahl index was 1.0 or nearly so for much of the time series. The Herfindahl index for New Hampshire declined from 0.78 in 1986 to 0.23 in 1994 because of increasing numbers of establishments as well as a trend toward a more uniform distribution of establishment size. More recently the New Hampshire processing Herfindahl has increased, but only slightly. Over the time series of analysis, the processing sector in North Carolina exhibited the largest change in the Herfindahl index.

In 1986 North Carolina had 32 seafood processing establishments with a Herfindahl of 0.05. At least through 2001 the North Carolina Herfindahl index increased modestly to 0.08, which is still characteristic of a processing sector comprised of similarly sized establishments. Since 2001 the Herfindahl index has risen dramatically from 0.12 in 2002, to 0.21 in 2003, 0.36 in 2004, and to 0.41 in 2005. Since the number of establishments over these years has not

changed very much, the majority of this increase has been attributed to a trend toward greater dominance by a small number of larger establishments. For example, in 2002 the largest processing establishment had fewer than 100 employees. In 2004 and 2005 the largest processing establishment employed 250-499 employees. Although the Herfindahl index has been increasing in most other states, the shift in the size structure of individual processing establishments that has occurred in North Carolina does not appear to be occurring elsewhere.

Table 33. Annual Northeast Region (NER) processing sector Herfindahl Index by state (1986- 2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	1.000	0.384	0.068	0.118	0.089	0.054	0.780	0.145	0.089	0.196	0.028	0.011
1987		0.566	0.069	0.133	0.093	0.056	0.729	0.137	0.097	0.178	0.030	0.012
1988	1.000	0.500	0.075	0.272	0.076	0.050	0.808	0.165	0.168	0.209	0.035	0.015
1989	1.000	0.566	0.080	0.152	0.099	0.076	0.642	0.111	0.174	0.313	0.053	0.015
1990	1.000	0.566	0.091	0.195	0.100	0.082	0.808	0.114	0.183	0.294	0.073	0.017
1991	1.000	0.384	0.100	0.194	0.095	0.052	0.588	0.111	0.200	0.292	0.105	0.018
1992	1.000	0.566	0.128	0.160	0.124	0.049	0.330	0.146	0.283	0.275	0.062	0.018
1993	0.630	0.723	0.130	0.341	0.110	0.072	0.517	0.155	0.255	0.452	0.069	0.023
1994	0.972	0.723	0.141	0.221	0.111	0.064	0.251	0.188	0.356	0.472	0.068	0.022
1995	0.937	0.987	0.150	0.165	0.093	0.063	0.234	0.157	0.347	0.434	0.112	0.021
1996	0.689	1.000	0.100	0.192	0.085	0.071	0.291	0.142	0.328	0.360	0.073	0.017
1997	0.653	1.000	0.165	0.208	0.092	0.065	0.370	0.147	0.301	0.262	0.078	0.021
1998	0.532	1.000	0.159	0.385	0.086	0.065	0.313	0.141	0.227	0.300	0.181	0.028
1999	0.630	1.000	0.151	0.206	0.085	0.070	0.370	0.121	0.212	0.304	0.108	0.022
2000	0.794	1.000	0.132	0.211	0.080	0.080	0.398	0.137	0.220	0.427	0.107	0.021
2001	0.843	1.000	0.107	0.229	0.087	0.086	0.396	0.119	0.190	0.427	0.109	0.019
2002	0.727	1.000	0.094	0.236	0.105	0.116	0.287	0.131	0.203	0.494	0.132	0.021
2003	0.727	1.000	0.077	0.246	0.117	0.208	0.312	0.148	0.272	0.295	0.115	0.019
2004	0.557	1.000	0.073	0.209	0.091	0.355	0.301	0.156	0.242	0.301	0.125	0.020
2005	0.630	1.000	0.113	0.287	0.162	0.413	0.308	0.117	0.241	0.401	0.113	0.026
1986-1996 Average Change	-1.6%	13.0%	5.2%	15.2%	0.9%	5.7%	-3.9%	1.5%	16.3%	8.9%	15.8%	5.2%
1997-2005 Average Change	0.3%	0.0%	5.0%	9.7%	10.1%	24.7%	1.9%	-1.3%	-2.2%	4.4%	11.8%	6.0%

Among coastal counties in the Northeast region, there were 43 where the location quotient was greater than one in most, if not all years from 1998-2005. These counties accounted for the majority of processing establishments and employment in their respective states, and for 70% of the total number of establishments (Table 34), and 81% of employment (Table 35) in the Northeast region.

Table 34. Number of seafood processing establishments in coastal counties where the location quotient exceeded one by county (1998-2005)

County, State	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	171	160	188	220	150	152	107	153
Knox County, ME	128	77	139	154	35	2	2	2
Lincoln County, ME	19	16	63	26	11	25	10	31
Sagadahoc County, ME	112	82	109	193	64	90	88	5
Waldo County, ME	155	131	168	162	2	2	3	
Washington County, ME	360	387	165	203	213	237	203	179
Rockingham County, NH	241	208	209	202	283	250	358	250
Bristol County, MA	424	429	688	600	736	952	1120	1129
Essex County, MA	981	965	1132	1053	1036	1093	1034	998
Bristol County, RI	86	76	106	136	121	221	242	192
Newport County, RI	2	2	2	2	2	79	69	63
Washington County, RI	95	92	83	72	26	6	7	2
New Haven County, CT	96	80	78	66	72	79	91	113
Kings County, NY	75	201	15	67	36	176	186	192
Rockland County, NY	18	13	12	19	12	13	13	13
Westchester County, NY	11	12	27	30	20	35	41	41
Cape May County, NJ	161	156	207	269	198	137	135	355
Cumberland County, NJ	240	255	274	271	183	176	182	211
Essex County, NJ	225	238	235	399	374	377	339	296
Sussex County, DE					346	164	338	359
Dorchester County, MD	588	482	522	478	412	373	406	610
Queen Anne's County, MD	26	30	30	31	26	11		30
Somerset County, MD	65	145	89	90	36	94	107	106
Talbot County, MD	91	87	34	34	25	26	29	62
Wicomico County, MD	56	28	87	29	72	58	77	56
Worcester County, MD	57	66	73	63	58	67	133	146
Accomack County, VA	209	216	258	181	91	164	206	191
Gloucester County, VA	3	2	2	2	10	7	7	13
Hampton City, VA	57	56	35	70	38	34	38	37
Lancaster County, VA	60	60	54	49	39	39	23	33
Mathews County, VA	4	2	2	2	2	2	13	2
Middlesex County, VA	30	45	32	35	42	40	34	34
Newport News City, VA	668	596	424	483	368	384	418	455
Norfolk City, VA	59	69	74	76	125	149	134	144
Northumberland County, VA	169	252	190	97	93	180	165	205
Richmond County, VA	7	6	8	8	6	2	2	6
Westmoreland County, VA	236	239	239	235	253	287	221	263
Beaufort County, NC	157	109	123	52	29	22	40	12
Bertie County, NC	36	37	35	40	19	28	17	13
Brunswick County, NC	49	39	92	90	44	57	58	26
Hyde County, NC	90	86	79	115	39	81	41	65
Pamlico County, NC	36	63	58	47	35	37	59	46
Tyrrell County, NC	4	15	18	17	64	12	29	32

Table 35. Seafood processing mid-March employment in coastal counties where the location quotient exceeded one by county (1998-2005)

County, State	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	4	5	5	5	5	6	5	5
Knox County, ME	3	2	3	2	2	1	1	1
Lincoln County, ME	2	2	2	1	1	1	1	1
Sagadahoc County, ME	3	3	3	2	2	2	1	1
Waldo County, ME	1	2	2	2	1	1	1	
Washington County, ME	9	10	8	10	11	10	7	8
Rockingham County, NH	6	6	6	5	6	8	7	7
Bristol County, MA	15	14	15	13	18	21	22	21
Essex County, MA	9	12	13	13	12	14	14	11
Bristol County, RI	2	1	1	1	1	2	2	2
Newport County, RI	1	1	1	1	1	2	2	2
Washington County, RI	2	2	2	2	3	1	1	1
New Haven County, CT	3	2	2	2	2	2	3	3
Kings County, NY	5	4	2	3	3	5	5	6
Rockland County, NY	2	2	2	2	1	1	1	1
Westchester County, NY	1	1	1	2	2	1	1	1
Cape May County, NJ	2	2	2	2	2	2	1	3
Cumberland County, NJ	4	4	4	5	5	5	5	6
Essex County, NJ	3	3	2	3	2	2	2	2
Sussex County, DE					1	1	1	1
Dorchester County, MD	14	12	11	10	12	12	13	12
Queen Anne's County, MD	1	1	1	1	1	1		1
Somerset County, MD	6	5	6	5	4	4	4	4
Talbot County, MD	2	2	1	1	1	1	1	1
Wicomico County, MD	1	1	1	1	1	1	1	1
Worcester County, MD	1	1	1	1	1	1	2	2
Accomack County, VA	9	8	8	8	7	6	7	7
Gloucester County, VA	2	1	1	1	2	2	2	2
Hampton City, VA	2	2	1	1	1	1	2	2
Lancaster County, VA	6	6	6	5	5	4	6	3
Mathews County, VA	2	1	1	1	1	1	1	1
Middlesex County, VA	3	3	3	3	4	3	3	1
Newport News City, VA	3	3	3	3	2	2	2	2
Norfolk City, VA	2	2	2	2	2	2	2	2
Northumberland County, VA	3	3	3	3	3	4	4	5
Richmond County, VA	1	1	1	1	1	1	1	1
Westmoreland County, VA	9	9	8	8	8	6	7	7
Beaufort County, NC	9	8	10	7	5	4	4	4
Bertie County, NC	2	2	2	2	3	1	2	1
Brunswick County, NC	2	2	2	2	2	2	2	2
Hyde County, NC	7	4	4	4	3	3	3	4
Pamlico County, NC	4	4	5	5	4	3	3	3
Tyrrell County, NC	2	2	2	2	1	1	1	1

Seafood retail NAICS 44522

Establishments engaged in selling processed or cured finfish and shellfish to retail customers compose one of three sectors included in the specialty food stores industry group (NAICS 4452). In addition to retail fish markets, this group includes meat markets and fruit and vegetable markets. Under the SIC classification system, seafood markets and meat shops were combined, making it impossible to track trends in seafood retail establishments and employment prior to 1998.

The number of seafood retail establishments has increased in the Northeast region from 809 in 1998 to 1,035 in 2005 (Table 36), an average annual change of 3.7%. The number of retail seafood establishments in New York was at least twice that of any other state, ranging from 302 establishments in 1998 to 392 seafood markets in 2005. In all other states, the number of seafood retail markets was 100 or more in only Massachusetts and New Jersey. The average annual change in seafood markets was positive in all states and was highest (8.6%) in Maine, growing from 28 establishments in 1998 to about 50 over the past 3 years.

Table 36. Annual number of Northeast Region (NER) retail seafood market establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	32	11	107	65	28	64	7	118	302	22	53	809
1999	36	11	111	65	32	66	7	123	297	24	52	824
2000	31	13	109	71	34	61	7	125	307	26	57	841
2001	34	12	115	78	41	70	9	125	323	26	59	892
2002	36	15	126	88	47	81	9	149	381	27	74	1,033
2003	34	18	124	97	51	87	12	133	376	29	61	1,022
2004	38	16	128	96	50	88	12	134	386	34	68	1,050
2005	39	14	116	95	49	90	12	128	392	31	69	1,035
Average Annual Change	3.3%	4.6%	1.3%	5.7%	8.6%	5.3%	8.8%	1.5%	4.0%	5.3%	4.6%	3.7%

Employment in the seafood retail market sector changed by an average of 5.8% from 3,148 in 1998 to 4,620 employees in 2005 (Table 37). The average annual change in seafood market employment was positive in all states ranging from 3.8% in North Carolina to almost 12% in Connecticut. New York accounted for almost one-third of regionwide employment while the combined employment in New York, New Jersey, and Massachusetts accounted for approximately 60% of total retail seafood employment.

The location quotient for seafood retail markets exceeded one in all years in Delaware, Maryland, Maine, New York, and Rhode Island (Table 38). Note that New York's location quotient was only slightly above one even though it had twice the number of establishments and employment of any other state because New York's share of total regionwide employment was only slightly less than its retail seafood market employment share. Conversely, Maine's location quotient was at least 2.0 because Maine's retail seafood employment share was twice that of its share of total regionwide employment. Thus, a change affecting retail seafood markets would be expected to have a comparatively larger impact in Maine than it would in New York, but the impact on New York would still be expected to be larger than that of states where the location quotient was less than one.

Table 37. Annual Northeast Region (NER) retail seafood market mid-March employment by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	89	75	442	375	138	250	55	428	1,004	79	212	3,148
1999	91	64	451	399	146	240	74	429	1,026	102	167	3,189
2000	112	68	435	474	133	238	61	571	1,113	97	243	3,545
2001	131	65	451	475	149	245	75	549	1,154	135	203	3,632
2002	165	94	490	488	173	301	57	559	1,421	151	259	4,158
2003	206	124	720	459	181	304	86	454	1,518	162	165	4,379
2004	202	144	686	579	189	340	66	547	1,602	163	297	4,815
2005	187	138	677	576	184	316	79	524	1,513	140	286	4,620
Average Annual Change	11.9%	10.8%	7.4%	6.8%	4.5%	3.8%	8.9%	4.1%	6.3%	9.9%	10.8%	5.8%

Table 38. Annual retail seafood market location quotient by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	0.5	1.6	1.2	1.5	2.3	0.6	0.8	1.0	1.1	1.5	0.6
1999	0.5	1.4	1.2	1.6	2.4	0.6	1.1	1.0	1.1	2.0	0.5
2000	0.5	1.3	1.0	1.7	2.0	0.5	0.8	1.2	1.1	1.7	0.6
2001	0.6	1.2	1.0	1.6	2.1	0.5	1.0	1.1	1.1	2.3	0.5
2002	0.7	1.5	1.0	1.5	2.2	0.6	0.6	1.0	1.2	2.2	0.5
2003	0.8	1.9	1.4	1.3	2.2	0.5	0.9	0.7	1.2	2.2	0.3
2004	0.7	2.0	1.2	1.5	2.1	0.5	0.6	0.8	1.2	2.0	0.5
2005	0.7	2.0	1.3	1.5	2.1	0.5	0.8	0.8	1.2	1.8	0.5

The Herfindahl index for the Northeast region retail seafood market sector was very low; this measure is indicative of a sector characterized by a large number of establishments not dominated by a small number of large entities (Table 39). The regionwide Herfindahl index has increased but by only a very small amount. Among states, the average annual change in the Herfindahl was positive in Massachusetts, North Carolina, New Jersey, New York, and Virginia. However, in these states the value of the Herfindahl index itself as well as the standardized measure of dispersion is suggestive of an industrial structure of predominantly small sized establishments at least in terms of employment.

There were 47 coastal counties that had a location quotient for the retail seafood market sector that exceeded one in most, if not all, years. Note that these counties were determined by comparing coastal counties within a state. This accounts for the large range in terms of establishments and employment reported in Tables 40 and 41, respectively.

Table 39. Annual Northeast Region (NER) retail seafood market Herfindahl Index by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.0394	0.2045	0.0200	0.0426	0.1126	0.0428	0.1898	0.0297	0.0060	0.1307	0.0491	0.0032
1999	0.0415	0.2045	0.0189	0.0397	0.0973	0.0343	0.1898	0.0300	0.0089	0.0718	0.0476	0.0034
2000	0.0530	0.1385	0.0207	0.0346	0.0840	0.0359	0.1703	0.0351	0.0089	0.0566	0.0460	0.0034
2001	0.0678	0.2088	0.0205	0.0329	0.0753	0.0425	0.1515	0.0184	0.0086	0.0883	0.0477	0.0030
2002	0.0622	0.1732	0.0175	0.0276	0.0506	0.0371	0.1627	0.0224	0.0063	0.0810	0.0400	0.0026
2003	0.1120	0.1381	0.0577	0.0260	0.0431	0.0354	0.1290	0.0189	0.0083	0.0689	0.0251	0.0038
2004	0.0557	0.1247	0.0295	0.0272	0.0546	0.0373	0.1262	0.0252	0.0092	0.0621	0.0640	0.0031
2005	0.0672	0.1524	0.0614	0.0243	0.0561	0.0472	0.1216	0.0295	0.0077	0.0470	0.0655	0.0038
Average Annual Change	14.7%	-0.9%	39.7%	-7.5%	-8.0%	2.5%	-5.8%	3.8%	6.4%	-9.6%	14.5%	4.6%

Table 40. Annual number of coastal county retail seafood market establishments by county (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Cumberland County, ME	11	12	14	14	16	16	15	18
Knox County, ME	2	2	2	3	4	3	2	2
Lincoln County, ME	4	5	5	5	6	8	8	8
Rockingham County, NH	5	5	5	6	6	7	7	8
Barnstable County, MA	21	23	21	20	20	21	19	18
Bristol County, MA	12	11	10	10	12	13	12	12
Dukes County, MA	1	1	1	1	1	4	5	5
Essex County, MA	15	15	17	19	18	21	20	16
Nantucket County, MA	2	2	2	2	3	3	3	3
Plymouth County, MA	10	13	13	13	18	11	13	14
Bristol County, RI	3	3	3	3	3	3	3	3
Newport County, RI	3	3	3	3	2	3	4	3
Washington County, RI	3	3	3	3	4	5	4	5
New London County, CT	4	4	4	4	4	5	5	6
Bronx County, NY	26	24	25	26	28	29	33	31
Kings County, NY	60	58	67	71	83	96	97	101
Nassau County, NY	30	33	34	38	40	34	33	32
Suffolk County, NY	33	34	32	32	35	40	35	40
Cape May County, NJ	14	13	14	14	12	10	10	8
Hudson County, NJ	10	9	11	10	13	12	12	11
Monmouth County, NJ	10	12	12	10	13	12	14	15
Ocean County, NJ	8	10	8	9	11	14	17	15
Salem County, NJ	1	1	2	2	2	2	2	2
Union County, NJ	11	11	11	12	12	10	10	12
New Castle County, DE	6	6	8	7	8	7	9	6
Sussex County, DE	3	3	3	3	5	9	5	6
Anne Arundel County, MD	9	8	8	10	12	13	11	11
Calvert County, MD	2	2	2	2	2	2	3	3
Dorchester County, MD	2	2	2	3	3	4	4	3
Harford County, MD	3	3	4	4	5	4	4	6
Kent County, MD	2	2	2	1	2	2	2	2
Queen Anne's County, MD	1	2	1	2	2	2	1	1
Somerset County, MD	1	1	1	2	1	1	1	1
St. Mary's County, MD	3	4	4	4	5	6	5	5
Accomack County, VA	1	2	2	2	3	1		2
Gloucester County, VA		1	1	1	1	3	4	3
Hampton City, VA	1	1	1	1	1	1	2	2
Henrico County, VA	8	8	9	7	8	7	8	9
King William County, VA	1	1	1	1	1	1	1	1
Northampton County, VA	1	1	1	2	3	2	2	2
Poquoson City, VA			1	1	1	1	1	1
Suffolk City, VA	1	1	1	1	2	2	1	1
Virginia Beach City, VA	9	7	9	6	8	6	10	10
Westmoreland County, VA	2	1	1	2	2	2	3	3
Carteret County, NC	3	3	2	2	6	6	6	6
Dare County, NC	5	7	5	6	8	9	10	10
Pender County, NC	3	3	3	4	3	2	2	1

Table 41. Annual coastal county retail seafood market mid-March employees by county (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Cumberland County, ME	87	89	94	89	77	88	87	84
Knox County, ME	8	7	4	5	11	9	9	11
Lincoln County, ME	15	14	11	14	24	18	25	24
Rockingham County, NH	50	48	51	55	55	62	56	61
Barnstable County, MA	79	82	91	97	53	63	48	53
Bristol County, MA	43	49	35	31	54	194	171	164
Dukes County, MA	0	3	1	2	3	14	9	16
Essex County, MA	94	92	83	89	86	102	98	72
Nantucket County, MA	4	4	6	11	13	5	10	7
Plymouth County, MA	33	33	40	39	62	34	48	42
Bristol County, RI	10	8	7	7	6	7	5	5
Newport County, RI	27	14	8	9	8	14	17	23
Washington County, RI	8	9	13	13	21	40	30	34
New London County, CT	13	19	23	26	26	40	36	45
Bronx County, NY	49	49	50	61	81	90	89	80
Kings County, NY	168	167	177	192	237	324	349	255
Nassau County, NY	102	118	146	144	180	196	196	167
Suffolk County, NY	101	95	112	111	125	152	155	162
Cape May County, NJ	34	28	27	30	37	1	5	3
Hudson County, NJ	21	20	21	26	28	63	69	64
Monmouth County, NJ	53	57	94	118	104	90	100	104
Ocean County, NJ	13	17	26	26	28	19	34	33
Salem County, NJ	6	2	5	4	4	4	4	4
Union County, NJ	35	36	37	37	33	35	38	36
New Castle County, DE	67	51	53	54	74	77	75	70
Sussex County, DE	1	4	4	5	11	55	47	53
Anne Arundel County, MD	123	125	149	154	137	151	187	185
Calvert County, MD	4	4	4	5	2	1	10	8
Dorchester County, MD	3	4	5	6	11	12	21	20
Harford County, MD	5	14	10	16	23	28	26	38
Kent County, MD	7	4	4	6	13	12	12	14
Queen Anne's County, MD	2	3	2	4	4	6	3	1
Somerset County, MD	2	2	2	4	2	2	7	6
St. Mary's County, MD	6	10	10	11	12	19	14	10
Accomack County, VA	2	3	4	4	2	3		2
Gloucester County, VA		2	3	2	2	10	8	7
Hampton City, VA	2	7	2	6	6	6	8	8
Henrico County, VA	52	21	70	34	56	27	35	24
King William County, VA	2	2	2	3	6	7	2	7
Northampton County, VA	2	2	5	4	11	8	8	10
Poquoson City, VA			3	2	2	3	2	2
Suffolk City, VA	2	2	2	2	11	4	2	2
Virginia Beach City, VA	66	61	70	68	55	12	115	126
Westmoreland County, VA	12	2	2	4	6	5	9	8
Carteret County, NC	14	7	12	5	15	10	8	11
Dare County, NC	42	42	39	16	29	17	13	16
Pender County, NC	6	6	5	8	6	3	4	2

Marine Recreational Boating

The marine recreational boating subgroup is composed of establishments engaged in building boats for personal use, retail boat dealers, and marinas. Additionally, the subgroup includes establishments that provide water-based excursions, which includes activities such as whale watching, recreational fishing, and harbor or sightseeing cruises. The number of Northeast region establishments engaged in these activities has increased from 3,407 in 1998 to 3,696 establishments in 2005 (Table 42). The number of establishments has increased in each year since 1999 by an average of 1.8% per year. Among states New York had nearly two-thirds more marine recreational boating establishments compared to New Jersey, the state with the second-most establishments. However, the number of boating-related establishments in New York changed at a lower average annual rate (0.8%) than was the case for Delaware (4.9%), Rhode Island (3.7%), and Maine (2.0%).

Table 42. Annual number of Northeast Region (NER) marine recreational boating subgroup establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	212	46	331	402	251	387	94	486	792	138	268	3,407
1999	204	46	328	399	253	394	95	485	778	128	271	3,381
2000	204	48	333	396	254	385	92	485	778	127	277	3,379
2001	205	48	343	396	261	393	102	476	756	137	287	3,404
2002	225	48	361	402	268	395	99	464	797	145	285	3,489
2003	225	63	369	409	270	403	106	471	824	159	300	3,599
2004	233	64	366	417	279	408	104	461	824	164	298	3,618
2005	236	62	372	431	289	417	100	476	833	176	304	3,696

The marine recreational boating subgroup employed almost 24,000 people in the Northeast region in 1998 (Table 43). Employment in the subgroup has been trending upward at an average annual rate of 3.3% to 30,000 people in 2004 and 2005. Among states, North Carolina experienced the largest growth in recreational boating subsector employment at an average of 8.4% per year. Although the average annual change in employment was positive in all states, employment levels in six of the ten states declined in 2005 compared to 2004 levels.

Table 43. Annual number of Northeast Region (NER) marine recreational boating subgroup employees by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	1,458	484	2,323	3,160	1,859	3,504	537	3,060	4,063	1,702	1,788	23,937
1999	1,386	594	2,347	3,349	1,957	3,886	613	3,148	3,978	1,595	1,926	24,778
2000	1,478	698	2,545	3,590	1,935	4,142	679	3,339	4,166	1,731	2,121	26,424
2001	1,618	687	2,679	3,452	2,014	4,186	630	3,368	4,149	1,981	2,259	27,022
2002	1,484	712	2,694	3,344	1,795	4,655	655	3,095	3,919	1,872	2,048	26,271
2003	1,807	409	2,806	3,488	2,011	5,475	773	2,998	4,592	1,698	3,287	29,345
2004	1,888	438	2,735	3,620	2,157	5,808	832	3,173	4,715	1,934	2,713	30,012
2005	1,830	440	2,699	3,805	2,042	6,146	638	3,246	4,585	2,071	2,404	29,907

In excess of two-thirds of the marine recreational boating subgroup employees were employed in a mid-Atlantic state (Table 44). Within mid-Atlantic states, employment has been

shifting to North Carolina as the state's employment share has increased from 14.6% in 1998 to 20.6% in 2005.

Table 44. Annual Northeast Region (NER) marine recreational boating subgroup employment shares by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	6.1%	2.0%	9.7%	13.2%	7.8%	14.6%	2.2%	12.8%	17.0%	7.1%	7.5%
1999	5.6%	2.4%	9.5%	13.5%	7.9%	15.7%	2.5%	12.7%	16.1%	6.4%	7.8%
2000	5.6%	2.6%	9.6%	13.6%	7.3%	15.7%	2.6%	12.6%	15.8%	6.6%	8.0%
2001	6.0%	2.5%	9.9%	12.8%	7.5%	15.5%	2.3%	12.5%	15.4%	7.3%	8.4%
2002	5.6%	2.7%	10.3%	12.7%	6.8%	17.7%	2.5%	11.8%	14.9%	7.1%	7.8%
2003	6.2%	1.4%	9.6%	11.9%	6.9%	18.7%	2.6%	10.2%	15.6%	5.8%	11.2%
2004	6.3%	1.5%	9.1%	12.1%	7.2%	19.4%	2.8%	10.6%	15.7%	6.4%	9.0%
2005	6.1%	1.5%	9.0%	12.7%	6.8%	20.6%	2.1%	10.9%	15.3%	6.9%	8.0%

Regionwide employment in boat dealers and marinas averaged one-third each of the marine recreational boating subsector employment (Table 45). The balance was composed of 8% employment in the marine excursion sector and 27% in the boat building sector. Employment shares of these marine sectors varied across states. For example, boat building was nearly 50% or more of the marine recreational boating subgroup employment in Maine, North Carolina, and Rhode Island.

Table 45. Composition of Northeast Region (NER) marine recreational boating subgroup employment by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
Boat Building												
1998	10.8%	5.6%	13.5%	22.1%	53.7%	47.2%	10.2%	25.0%	7.3%	57.2%	9.2%	25.5%
1999	9.6%	3.7%	13.5%	27.0%	50.0%	50.5%	9.5%	25.5%	6.4%	53.1%	12.1%	26.3%
2000	17.3%	8.9%	14.4%	26.7%	45.2%	52.2%	7.7%	22.6%	6.5%	51.8%	11.5%	26.1%
2001	5.9%	4.1%	11.8%	22.9%	46.1%	53.2%	11.8%	23.6%	4.3%	53.6%	13.3%	25.1%
2002	5.2%	0.0%	12.6%	20.4%	42.1%	59.9%	10.6%	26.4%	4.9%	52.4%	13.2%	26.5%
2003	2.9%	0.0%	12.6%	22.4%	50.3%	58.8%	25.5%	23.7%	2.7%	51.2%	11.1%	26.2%
2004	5.0%	0.0%	10.5%	21.6%	49.8%	61.5%	23.8%	24.6%	2.6%	50.7%	12.8%	27.4%
2005	4.4%	0.0%	11.9%	24.7%	49.3%	63.7%	4.0%	26.8%	3.5%	58.3%	7.9%	29.1%
Boat Dealers												
1998	29.7%	47.5%	33.6%	37.2%	16.9%	31.6%	43.2%	35.9%	33.1%	13.7%	39.9%	32.0%
1999	32.8%	42.4%	32.9%	34.3%	19.1%	30.2%	45.0%	36.0%	35.9%	14.1%	37.8%	32.2%
2000	32.2%	39.8%	35.5%	34.1%	19.5%	29.9%	44.6%	38.8%	38.1%	12.7%	37.7%	32.9%
2001	29.2%	41.9%	34.1%	36.5%	18.6%	27.3%	44.1%	38.2%	39.6%	10.9%	35.0%	32.1%
2002	40.2%	41.1%	35.6%	37.6%	25.0%	24.4%	43.2%	35.2%	39.2%	14.9%	39.6%	33.1%
2003	38.0%	76.8%	42.7%	36.5%	25.2%	25.7%	44.8%	36.9%	35.7%	18.8%	27.7%	33.1%
2004	38.6%	77.7%	42.2%	38.6%	25.6%	24.3%	45.1%	37.6%	35.0%	18.6%	34.4%	33.6%
2005	39.1%	74.1%	41.9%	39.1%	27.4%	22.6%	54.7%	37.4%	35.7%	16.8%	37.9%	33.7%
Water Excursion												
1998	4.6%	2.5%	16.0%	4.5%	4.3%	5.4%	7.4%	8.2%	15.1%	6.3%	12.7%	8.8%
1999	5.6%	2.4%	17.9%	5.7%	5.0%	5.6%	7.5%	7.7%	15.5%	6.8%	10.0%	9.0%
2000	4.7%	1.5%	16.1%	6.6%	4.7%	4.5%	11.0%	8.0%	12.7%	6.5%	7.5%	8.1%
2001	6.6%	3.2%	16.9%	4.6%	5.5%	4.8%	10.9%	7.6%	12.7%	7.5%	8.8%	8.3%
2002	6.0%	4.2%	15.1%	5.2%	5.0%	3.7%	11.4%	8.5%	13.0%	4.9%	10.1%	8.0%
2003	3.4%	9.1%	10.2%	3.9%	3.8%	4.1%	4.4%	7.7%	14.4%	6.1%	8.8%	7.3%
2004	2.6%	5.0%	11.1%	3.3%	5.8%	3.2%	4.0%	8.1%	16.1%	6.2%	12.2%	7.7%
2005	2.3%	10.1%	10.1%	4.0%	3.1%	3.1%	10.9%	5.7%	15.1%	5.2%	12.6%	7.1%
Marinas												
1998	54.9%	44.3%	36.8%	36.1%	25.1%	15.7%	39.1%	31.0%	44.6%	22.8%	38.2%	33.7%
1999	51.9%	51.5%	35.7%	32.9%	26.0%	13.7%	38.0%	30.7%	42.3%	26.0%	40.1%	32.6%
2000	45.7%	49.8%	34.0%	32.6%	30.6%	13.4%	36.7%	30.6%	42.7%	29.1%	43.3%	32.8%
2001	58.4%	50.8%	37.2%	35.9%	29.8%	14.7%	33.2%	30.5%	43.5%	28.0%	42.9%	34.5%
2002	48.7%	54.7%	36.7%	36.8%	28.0%	12.0%	34.8%	30.0%	42.9%	27.9%	37.2%	32.4%
2003	55.7%	14.1%	34.5%	37.2%	20.7%	11.4%	25.4%	31.7%	47.2%	23.9%	52.4%	33.4%
2004	53.8%	17.3%	36.2%	36.5%	18.8%	11.1%	27.2%	29.8%	46.3%	24.6%	40.6%	31.3%
2005	54.3%	15.8%	36.0%	32.3%	20.1%	10.6%	30.4%	30.1%	45.7%	19.7%	41.7%	30.1%

Boat building and repair NAICS 336612

The boat building sector comprises establishments engaged in building watercraft that are not built in shipyards and that are primarily intended for personal use. Boats may include dinghies, motorboats, rowboats, and sailboats. Boat building was also included as a separate sector under the SIC system but was subdivided into two sectors under the NAICS (boat building and other personal household goods; NAICS 81149), a division which created a break in the time series. The number of boat building establishments has been increasing over time. These establishments increased from 283 in 1998 to 316 in 2005 (Table 46) at an average annual change of 1.7%. The increase in establishments was lower than the relative increase in employment (Table 47). This difference in growth rate between employment and number of establishments is reflected in an increase in the number of employees per establishment from 21.6 in 1998 to 27.6 in 2005.

Table 46. Number of Northeast Region (NER) boat building establishments by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	10	2	34	24	63	46	5	22	29	28	20	283
1999	10	2	31	18	62	44	4	23	29	23	19	265
2000	9	2	35	21	59	45	5	22	25	22	21	266
2001	7	1	39	23	67	49	6	26	20	26	28	292
2002	5	0	35	26	73	52	8	23	24	24	23	293
2003	4	0	34	35	78	48	8	22	26	28	20	303
2004	7	0	36	37	75	56	6	20	25	30	20	312
2005	7	0	36	37	80	59	4	23	27	26	17	316
Annual Average Change	-0.8%	n/a	1.2%	7.8%	3.7%	3.9%	0.0%	1.2%	-0.2%	-0.2%	-1.0%	1.7%

Total employment in the boat building sector has been increasing since 1998, growing from 6,104 in 1998 to 8,715 in 2005; this is an average annual increase of 5.3% (Table 47). Much of this growth was accounted for by increased boat building employment in North Carolina which more than doubled from 1,655 in 1998 to 3,917 in 2005. Boat building employment in North Carolina, Maryland, Maine, New Jersey, and Rhode Island combined accounted for over 80% of the Northeast region total in 1998 and increased to over 90% of the total in 2005.

As reflected by a location quotient greater than one, the share of boat building employment in Maryland, Maine, North Carolina, and Rhode Island was proportionally greater than each state's respective share of total employment in the region (Table 48). That is, boat building employment in these four states plays a proportionally larger role in total state employment than in other Northeast region states. Therefore, a change in boat building employment would have a proportionally greater impact in Maryland, Maine, North Carolina, and Rhode Island than in other states.

The Herfindahl index for the boat building industry was quite low (0.02 or 0.03 in all years), suggesting an industry that has few large establishments (Table 49). Note that the Herfindahl index was higher in some states than in others. However, since the lower bound of the index is affected by the number of establishments, comparisons across states are not valid unless each state has approximately the same number of establishments. For example, Massachusetts and Maryland had nearly identical number of establishments from 2003-2005. Over these years,

the Maryland index was larger than the Massachusetts index, suggesting that the boat building industry in Maryland tended to be composed of larger establishments over these years than those in Massachusetts. Similarly, the number of establishments in New Jersey, New York, and Rhode Island was similar in all years, yet the New Jersey Herfindahl index was higher, indicating an industry that is composed of larger establishments than those in either New York or Rhode Island. The Herfindal index was nearly constant in most states from 1998 through 2005. However, the index has generally declined in Maryland and increased in Virginia, suggesting a trend toward small firm size in Maryland while the industry has tended toward consolidation in Virginia.

Table 47. Northeast Region (NER) boat building mid-March employment by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	157	27	314	698	999	1,655	55	764	296	974	165	6,104
1999	133	22	317	904	979	1,961	58	803	254	847	233	6,510
2000	256	62	367	958	874	2,162	52	755	271	896	244	6,897
2001	96	28	317	792	927	2,226	74	795	177	1,062	301	6,796
2002	77	0	340	681	755	2,788	69	817	192	980	270	6,969
2003	52	0	354	783	1,011	3,219	197	711	124	870	366	7,687
2004	94	0	287	782	1,073	3,571	198	780	123	980	348	8,236
2005	80	0	322	939	1,007	3,917	26	870	159	1,207	189	8,715
Annual Average Change	3.8%	n/a	1.1%	5.6%	1.2%	13.3%	18.5%	2.2%	-5.8%	4.0%	6.3%	5.3%

Table 48. Boat building location quotient by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	0.4	0.3	0.4	1.4	8.7	2.1	0.4	0.9	0.2	9.7	0.2
1999	0.3	0.2	0.4	1.7	7.9	2.3	0.4	0.9	0.1	8.0	0.3
2000	0.6	0.6	0.4	1.7	6.6	2.4	0.4	0.8	0.1	8.0	0.3
2001	0.2	0.3	0.4	1.5	7.1	2.5	0.5	0.8	0.1	9.8	0.4
2002	0.2	0.0	0.4	1.2	5.7	3.1	0.5	0.8	0.1	8.6	0.3
2003	0.1	0.0	0.4	1.3	6.9	3.2	1.2	0.7	0.1	6.8	0.4
2004	0.2	0.0	0.3	1.1	6.9	3.4	1.1	0.7	0.1	7.1	0.4
2005	0.2	0.0	0.3	1.3	6.1	3.4	0.1	0.7	0.1	8.2	0.2

Table 49. Northeast Region (NER) boat building Herfindahl Index by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.31	0.87	0.06	0.30	0.09	0.12	0.39	0.29	0.10	0.16	0.12	0.02
1999	0.36	0.50	0.08	0.35	0.10	0.10	0.43	0.31	0.10	0.19	0.10	0.03
2000	0.45	0.50	0.06	0.32	0.09	0.09	0.39	0.28	0.12	0.18	0.15	0.02
2001	0.26	1.00	0.05	0.33	0.09	0.08	0.32	0.28	0.11	0.15	0.11	0.02
2002	0.37	0.00	0.06	0.34	0.09	0.07	0.29	0.23	0.08	0.15	0.11	0.02
2003	0.50	0.00	0.06	0.27	0.10	0.10	0.68	0.30	0.10	0.16	0.15	0.03
2004	0.33	0.00	0.06	0.26	0.09	0.08	0.71	0.25	0.11	0.16	0.16	0.02
2005	0.31	0.00	0.06	0.27	0.09	0.08	0.39	0.27	0.10	0.15	0.17	0.02
Annual Average Change	4.5%	n/a	0.9%	-0.8%	-0.5%	-4.9%	9.7%	0.0%	1.4%	-0.4%	7.4%	0.4%

Businesses engaged in boat building may be more concentrated within certain counties and less so in others. Given the large number of coastal counties throughout the Northeast region, the location quotient was used to identify a subset of counties where boat building may be a proportionally larger share of local employment compared to other coastal counties within a state. Note that the location quotient can exceed one even in cases where employment in the sector of interest is very small. This circumstance occurs in counties with a small labor force relative to the total employment in the region.

Boat building employment and number of establishments varies considerably in Northeast region coastal counties. Consistent with the generally higher level of boat building employment at the state level, employment in coastal counties in Maine, Maryland, North Carolina, and Rhode Island was generally larger than that of coastal counties in other states (Table 50). In Maine, the boat building sector was concentrated in the downeast counties of Hancock and Washington County as well in the midcoast counties of Lincoln and Knox. The number of establishments in these Maine counties, Hancock County in particular, also tended to be higher than elsewhere in Maine and other coastal counties throughout the Northeast region (Table 51).

The boat building industry in Maryland is clustered around the Chesapeake Bay with Anne Arundel County located on the western side of the bay while all other establishments were clustered in a nearly contiguous string on the eastern side of the bay including counties from Kent to Wicomico Counties. Note that of these Maryland counties, the majority of boat building employment was in Wicomico County even though the number of boat building establishments was higher elsewhere, in Anne Arundel and Kent Counties in particular. That is, the boat building industry in Wicomico has a small number of large establishments while other Maryland counties tend to have a larger number of smaller establishments.

Boat building employment in North Carolina is geographically dispersed from north to south with Chowan, and Dare Counties in the north; Beaufort, Craven, and Carteret Counties on the central coast; and Brunswick County to the south. Pitt County also accounted for a substantial share of coastal county boat building employment. However, the boat building location quotient in Pitt County did not exceed one, indicating that relative to other coastal counties boat building employment was a lower proportion of the Pitt County work force. In 2005 boat building employment in Craven County was about 25% of the coastal county total but was around 10% in each of the other four counties. In terms of establishment size, the boat building industry in Carteret and Dare Counties had at least twice as many establishments indicating that boat building in these counties consists of smaller establishments as compared to Chowan, Beaufort, Brunswick, and Craven Counties.

In Rhode Island the boat building industry was clustered in the adjacent counties of Bristol and Newport. These two counties accounted for nearly all of the boat building employment in the state. Since 1998, boat building employment has been shifting somewhat from Newport to Bristol County as the share of employment in Bristol County has been increasing relative to Newport County. The number of establishments has also been increasing in Bristol County but has been declining in Newport County.

Table 50. Number of boat building employees in Northeast Region coastal counties where the location quotient was greater than one

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	438	206	244	238	234	405	438	455
Knox County, ME	85	97	123	126	125	168	194	208
Lincoln County, ME	41	29	34	36	36	93	93	89
Washington County, ME	23	30	28	29	48	26	48	42
Strafford County, NH	41	43	52	64	38	12	13	11
Barnstable County, MA	76	48	74	65	46	20	29	26
Bristol County, MA	101	107	99	113	242	218	152	259
Plymouth County, MA	73	73	89	90	100	75	68	60
Bristol County, RI	485	502	517	510	525	490	601	775
Newport County, RI	371	307	333	538	479	423	380	425
New Haven County, CT	102	99	190	43	31	30	30	34
New London County, CT	3	5	41	29	34		53	25
Suffolk County, NY	89	45	38	30	84	95	82	96
Atlantic County, NJ	295	306	347	329	345	184	282	363
Burlington County, NJ	41	52	45	52	49	47	36	44
Cape May County, NJ	28	15	12	13	13	19	11	11
Cumberland County, NJ	408	368	366	343	343	422	322	400
Ocean County, NJ	48	61	52	57	53	57	64	54
Anne Arundel County, MD	82	39	59	70	39	122	146	111
Kent County, MD	7	7	12	10	6	9	13	9
Queen Anne's County, MD	2	6	5	10	10	16	19	21
Somerset County, MD	14	12	20	12	6	6	6	14
Talbot County, MD	37	14	14	12		6	11	9
Wicomico County, MD	179	334	329	331	207	189	175	410
Gloucester County, VA	4	4	4	6	2	2	4	4
Lancaster County, VA	2	6	6	9	3	2	2	2
Middlesex County, VA		3	12	13	20	26	25	34
Norfolk City, VA	61	82	99	85	96	92	78	90
Northampton County, VA	8	13	29	52	33	13	16	35
Northumberland County, VA	28	16	27	28	39	27	40	37
Beaufort County, NC	369	387	392	378	328	327	342	358
Brunswick County, NC			2	153	170	206	207	493
Carteret County, NC	225	297	304	327	353	359	372	345
Chowan County, NC	198	206	244	297	282	330	359	363
Craven County, NC	3	15	2	2	3	811	747	847
Dare County, NC	84	109	137	177	341	194	285	354

Table 51. Number of boat building establishments in Northeast Region coastal counties where the location quotient was greater than one

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	17	17	16	14	21	22	19	22
Knox County, ME	12	10	9	11	12	13	11	14
Lincoln County, ME	8	8	9	9	9	12	14	13
Washington County, ME	3	4	3	4	5	4	4	4
Strafford County, NH	2	2	2	2	2	1	1	1
Barnstable County, MA	7	6	7	8	8	8	8	9
Bristol County, MA	10	7	8	10	11	9	10	10
Plymouth County, MA	9	8	9	9	9	10	10	8
Bristol County, RI	9	9	9	9	10	15	16	13
Newport County, RI	16	12	12	15	14	12	11	10
New Haven County, CT	2	2	3	3	1	1	1	2
New London County, CT	1	2	2	1	1		1	2
Suffolk County, NY	10	10	7	7	10	13	11	11
Atlantic County, NJ	5	5	6	6	7	4	4	5
Burlington County, NJ	4	6	5	5	5	6	4	6
Cape May County, NJ	2	2	1	1	1	2	1	1
Cumberland County, NJ	2	1	1	1	1	1	1	1
Ocean County, NJ	7	7	7	7	6	6	6	6
Anne Arundel County, MD	6	4	6	6	7	13	14	13
Kent County, MD	3	3	3	4	4	4	4	4
Queen Anne's County, MD	1	1	1	2	2	2	2	3
Somerset County, MD	2	2	2	1	1	1	1	1
Talbot County, MD	3	1	1	1		1	3	2
Wicomico County, MD	2	2	2	2	2	3	3	2
Gloucester County, VA	2	2	2	3	1	1	2	2
Lancaster County, VA	1	1	1	2	1	1	1	1
Middlesex County, VA		1	1	1	1	2	2	2
Norfolk City, VA	5	4	3	2	2	2	2	2
Northampton County, VA	1	1	2	3	2	2	2	2
Northumberland County, VA	3	3	3	2	1	1	1	1
Beaufort County, NC	2	3	3	3	3	1	2	3
Brunswick County, NC			1	2	2	2	1	2
Carteret County, NC	11	9	8	8	13	13	15	14
Chowan County, NC	5	4	4	5	5	4	4	5
Craven County, NC	1	1	1	1	1	3	3	3
Dare County, NC	8	9	11	12	12	10	11	14

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The boat dealer sector includes establishments that retail new and used boats. Dealers may also offer repair services as well as retail outboard motors, boat trailers, accessories, and other marine supplies. The number of boat dealer establishments increased from 1,040 in 1986 to 1,334 in 2005 (Table 52). Growth in the boat dealer sector averaged 0.9% per year from 1986-1996 and grew at nearly 2% per year from 1997-2005. Among Northeast region states, the average annual change in number of establishments was negative from 1986-1997 in Connecticut, Massachusetts, and Rhode Island. However, from 1997-2005 the number of boat dealer establishments increased in all states, ranging from 6.7% per year in Rhode Island to less than 1% in New Hampshire, New York, and Virginia.

Table 52. Number of Northeast Region (NER) boat dealer establishments by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	87	14	110	118	42	125	30	113	265	42	94	1,040
1987	99	18	125	142	53	138	36	133	277	44	105	1,170
1988	98	16	128	145	56	147	41	153	292	40	111	1,227
1989	93	17	126	142	49	139	39	153	271	36	111	1,176
1990	89	16	113	146	48	147	35	157	266	33	107	1,157
1991	77	20	101	143	40	134	34	143	257	30	109	1,088
1992	72	17	98	149	45	119	29	143	249	32	118	1,071
1993	69	17	96	155	54	137	29	137	256	28	107	1,085
1994	67	20	95	138	53	136	32	136	255	30	106	1,068
1995	70	19	96	139	56	142	34	130	243	31	105	1,065
1996	75	20	106	138	63	151	37	138	262	31	107	1,128
1997	72	23	116	151	66	164	33	148	262	38	98	1,171
1998	77	22	114	153	67	167	33	154	253	39	99	1,178
1999	74	25	113	148	68	181	34	162	257	37	106	1,205
2000	80	27	113	150	70	176	32	172	261	35	109	1,225
2001	81	26	118	146	71	176	34	158	257	36	103	1,206
2002	97	21	131	151	71	172	36	154	281	46	109	1,269
2003	91	28	135	157	72	181	37	161	276	51	111	1,300
2004	95	29	137	156	74	185	39	157	276	50	105	1,303
2005	98	28	137	166	79	184	38	158	279	53	114	1,334
1986-1996 Average Change	-1.2%	4.6%	-0.1%	1.8%	4.9%	2.2%	2.7%	2.3%	0.0%	-2.7%	1.5%	0.9%
1997-2005 Average Change	3.3%	4.8%	3.0%	2.1%	2.6%	2.3%	0.5%	1.6%	0.8%	6.7%	0.9%	1.9%

Employment in the boat dealer sector increased each year from 1986-1988 before entering a period of decline from 1989-1993 (Table 53). Since 1994, employment in the boat dealer sector has been trending upward, averaging an increase of 3.6% per year from 1997-2005. Virginia was the only state with a negative average annual change in boat dealer employment over the same time period. However, this period includes the change in Virginia employment from 1996-1997 which was -36%. Omission of this one year results in an average annual change of 4.4%. Note that in most states the average annual change in employment from 1997-2005 exceeds the average increase in boat dealer establishments, indicating that employment growth has resulted from a combination of increasing numbers of dealers and adding employees at existing establishments.

Table 53. Number of Northeast Region (NER) boat dealer employees by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	603	80	920	862	333	784	167	966	1,834	231	774	7,554
1987	745	92	889	1,171	214	805	210	1,125	2,186	232	801	8,471
1988	832	147	990	1,388	320	883	311	1,621	2,256	298	1,073	10,119
1989	760	173	1,011	1,436	306	931	254	1,469	2,341	264	1,023	9,967
1990	675	168	852	1,309	288	889	251	1,396	2,305	215	954	9,304
1991	496	159	507	967	258	761	179	918	1,698	147	756	6,845
1992	405	155	556	925	231	663	171	738	1,533	114	715	6,204
1993	351	154	534	826	239	857	186	835	1,338	119	708	6,148
1994	367	178	521	857	243	847	190	796	1,265	144	816	6,225
1995	375	201	613	945	271	954	237	886	1,335	165	860	6,842
1996	414	214	680	961	294	997	281	942	1,403	157	1,023	7,366
1997	419	230	765	1,109	344	1,101	240	1,101	1,415	183	653	7,560
1998	433	230	781	1,177	314	1,107	232	1,099	1,343	233	713	7,662
1999	455	252	772	1,150	373	1,174	276	1,134	1,427	225	728	7,966
2000	476	278	904	1,224	377	1,237	303	1,296	1,589	219	799	8,702
2001	472	288	913	1,260	375	1,143	278	1,287	1,641	215	790	8,662
2002	596	293	958	1,257	448	1,136	283	1,088	1,538	278	810	8,685
2003	687	314	1,197	1,273	507	1,406	346	1,107	1,638	319	910	9,704
2004	728	340	1,155	1,397	552	1,410	375	1,192	1,649	360	933	10,091
2005	715	326	1,131	1,487	560	1,386	349	1,214	1,639	349	910	10,066
1986-1996 Average Change	-2.5%	11.6%	-1.4%	2.4%	0.8%	3.1%	7.5%	1.8%	-1.9%	-2.0%	3.8%	0.6%
1997-2005 Average Change	6.6%	4.9%	6.2%	5.1%	7.8%	4.1%	3.1%	3.3%	1.9%	10.0%	-0.1%	3.6%

The location quotient for boat dealers was consistently greater than one in Delaware, Maryland, Maine, New Hampshire, and Rhode Island (Table 54). In relative terms, the boat dealer sector plays a proportionally larger role in these states compared to other Northeast region states. For this reason a change in the boat dealer sector may be expected to have a larger proportional effect in these states even though total boat dealer employment was larger in absolute terms in states such as New York and North Carolina.

Table 54. Boat dealer location quotient by Northeast Region state

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1986	1.2	0.9	0.9	1.5	2.5	0.9	1.1	0.9	0.8	1.7	1.1
1987	1.3	0.9	0.8	1.8	1.4	0.9	1.2	0.9	0.8	1.5	1.0
1988	1.2	1.1	0.8	1.8	1.7	0.8	1.5	1.1	0.7	1.6	1.1
1989	1.2	1.3	0.8	1.9	1.6	0.8	1.3	1.0	0.8	1.5	1.0
1990	1.1	1.3	0.8	1.8	1.7	0.8	1.4	1.1	0.8	1.3	1.0
1991	1.1	1.7	0.6	1.8	2.1	0.9	1.4	1.0	0.8	1.3	1.1
1992	1.0	1.8	0.8	1.9	2.0	0.9	1.4	0.8	0.8	1.1	1.1
1993	0.9	1.8	0.7	1.7	2.1	1.1	1.6	1.0	0.7	1.1	1.1
1994	1.0	2.1	0.7	1.8	2.1	1.1	1.5	0.9	0.7	1.4	1.2
1995	0.9	2.1	0.8	1.7	2.1	1.1	1.7	0.9	0.7	1.5	1.2
1996	0.9	2.0	0.8	1.7	2.1	1.0	1.8	0.9	0.7	1.3	1.3
1997	0.9	2.1	0.8	1.8	2.4	1.1	1.5	1.1	0.6	1.5	0.8
1998	0.9	2.1	0.8	1.9	2.2	1.1	1.4	1.0	0.6	1.8	0.8
1999	0.9	2.2	0.8	1.8	2.5	1.1	1.6	1.0	0.6	1.7	0.8
2000	0.9	2.2	0.9	1.8	2.3	1.1	1.6	1.1	0.6	1.6	0.8
2001	0.9	2.2	0.9	1.8	2.3	1.0	1.5	1.1	0.7	1.6	0.8
2002	1.1	2.2	0.9	1.8	2.7	1.0	1.5	0.9	0.6	2.0	0.8
2003	1.2	2.2	1.1	1.6	2.7	1.1	1.7	0.8	0.6	2.0	0.8
2004	1.2	2.2	1.0	1.7	2.9	1.1	1.8	0.9	0.6	2.1	0.8
2005	1.2	2.1	1.0	1.8	2.9	1.1	1.6	0.9	0.6	2.0	0.8

The Herfindahl index for the Northeast region as a whole, as well as across states, was very low from 1986-2005 (Table 55). Additionally, the index has changed relatively little over time although the average annual change in the index indicates some decline in the Herfindahl because of increasing numbers of establishments. That is, the underlying size structure of the industry has remained relatively stable even as new establishments have been added.

The location quotient was greater than one for 59 of the 143 coastal counties included in the analysis. These counties accounted for 53% of the Northeast regional total number of establishments (Table 56) and 57% of regionwide employment (Table 57). Since the location quotient was calculated for coastal counties on a state-by-state basis, these counties include coastal counties with a large number of establishments and employees as well as counties with only a few.

Table 55. Northeast Region (NER) boat dealer Herfindahl Index by state (1986-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	0.025	0.104	0.042	0.018	0.055	0.020	0.071	0.028	0.010	0.046	0.020	0.003
1987	0.026	0.072	0.020	0.017	0.048	0.015	0.056	0.024	0.010	0.050	0.019	0.002
1988	0.022	0.213	0.019	0.015	0.039	0.012	0.047	0.024	0.009	0.057	0.022	0.002
1989	0.027	0.096	0.019	0.014	0.040	0.012	0.050	0.026	0.009	0.054	0.018	0.002
1990	0.033	0.110	0.023	0.015	0.046	0.013	0.057	0.027	0.016	0.062	0.019	0.003
1991	0.029	0.095	0.022	0.015	0.052	0.014	0.063	0.035	0.017	0.072	0.020	0.003
1992	0.031	0.105	0.021	0.015	0.052	0.015	0.070	0.016	0.010	0.045	0.017	0.002
1993	0.032	0.095	0.022	0.014	0.045	0.013	0.065	0.020	0.008	0.043	0.018	0.002
1994	0.032	0.087	0.020	0.016	0.047	0.014	0.060	0.021	0.008	0.047	0.023	0.002
1995	0.029	0.090	0.021	0.017	0.042	0.014	0.062	0.020	0.008	0.051	0.022	0.002
1996	0.027	0.090	0.021	0.018	0.062	0.013	0.052	0.019	0.008	0.052	0.039	0.002
1997	0.024	0.111	0.018	0.014	0.053	0.011	0.059	0.019	0.009	0.040	0.022	0.002
1998	0.025	0.079	0.018	0.013	0.073	0.012	0.060	0.016	0.009	0.048	0.026	0.002
1999	0.026	0.072	0.018	0.014	0.066	0.012	0.061	0.016	0.016	0.050	0.019	0.002
2000	0.024	0.095	0.021	0.015	0.066	0.011	0.084	0.014	0.016	0.053	0.019	0.002
2001	0.021	0.091	0.021	0.015	0.067	0.012	0.086	0.015	0.016	0.054	0.019	0.002
2002	0.019	0.090	0.021	0.014	0.056	0.012	0.050	0.014	0.008	0.037	0.019	0.002
2003	0.019	0.082	0.019	0.014	0.058	0.022	0.067	0.016	0.008	0.034	0.018	0.002
2004	0.018	0.072	0.018	0.013	0.055	0.020	0.066	0.015	0.007	0.033	0.024	0.002
2005	0.019	0.078	0.017	0.015	0.054	0.021	0.050	0.015	0.008	0.039	0.022	0.002
1986-1996 Average Change	1.7%	10.9%	-4.7%	-0.1%	2.9%	-3.7%	-2.4%	-0.8%	1.3%	2.5%	9.4%	-0.3%
1997-2005 Average Change	-3.5%	0.0%	-1.5%	-1.5%	-0.6%	8.3%	2.6%	-2.1%	5.1%	-1.9%	-3.5%	-1.3%

Table 56. Number of boat dealer establishments in coastal counties with a location quotient greater than one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	8	9	10	9	8	7	6	7
Knox County, ME	10	9	9	7	6	7	7	4
Lincoln County, ME	9	9	8	9	9	7	6	6
Waldo County, ME	2	2	2	2	1	2	2	2
Washington County, ME	6	6	7	6	6	6	8	10
Rockingham County, NH	5	6	4	5	6	7	7	7
Barnstable County, MA	27	27	27	30	32	31	30	30
Bristol County, MA	11	12	13	13	18	19	19	20
Essex County, MA	24	24	24	24	24	25	26	27
Nantucket County, MA	4	4	4	4	5	5	5	5
Plymouth County, MA	14	13	12	13	19	21	21	20
Bristol County, RI	6	5	5	6	5	6	5	6
Kent County, RI	6	5	4	4	7	9	9	9
Newport County, RI	15	14	13	13	17	18	19	22
Washington County, RI	8	9	9	9	12	12	13	12
Middlesex County, CT	20	19	21	20	23	20	20	22
New London County, CT	12	12	12	13	19	17	19	19
Nassau County, NY	27	27	27	27	33	33	30	30
Richmond County, NY	6	5	6	6	6	5	5	5
Rockland County, NY	4	4	4	3	2	3	4	5
Suffolk County, NY	63	63	61	60	74	78	73	76
Atlantic County, NJ	13	13	14	12	14	11	12	11
Burlington County, NJ	12	13	14	15	10	8	12	12
Cape May County, NJ	15	15	15	16	16	16	15	14
Monmouth County, NJ	15	14	13	13	16	20	18	18
Ocean County, NJ	50	57	64	59	54	57	58	60
Sussex County, DE	11	13	14	15	13	16	17	16
Anne Arundel County, MD	50	49	52	52	57	58	51	59
Calvert County, MD	4	4	4	4	3	3	4	4
Cecil County, MD	9	9	10	8	8	9	10	10
Dorchester County, MD	5	5	6	6	4	3	4	5
Harford County, MD	4	4	4	5	6	5	6	5
Kent County, MD	4	4	5	6	6	5	5	5
Queen Anne's County, MD	17	17	14	15	15	12	13	14
Somerset County, MD	4	4	4	4	4	4	4	5
Talbot County, MD	9	8	8	7	8	13	12	13
Worcester County, MD	8	8	8	6	7	7	7	7

Table 56 (continued). Number of boat dealer establishments in coastal counties with a location quotient greater than one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Accomack County, VA	3	3	3	3	3	6	4	5
Chesterfield County, VA	2	4	4	5	6	6	6	7
Gloucester County, VA	3	2	3	2		1	2	4
Hampton City, VA	4	5	5	4	6	6	6	6
Mathews County, VA	4	3	4	5	5	2	2	2
Middlesex County, VA	7	6	6	7	8	9	10	10
Norfolk City, VA	8	10	10	8	7	8	9	9
Northampton County, VA	2	2	2	2	2	2	2	2
Northumberland County, VA	2	2	2	2	4	4	3	3
Portsmouth City, VA	2	2	2	2	3	2	2	2
Prince William County, VA	5	6	4	5	4	6	5	5
Richmond County, VA	1	1	1		1	1	1	1
Stafford County, VA	2	4	5	3	3	1	1	1
Suffolk City, VA	2	3	2	2	2	2	2	2
Virginia Beach City, VA	9	10	11	10	11	10	10	12
Beaufort County, NC	5	6	4	3	3	3	3	4
Camden County, NC	2	2	2	2	2	2	2	2
Carteret County, NC	15	16	15	15	17	16	20	20
New Hanover County, NC	21	23	19	16	22	23	23	21
Pamlico County, NC	5	5	5	6	5	5	6	6
Tyrrell County, NC	1	1	1	1	1	1	1	1

Table 57. Number of boat dealer employees in coastal counties with a location quotient greater than one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	20	27	28	30	28	29	22	25
Knox County, ME	44	44	44	25	34	28	27	19
Lincoln County, ME	13	13	10	15	22	17	11	12
Waldo County, ME	60	62	59	62	63	69	77	71
Washington County, ME	18	27	16	18	24	27	24	43
Rockingham County, NH	29	29	27	33	56	41	52	53
Barnstable County, MA	240	262	280	272	277	350	364	355
Bristol County, MA	67	79	90	92	104	146	138	138
Essex County, MA	121	115	152	128	145	177	177	183
Nantucket County, MA	11	14	18	22	21	25	24	25
Plymouth County, MA	70	76	74	82	110	128	135	132
Bristol County, RI	31	23	24	21	25	24	35	22
Kent County, RI	32	33	50	54	74	89	93	102
Newport County, RI	114	73	80	68	97	110	121	126
Washington County, RI	39	75	42	47	59	78	87	78
Middlesex County, CT	132	142	150	153	164	160	181	165
New London County, CT	75	74	89	97	129	133	139	128
Nassau County, NY	158	171	187	185	224	211	241	227
Richmond County, NY	60	55	77	80	75	65	49	60
Rockland County, NY	26	24	29	25	8	27	33	35
Suffolk County, NY	360	354	368	371	444	525	538	527
Atlantic County, NJ	143	150	227	231	130	118	123	137
Burlington County, NJ	91	92	93	105	87	50	101	98
Cape May County, NJ	125	140	142	137	105	121	114	96
Monmouth County, NJ	91	80	99	84	107	106	107	101
Ocean County, NJ	336	385	417	446	407	434	460	472
Sussex County, DE	139	151	169	181	176	193	211	195
Anne Arundel County, MD	397	376	389	398	404	401	416	501
Calvert County, MD	9	19	24	17	35	28	30	31
Cecil County, MD	79	79	84	69	78	87	112	97
Dorchester County, MD	22	24	23	25	18	22	22	30
Harford County, MD	67	68	72	81	85	72	88	84
Kent County, MD	21	22	25	27	42	37	26	33
Queen Anne's County, MD	150	173	180	216	214	167	215	253
Somerset County, MD	30	25	27	32	27	31	41	41
Talbot County, MD	53	49	55	53	48	74	67	63
Worcester County, MD	53	31	34	38	41	35	32	29

Table 57 (continued). Number of boat dealer employees in coastal counties with a location quotient greater than one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Accomack County, VA	9	10	9	9	10	12	14	15
Chesterfield County, VA	16	32	37	33	39	41	44	54
Gloucester County, VA	5	5	6	8		7	17	20
Hampton City, VA	71	82	77	72	77	80	91	90
Mathews County, VA	12	12	11	10	15	13	10	7
Middlesex County, VA	86	37	42	49	50	64	63	67
Norfolk City, VA	77	87	102	105	74	75	83	95
Northampton County, VA	8	8	8	9	8	7	7	9
Northumberland County, VA	10	10	13	13	18	19	21	22
Portsmouth City, VA	8	10	8	9	11	9	18	17
Prince William County, VA	65	83	84	81	65	96	116	120
Richmond County, VA	2	2	2		12	12	12	10
Stafford County, VA	4	10	17	10	35	29	28	26
Suffolk City, VA	5	5	9	5	8	14	10	13
Virginia Beach City, VA	62	79	83	84	90	100	104	77
Beaufort County, NC	33	41	34	23	42	35	31	44
Camden County, NC	6	6	13	9	9	8	9	6
Carteret County, NC	112	131	134	113	115	112	120	135
New Hanover County, NC	160	163	158	142	203	225	189	189
Pamlico County, NC	17	22	17	16	13	22	23	16
Tyrrell County, NC	14	14	13	10	6	7	6	5

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Marinas include establishments engaged in operating dockage or mooring facilities for owners of pleasure craft. These establishments may also provide related services such as retailing fuel and boating supplies and providing maintenance, repair, and rental of pleasure boats. The number of establishments offering marina services increased from 984 in 1988 to 1,511 in 2005 (Table 58). On average the annual change in number of marinas was 5.8% from 1988-1996 and was slightly negative (-0.1%) from 1997-2005. Much of the growth in numbers of marinas occurred from 1988-1996. Since 1996, the number of establishments has ranged, without trend, between 1,400 and 1,500 establishments. This general pattern is evident across states as growth in the number of marinas was positive in all states from 1988-1996 while the average annual change in establishments was lower and in some cases (Maryland, North Carolina, and New Jersey) was slightly negative.

Regionwide marina employment has increased from 6,487 in 1998 to 9,004 in 2005 (Table 59). Growth in marina employment trended upward throughout the time period even as the number of establishments was relatively stable from 1996-2005. This suggests that, on average, the number of employees per establishment has been increasing. Among states expansion in marina employment was highest in New York and Virginia as employment in the latter nearly doubled from 532 in 1988 to more than 1,000 employees in 2005. By contrast marina employment in Delaware expanded from 1996 through 2002 but has dropped to less than 100 in 2003, 2004, and 2005.

Table 58. Number of Northeast Region (NER) marina establishments by state (1988-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1988	69	7	93	126	45	80	19	147	273	41	84	984
1989	64	5	94	111	48	77	19	133	242	37	87	917
1990	71	6	91	116	49	80	19	134	253	40	90	949
1991	73	8	91	138	53	90	24	140	278	39	96	1,030
1992	79	9	97	149	62	108	25	151	340	43	99	1,162
1993	92	12	120	180	79	117	29	184	371	47	106	1,337
1994	95	13	115	187	79	122	30	195	371	48	110	1,365
1995	91	13	117	200	80	120	32	195	365	47	114	1,374
1996	108	15	137	215	88	120	37	223	411	53	114	1,521
1997	115	13	131	204	86	110	41	216	403	55	119	1,493
1998	115	15	132	193	88	113	42	224	405	55	121	1,503
1999	107	12	133	196	91	113	43	220	389	51	119	1,474
2000	101	14	131	187	91	114	39	209	392	55	121	1,454
2001	101	12	136	185	89	111	42	211	386	54	129	1,456
2002	108	13	139	188	85	103	36	199	386	56	122	1,435
2003	116	17	145	180	79	104	40	203	417	61	136	1,498
2004	117	17	135	183	84	97	40	201	413	60	137	1,484
2005	117	16	139	185	84	103	38	206	416	66	141	1,511
1988-1996 Average Change	6.1%	11.8%	5.4%	7.3%	9.1%	5.5%	9.0%	5.7%	5.7%	3.5%	3.9%	5.8%
1997-2005 Average Change	1.0%	2.0%	0.2%	-1.6%	-0.4%	-1.6%	0.6%	-0.8%	0.2%	2.6%	2.5%	-0.1%

Table 59. Annual mid-March employees in Northeast Region (NER) marinas by state (1988-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1988	631	10	763	1,010	422	545	162	817	1,298	297	532	6,487
1989	658	7	738	1,021	416	540	178	865	1,446	293	595	6,757
1990	612	12	652	967	330	481	142	673	1,154	353	648	6,024
1991	512	40	567	967	325	413	148	631	1,209	311	546	5,669
1992	587	23	563	977	356	500	150	591	1,198	340	558	5,843
1993	658	30	690	1,007	471	493	121	659	1,345	348	613	6,436
1994	585	34	633	1,018	476	498	111	721	1,291	322	636	6,326
1995	630	43	690	1,085	482	502	138	793	1,294	321	736	6,713
1996	690	229	734	1,216	455	528	147	823	1,465	346	776	7,410
1997	791	130	751	1,177	453	536	184	853	1,525	348	740	7,488
1998	800	215	856	1,142	467	551	210	947	1,811	388	683	8,069
1999	720	306	838	1,103	508	533	233	968	1,682	414	772	8,077
2000	676	347	865	1,172	592	557	249	1,021	1,778	504	918	8,679
2001	944	349	996	1,240	600	616	209	1,029	1,805	555	969	9,312
2002	722	389	988	1,232	503	557	228	927	1,680	522	761	8,509
2003	1,006	58	969	1,296	416	625	196	951	2,167	405	1,723	9,811
2004	1,016	76	989	1,321	406	644	226	945	2,185	475	1,100	9,383
2005	994	69	973	1,228	411	654	194	978	2,093	408	1,002	9,004
1988-1996 Average Change	1.7%	92.4%	0.1%	2.5%	1.9%	0.1%	-0.2%	0.7%	2.1%	2.4%	5.2%	1.9%
1997-2005 Average Change	6.0%	3.1%	3.4%	0.2%	-0.6%	2.6%	4.1%	2.1%	4.6%	2.8%	9.5%	2.4%

The marina sector location quotient exceeded one in Connecticut, Maryland, Maine, and Rhode Island (Table 60). In New Hampshire the location quotient exceeded one in most years although barely so.

Table 60. Marina location quotient by state (1988-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1988	1.4	0.1	0.9	2.0	3.5	0.7	1.2	0.9	0.6	2.5	0.8
1989	1.5	0.1	0.9	2.0	3.2	0.7	1.3	0.9	0.7	2.4	0.9
1990	1.6	0.1	0.9	2.0	3.0	0.7	1.2	0.8	0.6	3.4	1.1
1991	1.4	0.5	0.8	2.2	3.1	0.6	1.4	0.8	0.7	3.2	0.9
1992	1.6	0.3	0.8	2.1	3.3	0.7	1.3	0.7	0.7	3.5	0.9
1993	1.6	0.3	0.9	2.0	3.9	0.6	1.0	0.7	0.7	3.2	0.9
1994	1.5	0.4	0.8	2.1	4.0	0.6	0.9	0.8	0.7	3.1	0.9
1995	1.5	0.5	0.9	2.0	3.8	0.6	1.0	0.9	0.7	2.9	1.0
1996	1.5	2.2	0.8	2.1	3.3	0.5	1.0	0.8	0.7	2.8	1.0
1997	1.7	1.2	0.8	2.0	3.2	0.5	1.2	0.8	0.7	2.8	0.9
1998	1.6	1.8	0.9	1.8	3.1	0.5	1.2	0.8	0.8	2.9	0.8
1999	1.5	2.6	0.9	1.7	3.3	0.5	1.4	0.9	0.7	3.2	0.9
2000	1.3	2.7	0.8	1.7	3.6	0.5	1.4	0.9	0.7	3.6	0.9
2001	1.7	2.5	0.9	1.7	3.4	0.5	1.1	0.8	0.7	3.7	0.9
2002	1.4	3.0	1.0	1.8	3.1	0.5	1.2	0.8	0.7	3.8	0.8
2003	1.7	0.4	0.9	1.6	2.2	0.5	1.0	0.7	0.8	2.5	1.5
2004	1.8	0.5	0.9	1.7	2.3	0.5	1.1	0.7	0.8	3.0	1.0
2005	1.9	0.5	0.9	1.6	2.4	0.6	1.0	0.8	0.8	2.7	0.9

The marina sector Herfindahl index was very low for the Northeast region as a whole and for all states except for Delaware (Table 61). From 1988-1996 the average annual change in the Herfindahl index was negative in the Northeast region. This declining trend was due to the expansion in number of establishments that was occurring over that time. The average annual change from 1997-2005 was positive because of some small changes in the size structure of Northeast region establishments. However, these changes had little impact on the Herfindahl index as it remained constant from 2003-2005 at 0.002.

The Herfindahl index in Delaware was higher than any other state because of a combination of a small number of marina establishments and a change in the size structure of the industry which was particularly notable from 1996-2002. Prior to 1996, mid-March employment did not exceed 19 for any marina establishment in Delaware. From 1996-2002 there was at least one establishment that had anywhere from 50-500 employees. This means that a single establishment accounted for large proportion of total Delaware marina employment in these years, hence the relatively high Herfindahl index.

The location quotient exceeded one in 53 of the 143 coastal counties included in the analysis. These counties included counties with a large number of establishments (Table 62) and employees (Table 63) as well as counties with only a few of either. Among coastal counties, the number of establishments exceeded 50 in only Suffolk County, NY, Anne Arundel County, MD, and Ocean County, NJ. These three counties alone accounted for about 15% of total marina employment in the Northeast region.

Table 61. Northeast Region (NER) marina sector Herfindahl Index by state (1988-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1988	0.039	0.143	0.029	0.035	0.078	0.089	0.091	0.019	0.010	0.052	0.085	0.004
1989	0.043	0.200	0.025	0.039	0.070	0.037	0.094	0.026	0.019	0.060	0.076	0.004
1990	0.045	0.211	0.030	0.039	0.045	0.033	0.101	0.022	0.008	0.056	0.030	0.003
1991	0.044	0.223	0.027	0.035	0.041	0.022	0.087	0.019	0.008	0.077	0.022	0.003
1992	0.048	0.143	0.027	0.038	0.054	0.028	0.102	0.017	0.007	0.072	0.024	0.003
1993	0.040	0.106	0.020	0.017	0.050	0.017	0.089	0.014	0.006	0.067	0.029	0.002
1994	0.042	0.099	0.022	0.015	0.040	0.018	0.064	0.016	0.006	0.072	0.026	0.002
1995	0.039	0.123	0.026	0.015	0.037	0.015	0.075	0.015	0.009	0.075	0.022	0.002
1996	0.034	0.559	0.018	0.010	0.024	0.014	0.046	0.011	0.007	0.063	0.029	0.002
1997	0.053	0.376	0.018	0.013	0.023	0.018	0.043	0.010	0.006	0.059	0.024	0.002
1998	0.028	0.603	0.021	0.013	0.025	0.019	0.041	0.013	0.012	0.057	0.024	0.002
1999	0.026	0.820	0.024	0.013	0.033	0.016	0.044	0.014	0.007	0.061	0.022	0.003
2000	0.026	0.800	0.025	0.013	0.025	0.019	0.052	0.014	0.006	0.058	0.024	0.003
2001	0.026	0.698	0.023	0.013	0.032	0.021	0.056	0.016	0.011	0.095	0.024	0.003
2002	0.025	0.761	0.024	0.013	0.029	0.023	0.066	0.017	0.012	0.101	0.024	0.004
2003	0.028	0.105	0.023	0.016	0.030	0.026	0.063	0.013	0.008	0.040	0.037	0.002
2004	0.027	0.105	0.023	0.013	0.028	0.029	0.054	0.012	0.010	0.045	0.035	0.002
2005	0.027	0.110	0.022	0.013	0.026	0.028	0.054	0.015	0.010	0.034	0.038	0.002
1988-1996 Average Change	-1.1%	45.2%	-4.0%	-10.7%	-11.7%	-17.2%	-6.1%	-4.4%	4.7%	3.5%	-7.8%	-6.7%
1997-2005 Average Change	0.5%	-2.6%	2.7%	3.3%	2.3%	9.0%	2.4%	4.0%	11.3%	-1.1%	4.7%	2.7%

Table 62. Number of marina establishments in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	19	18	17	16	17	11	11	9
Knox County, ME	8	8	8	8	6	7	7	9
Lincoln County, ME	14	16	16	15	14	14	14	13
Sagadahoc County, ME	1	1	1	1	1	1	2	2
Waldo County, ME	5	6	7	7	6	5	5	5
Rockingham County, NH	7	7	6	9	6	8	7	7
Barnstable County, MA	25	22	23	26	27	29	28	29
Dukes County, MA	6	7	5	5	7	6	6	6
Essex County, MA	33	32	28	29	30	35	34	34
Nantucket County, MA	3	2	2	2	2	3	3	3
Plymouth County, MA	28	29	28	28	27	26	22	25
Bristol County, RI	5	4	5	5	6	7	6	6
Newport County, RI	12	11	13	11	14	15	14	16
Washington County, RI	20	20	18	20	23	23	25	27
Middlesex County, CT	24	23	22	23	23	23	23	22
New London County, CT	29	28	26	26	30	32	33	33
Nassau County, NY	44	43	49	46	41	41	42	44
Richmond County, NY	8	8	9	8	8	8	7	6
Suffolk County, NY	123	117	106	102	114	120	113	116
Atlantic County, NJ	25	24	20	20	20	17	20	19
Cape May County, NJ	29	27	26	25	27	27	26	28
Monmouth County, NJ	35	36	37	39	32	34	37	39
Ocean County, NJ	80	78	72	75	74	74	71	74
Anne Arundel County, MD	64	65	62	62	63	61	59	61
Calvert County, MD	12	12	11	12	14	13	13	14
Cecil County, MD	20	19	19	20	25	23	21	20
Dorchester County, MD	3	3	4	3	2	2	2	2
Kent County, MD	19	18	17	17	16	16	18	18
Queen Anne's County, MD	11	11	10	11	13	9	11	9
St. Mary's County, MD	7	9	8	7	7	7	8	8
Talbot County, MD	11	9	10	9	7	9	8	6
Worcester County, MD	3	5	4	5	4	5	4	5

Table 62 (continued). Number of marina establishments in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Essex County, VA	2	2	2	2	2	3	3	3
Gloucester County, VA	3	3	3	5	5	5	5	4
Hampton City, VA	6	5	5	5	4	7	7	8
Hopewell City, VA	3	3	3	3	2	1	1	1
King George County, VA	2	2	2	2	2	2	2	2
Lancaster County, VA	4	3	3	4	3	4	5	3
Mathews County, VA	2	2	2	3	3	3	2	2
Middlesex County, VA	15	15	18	21	18	19	17	20
New Kent County, VA	1	1	1	1	1	1	1	2
Norfolk City, VA	8	8	8	8	9	11	10	10
Northumberland County, VA	6	6	7	6	6	6	6	6
Portsmouth City, VA	2	2	2	3	2	2	2	3
Prince George County, VA	1	1	1	1	1	1	1	1
Prince William County, VA	3	3	3	3	4	5	5	6
Richmond County, VA	1	1	1	1	1	1	1	1
Virginia Beach City, VA	8	8	9	11	7	10	12	10
Westmoreland County, VA	5	5	5	5	4	4	5	4
York County, VA	2	3	2	2	2	2	2	2
Carteret County, NC	19	22	20	17	19	18	19	17
Currituck County, NC	3	3	2	2	2	2	2	2
Dare County, NC	7	7	8	8	9	11	9	11
Pamlico County, NC	7	7	6	6	8	7	6	5

Table 63. Number of marina employees in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	107	117	117	118	128	27	41	35
Knox County, ME	29	28	42	41	37	46	35	42
Lincoln County, ME	45	54	84	89	47	55	49	53
Sagadahoc County, ME	28	32	36	29	24	25	26	24
Waldo County, ME	41	59	78	73	59	58	54	62
Rockingham County, NH	62	37	52	36	29	29	55	44
Barnstable County, MA	258	272	300	340	311	306	337	337
Dukes County, MA	38	26	31	34	27	40	34	28
Essex County, MA	147	155	192	183	176	226	237	225
Nantucket County, MA	21	14	16	13	15	21	20	16
Plymouth County, MA	231	244	205	228	260	204	174	204
Bristol County, RI	36	58	55	78	55	53	58	59
Newport County, RI	174	185	203	236	275	154	186	163
Washington County, RI	64	85	99	106	108	105	138	104
Middlesex County, CT	166	191	196	206	226	262	246	242
New London County, CT	182	198	154	175	173	223	240	230
Nassau County, NY	230	240	254	245	237	306	301	295
Richmond County, NY	46	42	45	40	32	53	55	38
Suffolk County, NY	664	686	709	741	725	695	728	718
Atlantic County, NJ	84	76	66	62	69	63	71	74
Cape May County, NJ	122	119	131	137	149	217	209	197
Monmouth County, NJ	60	67	82	89	64	76	73	73
Ocean County, NJ	315	319	350	303	329	333	324	322
Anne Arundel County, MD	358	341	347	352	393	432	443	397
Calvert County, MD	127	128	151	160	152	156	146	157
Cecil County, MD	108	114	79	92	136	132	137	136
Dorchester County, MD	11	11	16	9	9	8	9	7
Kent County, MD	158	163	185	197	147	178	141	151
Queen Anne's County, MD	57	56	72	78	78	44	52	41
St. Mary's County, MD	35	38	35	42	35	37	55	50
Talbot County, MD	49	54	52	60	52	76	68	56
Worcester County, MD	28	24	37	45	33	27	47	38

Table 63 (continued). Number of marina employees in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Essex County, VA	11	10	8	**7**	9	12	15	6
Gloucester County, VA	43	40	46	47	55	59	64	40
Hampton City, VA	38	27	27	31	30	67	80	56
Hopewell City, VA	4	10	14	11	4	3	7	7
King George County, VA	3	4	4	8	6	4	4	5
Lancaster County, VA	31	46	51	56	42	51	59	58
Mathews County, VA	4	7	5	9	7	4	4	3
Middlesex County, VA	99	126	137	148	119	125	115	105
New Kent County, VA	3	2	2	2	2	2	2	4
Norfolk City, VA	75	70	74	71	69	181	169	161
Northumberland County, VA	21	22	25	17	19	25	24	24
Portsmouth City, VA	13	23	22	15	32	16	11	20
Prince George County, VA	7	8	7	6	6	7	7	6
Prince William County, VA	37	45	44	38	49	64	64	88
Richmond County, VA	5	6	5	11	11	11	12	12
Virginia Beach City, VA	117	123	119	129	102	114	118	114
Westmoreland County, VA	25	23	36	36	29	19	24	17
York County, VA	20	18	20	22	12	34	30	32
Carteret County, NC	115	111	126	164	185	183	171	151
Currituck County, NC	23	24	4	4	5	44	36	32
Dare County, NC	41	32	40	47	54	55	36	39
Pamlico County, NC	33	29	30	27	25	24	15	17

Sightseeing water transportation NAICS 487210

Establishments included in the scenic and sightseeing water transportation sector provide local excursion services that typically return to the point of origin on the same day of departure. These services include such activities as party or charter fishing, whale watches, dinner cruises, and harbor or lighthouse sightseeing tours. In the Northeast region the number of establishments offering these sightseeing opportunities increased in every year from 2000-2005 (Table 64). On average, the number of establishments increased 2.8% per year from 1998-2005. Among states, the number of water-based excursion establishments was highest in New York and New Jersey although the average annual change in number of establishments in these two states was less than 1%. By contrast, the number of establishments more than doubled in 2005 compared to 1998 in Delaware and nearly doubled in Rhode Island. In other states, the change in number of establishments was more modest, ranging from 2.3% per year in Virginia to 5.8% in New Hampshire.

Table 64. Number of Northeast Region (NER) water excursion establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	10	7	51	32	33	61	14	86	105	16	28	443
1999	13	7	51	37	32	56	14	80	103	17	27	437
2000	14	5	54	38	34	50	16	82	100	15	26	434
2001	16	9	50	42	34	57	20	81	93	21	27	450
2002	15	14	56	37	39	68	19	88	106	19	31	492
2003	14	18	55	37	41	70	21	85	105	19	33	498
2004	14	18	58	41	46	70	19	83	110	24	36	519
2005	14	18	60	43	46	71	20	89	111	31	32	535
Annual Average Change	5.6%	19.4%	2.5%	4.7%	5.0%	2.7%	5.8%	0.6%	1.0%	11.5%	2.3%	2.8%

Although the number of water-based excursion establishments increased, the number of employees changed little from 1998-2005 (Table 65). Growth in employment averaged less than 1% per year. Among states average annual growth was negative in Connecticut, Massachusetts, and New Jersey. Elsewhere the average annual change in employment was positive although employment in 2005 was below 1998 levels in Maine and North Carolina.

The location quotient exceeded one in every year from 1998-2005 in only Massachusetts, Maine, and Rhode Island (Table 66). Note that in Massachusetts employment in the water excursion sector has been declining, which means that the Massachusetts share of sector employment has also been declining, hence the decline in the location quotient. If water excursion employment continues to decline in Massachusetts, the location quotient would likely fall below one as long as regionwide employment remains constant or increases.

The Northeast region Herfindahl index was low, ranging from 0.019 in 1998 to 0.013 in 2000. The low value of the index is indicative of an industry with a large number of establishments not dominated by a small number of large establishments. The index value declined by an average of 1% per year from 1998-2005 (Table 67). This decline was primarily due to increasing numbers of establishments although the size structure of the regionwide sector also became slightly more dispersed (i.e., a slight reduction in the proportion of employment in the largest size class in the sector).

Table 65. Number of Northeast Region (NER) water excursion mid-March employees by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	67	12	372	143	79	191	40	250	613	107	227	2,101
1999	78	14	420	192	97	218	46	243	615	109	193	2,225
2000	70	10	409	236	92	186	75	268	528	112	160	2,146
2001	106	22	452	160	111	201	69	257	526	149	199	2,253
2002	89	30	408	174	89	174	74	262	509	92	207	2,108
2003	62	37	287	136	77	225	34	229	663	104	288	2,143
2004	50	22	304	120	126	183	33	256	758	119	331	2,302
2005	42	44	274	151	64	189	70	184	694	107	303	2,121
Annual Average Change	-3.7%	31.9%	-3.2%	3.7%	2.7%	1.2%	19.0%	-3.4%	2.7%	2.5%	6.0%	0.3%

Table 66. Water excursion sector location quotient by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	0.5	0.4	1.5	0.9	2.0	0.7	0.9	0.9	1.0	3.1	1.0
1999	0.6	0.4	1.6	1.1	2.3	0.7	1.0	0.8	1.0	3.0	0.8
2000	0.5	0.3	1.6	1.4	2.2	0.7	1.6	0.9	0.9	3.2	0.7
2001	0.8	0.7	1.7	0.9	2.6	0.7	1.4	0.8	0.8	4.2	0.8
2002	0.7	0.9	1.6	1.0	2.2	0.6	1.6	0.9	0.9	2.7	0.9
2003	0.5	1.2	1.2	0.8	1.9	0.8	0.8	0.8	1.1	2.9	1.2
2004	0.4	0.6	1.2	0.6	2.9	0.6	0.7	0.8	1.2	3.1	1.2
2005	0.3	1.4	1.1	0.9	1.6	0.7	1.5	0.6	1.1	3.0	1.2

Among states the Herfindahl index was generally higher than that of the region as a whole because of a smaller number of establishments. The Herfindahl index declined, on average, in Connecticut, Delaware, Massachusetts, Maine, North Carolina, and Rhode Island.

The location quotient exceeded one in only 27 of the 143 coastal counties included in the analysis. The combined totals for these counties accounted for just over 50% of total Northeast region establishments (Table 68) but accounted for more than 70% of water excursion employment (Table 69). This indicates that the water excursion industry is more geographically concentrated than are other industries in the marine recreational boating subgroup. Note that of the counties listed in Tables 68 and 69 three (Suffolk County, MA, New York County, NY, and the City of Norfolk, VA) accounted for at least 40% of regionwide employment from 2003-2005.

Table 67. Northeast Region (NER) water excursion sector Herfindahl Index by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.167	0.143	0.151	0.076	0.046	0.089	0.126	0.025	0.078	0.380	0.348	0.019
1999	0.214	0.143	0.150	0.125	0.048	0.103	0.120	0.028	0.080	0.332	0.184	0.016
2000	0.187	0.200	0.100	0.107	0.049	0.102	0.195	0.032	0.080	0.348	0.188	0.013
2001	0.158	0.136	0.150	0.074	0.049	0.094	0.093	0.059	0.090	0.249	0.172	0.015
2002	0.183	0.071	0.093	0.137	0.042	0.079	0.089	0.158	0.111	0.158	0.135	0.017
2003	0.187	0.056	0.115	0.169	0.036	0.053	0.079	0.034	0.093	0.320	0.250	0.017
2004	0.092	0.056	0.104	0.088	0.027	0.075	0.089	0.060	0.085	0.219	0.200	0.016
2005	0.089	0.063	0.101	0.126	0.026	0.049	0.181	0.031	0.095	0.094	0.277	0.017
Annual Average Change	-5.1%	-6.8%	-1.5%	17.7%	-7.3%	-5.0%	15.0%	32.7%	3.7%	-8.4%	4.2%	-1.0%

Table 68. Number of excursion establishments in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	9	11	11	9	9	8	8	7
Knox County, ME	12	11	11	11	12	13	15	17
Rockingham County, NH	11	11	12	16	16	16	15	15
Barnstable County, MA	20	17	19	20	23	23	21	22
Dukes County, MA	2	2	2	3	2	2	2	2
Suffolk County, MA	11	11	11	10	12	10	10	10
Bristol County, RI	1	1	1	1	1	1	1	1
Newport County, RI	9	10	8	14	12	13	15	19
Washington County, RI	4	4	4	4	5	5	6	6
Middlesex County, CT	2	2	2	3	3	2	2	1
New London County, CT	6	5	5	5	5	7	6	6
New York County, NY	11	15	15	14	14	15	17	21
Cape May County, NJ	21	19	18	21	22	22	24	25
Hudson County, NJ	4	3	3	3	6	5	3	4
Monmouth County, NJ	30	29	28	27	31	25	22	24
Ocean County, NJ	15	13	13	12	15	16	19	20
Anne Arundel County, MD	5	7	7	7	6	10	11	13
Baltimore City, MD	3	5	5	5	4	4	5	4
Somerset County, MD	1	2	2	3	3	4	4	4
St. Mary's County, MD	2	2	2	2	2	2	2	2
Worcester County, MD	7	7	7	6	5	6	9	9
Accomack County, VA	2	2	1	1	1	1	1	1
Essex County, VA	1	1	1	1	1	1	1	1
Norfolk City, VA	2	2	2	3	3	4	5	4
Northumberland County, VA	2	2	2	2	3	3	2	1
Dare County, NC	31	28	25	30	39	42	42	40
Hyde County, NC	1	1	1	1	2	2	2	1

Table 69. Number of excursion employees in Northeast Region coastal counties where the location quotient exceeded one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Hancock County, ME	17	29	40	34	17	21	15	16
Knox County, ME	24	30	39	47	30	22	35	40
Rockingham County, NH	30	28	50	53	41	35	14	35
Barnstable County, MA	84	112	98	102	121	25	28	37
Dukes County, MA	4	4	4	6	4	4	3	4
Suffolk County, MA	251	270	277	297	260	232	245	205
Bristol County, RI	53	65	53	51	30	59	55	30
Newport County, RI	27	31	26	44	31	32	31	30
Washington County, RI	8	13	17	18	20	10	12	16
Middlesex County, CT	28	34	33	64	54	39	13	3
New London County, CT	21	27	20	22	11	31	10	20
New York County, NY	287	309	226	258	209	463	572	546
Cape May County, NJ	32	39	36	45	37	32	37	44
Hudson County, NJ	17	54	34	49	257	66	90	41
Monmouth County, NJ	66	59	95	57	49	26	35	30
Ocean County, NJ	41	58	54	61	29	23	29	40
Anne Arundel County, MD	27	41	34	51	33	22	57	72
Baltimore City, MD	33	56	68	48	74	83	41	77
Somerset County, MD	2	8	8	8	5	3	5	4
St. Mary's County, MD	16	37	30	12	4	4	4	4
Worcester County, MD	4	16	9	14	5	3	6	4
Accomack County, VA	3	2	2	0	2	2	2	3
Essex County, VA	2	2	2	2	7	3	3	3
Norfolk City, VA	142	72	77	75	82	207	218	210
Northumberland County, VA	4	3	4	5	8	1	4	2
Dare County, NC	53	47	35	43	46	74	63	67
Hyde County, NC	2	2	2	1	4	4	4	2

Shipping and Shipping-related Industries

Shipping and shipping-related industries include water transportation of passengers and cargo (NAICS 48311), ship building (NAICS 336611), and water transportation services (NAICS 4883). Water transportation services includes handling of marine cargo (NAICS 48832), businesses providing navigation services to shipping, (NAICS 48833), port and harbor operations (NAICS 48831), and other water transportation services (NAICS 48839). However, the number of establishments in each of these four sectors is small, and this results in a substantial number of occasions in which employment data are suppressed. Since employment for suppressed fields had to be estimated, the reliability of employment data reported herein is subject to greater uncertainty. To reduce this uncertainty, only data for the industry group as a whole (NAICS 4883) are reported.

Compared to the other marine sectors previously described, shipping and shipping-related industries tend to be more concentrated in terms of both industrial organization and geography. Not surprisingly, water transportation service industries like cargo handling, navigation services, and port operations tend to be colocated with shipping in states and locations with large shipping facilities. Ship building locations do not necessarily correspond to where the shipping industry is

active. However, like shipping, the ship building industry is geographically concentrated with more than 90% of employment in only three states (Connecticut, Maine, and Virginia).

In 1998 there were a total of 994 shipping and shipping-related establishments (Table 70) employing 67,000 people (Table 71). Across states, declines in the number of establishments, particularly in Maine and New York, have been partially offset by increases in states like Rhode Island, Maryland, and Virginia. The net effect has been a gradual declining trend in the regionwide number of establishments from a peak of 988 in 2000 to 930 establishments in 2005.

Table 70. Number of Northeast Region (NER) shipping and shipping-related sector establishments (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	65	25	73	93	69	67	6	178	251	38	129	994
1999	65	27	72	95	68	66	8	178	240	40	133	992
2000	64	27	70	93	64	67	9	186	245	40	129	994
2001	60	29	73	98	62	66	9	183	240	39	129	988
2002	59	33	67	102	66	64	8	178	214	37	142	970
2003	56	28	76	107	57	52	8	167	208	40	138	937
2004	60	24	79	104	54	54	7	157	210	36	136	921
2005	62	24	71	101	56	59	11	163	206	37	140	930

Total mid-March employment in the shipping and shipping-related sector was highest in 1998 but has fluctuated without any notable trend between 61,000–64,000 employees ever since (Table 71). Primarily because of the size of the ship building industry, Virginia employment was nearly 25,000 in all years, representing about 41% of regionwide shipping and shipping-related employment (Table 72). In Connecticut, after experiencing employment declines from 1998-2002, shipping and shipping-related employment increased from 7,800 employees in 2002 to a high of 9,500 in 2005. By contrast, employment in Maine has been on a declining trend from nearly 9,000 in 1999 to 6,300 in 2005.

Employment in shipping and shipping-related industries indicates a degree of specialization across states. For example, ship building represented more than 80% of total industry group employment in Connecticut, Maine, and Virginia and was a substantial majority of employment in Rhode Island (Table 73). By contrast, water transportation and water transportation services were the dominant sectors in Massachusetts, Delaware, New Jersey, and New York. Notably each of these states has one or more major ports that are regional hubs for loading and offloading ocean-going freight and passengers.

Table 71. Total Northeast Region (NER) shipping and shipping-related sector mid-March employment by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	9,045	498	1,090	3,606	8,455	2,063	21	10,301	5,303	389	26,311	67,082
1999	8,822	558	1,703	3,714	8,950	1,898	20	7,170	5,263	372	25,808	64,280
2000	8,174	445	1,618	3,515	7,375	2,021	33	8,389	5,384	358	26,777	64,090
2001	8,387	554	1,753	3,104	7,680	2,150	34	8,014	5,692	388	24,799	62,554
2002	7,869	478	1,857	2,935	6,384	1,965	37	7,750	6,027	523	25,668	61,492
2003	8,747	911	2,249	3,574	6,980	1,868	207	8,547	5,219	628	25,603	64,533
2004	9,181	867	2,218	3,352	6,990	1,079	112	8,881	4,822	567	25,876	63,945
2005	9,535	761	2,025	3,058	6,335	983	212	9,379	4,506	668	27,000	64,464

Table 72. Shipping and shipping-related sector employment shares by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	13.5%	0.7%	1.6%	5.4%	12.6%	3.1%	0.0%	15.4%	7.9%	0.6%	39.2%
1999	13.7%	0.9%	2.6%	5.8%	13.9%	3.0%	0.0%	11.2%	8.2%	0.6%	40.1%
2000	12.8%	0.7%	2.5%	5.5%	11.5%	3.2%	0.1%	13.1%	8.4%	0.6%	41.8%
2001	13.4%	0.9%	2.8%	5.0%	12.3%	3.4%	0.1%	12.8%	9.1%	0.6%	39.6%
2002	12.8%	0.8%	3.0%	4.8%	10.4%	3.2%	0.1%	12.6%	9.8%	0.8%	41.7%
2003	13.6%	1.4%	3.5%	5.5%	10.8%	2.9%	0.3%	13.2%	8.1%	1.0%	39.7%
2004	14.4%	1.4%	3.5%	5.2%	10.9%	1.7%	0.2%	13.9%	7.5%	0.9%	40.5%
2005	14.8%	1.2%	3.1%	4.7%	9.8%	1.5%	0.3%	14.5%	7.0%	1.0%	41.9%

Table 73. Composition of shipping and shipping-related sector by state and year (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
Ship Building Employment Share											
1998	87.0%	1.4%	17.8%	27.7%	95.7%	40.1%	0.0%	10.0%	12.8%	55.6%	81.9%
1999	82.2%	1.3%	16.7%	26.9%	97.2%	43.7%	0.0%	16.6%	11.2%	58.1%	81.1%
2000	86.3%	1.9%	14.3%	21.3%	96.3%	44.0%	0.0%	17.0%	11.3%	51.1%	79.1%
2001	86.0%	1.4%	14.8%	20.3%	95.2%	53.8%	0.0%	17.3%	10.2%	61.1%	80.2%
2002	90.5%	1.6%	14.9%	18.5%	95.3%	39.6%	0.0%	18.1%	6.2%	66.8%	81.7%
2003	88.2%	0.7%	12.7%	18.0%	94.8%	3.8%	84.6%	15.1%	7.1%	73.5%	79.5%
2004	89.4%	0.8%	17.8%	7.2%	95.6%	4.7%	75.2%	14.2%	8.8%	63.6%	79.9%
2005	89.2%	0.8%	13.1%	6.4%	95.4%	4.1%	85.8%	15.5%	9.6%	74.7%	77.9%
Water Transportation Employment Share											
1998	10.1%	5.9%	46.0%	5.6%	1.6%	6.7%	0.0%	44.9%	49.3%	5.3%	5.3%
1999	16.1%	9.5%	57.6%	6.8%	1.4%	9.3%	20.3%	26.2%	48.7%	7.0%	5.6%
2000	12.0%	18.1%	64.0%	7.4%	1.8%	11.6%	57.1%	21.4%	44.7%	11.2%	6.2%
2001	11.3%	37.0%	70.8%	8.2%	1.5%	9.1%	56.2%	25.1%	52.7%	7.7%	6.4%
2002	6.4%	36.9%	71.9%	9.6%	1.6%	13.0%	61.8%	23.8%	59.7%	5.8%	7.1%
2003	8.3%	23.7%	77.6%	10.8%	0.9%	52.0%	0.9%	24.7%	56.1%	6.6%	6.6%
2004	7.1%	28.0%	73.6%	12.8%	1.1%	15.1%	1.7%	21.6%	47.4%	6.8%	6.7%
2005	7.2%	18.3%	72.3%	15.2%	1.0%	11.5%	2.8%	20.5%	46.6%	9.1%	7.4%
Water Transportation Services Employment Share											
1998	2.9%	92.7%	36.2%	66.7%	2.8%	53.3%	100.0%	45.0%	37.9%	39.1%	12.8%
1999	1.7%	89.2%	25.7%	66.3%	1.5%	47.0%	79.7%	57.2%	40.2%	34.9%	13.2%
2000	1.7%	80.0%	21.6%	71.4%	1.9%	44.5%	42.9%	61.7%	44.0%	37.7%	14.7%
2001	2.7%	61.6%	14.4%	71.6%	3.3%	37.1%	43.8%	57.6%	37.1%	31.2%	13.3%
2002	3.1%	61.5%	13.2%	71.9%	3.1%	47.4%	38.2%	58.0%	34.1%	27.4%	11.2%
2003	3.5%	75.6%	9.7%	71.2%	4.2%	44.2%	14.5%	60.2%	36.8%	19.9%	13.9%
2004	3.5%	71.2%	8.6%	80.1%	3.3%	80.1%	23.1%	64.2%	43.8%	29.6%	13.4%
2005	3.6%	80.8%	14.6%	78.4%	3.6%	84.4%	11.3%	64.0%	43.8%	16.2%	14.6%

Deep sea and coastal water transportation NAICS 48311

Establishments engaged in deep sea and coastal water transportation include conveyance of freight or passengers between foreign or domestic ports. These establishments may provide deep sea transportation or may operate solely in coastal waters. Establishments operating in inland lakes or rivers are excluded as are floating casinos and scenic or sightseeing water transportation. The distinguishing features of establishments classified in NAICS 48311 are that

they primarily operate on the open ocean or in coastal bays and the point of departure differs from their destination.

The total number of deep sea and coastal water transportation establishments ranged from a high of 375 in 2000 to 342 in 2004 (Table 74). On average, the annual change in the number of Northeast region establishments has declined by 0.4%. Across states, there were nearly twice as many water transportation establishments in New York than in any other state although the number of establishments declined by an average of 2.1%. The average annual change in establishments was also negative in Connecticut, Maine, and North Carolina. By contrast, the average annual change in number of water transportation establishments was positive in Delaware, Massachusetts, New Hampshire, Rhode Island, New Jersey, and Virginia.

Table 74. Northeast Region (NER) Water transportation total establishments by state (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	29	4	31	18	22	23		60	132	6	36	361
1999	29	5	34	21	20	22	2	62	124	9	42	370
2000	31	5	32	22	20	24	4	61	125	11	40	375
2001	27	8	36	24	20	24	4	61	119	9	38	370
2002	22	12	33	28	19	27	3	54	118	8	40	364
2003	24	8	34	29	15	16	1	59	111	13	41	351
2004	26	5	33	29	14	17	1	58	111	11	37	342
2005	24	6	31	27	12	17	3	66	113	10	42	351
Annual Average Change	-2.1%	12.0%	0.3%	6.3%	-8.0%	-2.5%	34.7%	1.7%	-2.1%	11.6%	2.6%	-0.4%

Northeast region annual employment in water transportation establishments was more variable, ranging from a low of 8,600 employees in 2000 to more than 10,000 in both 1998 and 2003 (Table 75). On average the annual change in employment (-1.7%) was higher than the annual change in establishments; this difference suggests an industry where employment per establishment has been declining. Across states employment in New York, New Jersey, Virginia, and Massachusetts accounted for about 80% of regionwide employment. Among these states New York had the lowest numbers of employees per establishment; this ratio suggests an industry size structure consisting of a large number of smaller establishments. As will be shown below, this difference in industry size structure is reflected in the Herfindahl index.

The location quotient for the deep sea and coastal water transportation sector exceeded one in all years only in Virginia and New Jersey (Table 76). The location quotient exceeded one in Connecticut in all years expect 2002 and has exceeded one in Massachusetts in every year since 2001. Thus, there is some evidence of an increase in the relative importance of the water transportation employment share in Massachusetts. By contrast the location quotient in New York fell below one in every year since 2003; this pattern suggests a decline in the relative importance of the water transportation industry in the New York coastal economy.

The Northeast region Herfindahl index ranged between 0.04-0.02 from 1998-2005 (Table 77). The low level of the index indicates a diversified industry in terms of employment size that is not dominated by a small number of large employers. The average annual change in the Herfindahl index was negative; this change indicates a decline in concentration, or equivalently, an increase in diversity in employment size class.

Table 75. Number of Northeast Region (NER) water transportation mid-March employees by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	915	30	501	201	132	138		4,629	2,612	21	1,396	10,575
1999	1,422	53	981	252	121	177	4	1,881	2,562	26	1,455	8,934
2000	978	81	1,037	259	133	234	19	1,793	2,406	40	1,650	8,629
2001	949	205	1,241	253	115	195	19	2,009	2,997	30	1,599	9,611
2002	504	176	1,335	282	102	256	23	1,846	3,600	31	1,825	9,979
2003	726	216	1,746	385	66	971	2	2,110	2,928	41	1,689	10,880
2004	651	243	1,633	427	77	163	2	1,920	2,285	39	1,726	9,166
2005	689	139	1,464	465	61	113	6	1,924	2,102	61	2,005	9,030
Annual Average Change	2.0%	37.7%	20.4%	13.3%	-8.9%	34.5%	84.6%	-7.8%	-1.7%	20.5%	5.7%	-1.7%

Table 76. Water transportation service location quotient (1998 – 2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	1.4	0.2	0.4	0.2	0.7	0.1	0.0	3.2	0.9	0.1	1.2
1999	2.6	0.4	0.9	0.4	0.7	0.1	0.0	1.5	1.0	0.2	1.5
2000	1.9	0.6	1.0	0.4	0.8	0.2	0.1	1.5	1.0	0.3	1.7
2001	1.7	1.4	1.1	0.3	0.6	0.2	0.1	1.5	1.1	0.2	1.5
2002	0.8	1.2	1.1	0.4	0.5	0.2	0.1	1.3	1.3	0.2	1.6
2003	1.1	1.3	1.4	0.4	0.3	0.7	0.0	1.4	0.9	0.2	1.4
2004	1.2	1.8	1.6	0.6	0.4	0.1	0.0	1.5	0.9	0.3	1.6
2005	1.3	1.0	1.4	0.6	0.4	0.1	0.0	1.5	0.8	0.4	1.9

As noted previously, the Herfindahl index for the deep sea and coastal water transportation sector in New York was lower than any other state. Since the Herfindahl index is a function of numbers of entities and employment size class, the low index value for New York is because of the large number of establishments and a low value of the dispersion effect. That is, the water transportation sector in New York consists of a large number of small establishments. By contrast the water transportation sector in Massachusetts exhibits a Herfindahl index ranging from 0.18-0.35. Given the relative stability in numbers of establishments and a fewness effect (1/N) of 0.03, the dominant effect behind the Massachusetts Herfindahl index is the dispersion effect which averaged nearly 0.26. Thus, the magnitude of the Herfindahl index in Massachusetts is primarily due to an establishment size distribution skewed toward fewer large employers. The same may be said of the water transportation industry structure in Virginia although the Herfindahl index has been declining. In Virginia's case the decline has been primarily due to a decline in the standardized dispersion, indicating a trend toward smaller establishment size in terms of employment.

Just as the industry group as a whole exhibited clear patterns of regional specialization, the deep sea and coastal water transportation sector tended to be concentrated in a small number of Northeast region coastal counties. The location quotient exceeded one in 23 of the 143 coastal counties in the Northeast region. The number of establishments in these counties ranged from a single establishment in Pasquotank County, NC, to more than 100 in Cecil County, MD (Table 78). In terms of employment, the number of employees was highest in Norfolk County, VA, averaging just over 1,200 people (Table 79). Employment in the remaining counties ranged widely from fewer than ten to several hundred.

Table 77. Northeast Region (NER) deep sea and coastal water transportation Herfindahl Index (1998-2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.112	0.280	0.187	0.173	0.095	0.100		0.170	0.052	0.214	0.218	0.041
1999	0.292	0.351	0.273	0.128	0.107	0.115	0.500	0.069	0.042	0.143	0.201	0.022
2000	0.165	0.306	0.260	0.125	0.093	0.119	0.473	0.074	0.054	0.152	0.206	0.020
2001	0.184	0.504	0.354	0.140	0.119	0.131	0.473	0.076	0.051	0.143	0.203	0.022
2002	0.189	0.216	0.323	0.122	0.083	0.150	0.586	0.091	0.048	0.159	0.191	0.022
2003	0.134	0.485	0.297	0.191	0.101	0.790	1.000	0.091	0.054	0.130	0.184	0.025
2004	0.142	0.514	0.267	0.208	0.116	0.221	1.000	0.106	0.056	0.143	0.185	0.025
2005	0.124	0.331	0.291	0.213	0.126	0.145	0.333	0.106	0.068	0.232	0.163	0.027
Annual Average Change	13.6%	16.4%	8.5%	5.5%	6.1%	52.0%	3.7%	-1.9%	5.0%	4.7%	-4.0%	-3.2%

Table 78. Number of deep sea and coastal water transportation establishments by coastal county with a location quotient greater than one (1998-2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Cumberland County, ME	54	69	63	64	51	35	37	24
Hancock County, ME	11	6	14	12	9	21	20	20
Knox County, ME	32	30	39	21	21	10	14	9
Lincoln County, ME	16	10	16	14	14	4	4	4
Barnstable County, MA	18	409	473	600	620	647	646	720
Dukes County, MA	11	10	12	8	16	14	8	7
Norfolk County, MA	211	343	315	431	309	755	641	584
Bristol County, RI	10	12	10	10	12	6	5	6
Newport County, RI	6	11	11	11	10	30	21	17
New London County, CT	200	132	228	213	235	262	264	263
Nassau County, NY	390	442	452	550	541	661	635	388
Richmond County, NY	594	741	695	848	1336	1046	802	778
Bergen County, NJ	396	510	648	771	846	690	449	417
Camden County, NJ	337	311	316	308	269	191	176	180
Hudson County, NJ	867	276	209	346	205	208	222	213
New Castle County, DE	19	35	64	157	180	216	238	148
Cecil County, MD	73	67	63	65	70	77	145	131
Queen Anne's County, MD		3	11	18	6	6	6	5
Chesapeake City, VA	115	111	115	121	107	96	89	96
Norfolk City, VA	1041	1074	1261	1175	1291	1241	1299	1268
Portsmouth City, VA	36	69	83	48	80	105	98	55
Brunswick County, NC	14	29	90	66	63		65	33
Pasquotank County, NC	6	11	5	10	6	6	6	12

Table 79. Deep sea and coastal water transportation employees in coastal counties where the location quotient exceeded one (1998–2005)

	1998	1999	2000	2001	2002	2003	2004	2005
Cumberland County, ME	8	8	8	8	7	6	5	4
Hancock County, ME	3	2	2	3	2	3	3	3
Knox County, ME	7	6	6	5	5	3	3	3
Lincoln County, ME	2	2	3	3	3	2	2	2
Barnstable County, MA	2	3	4	5	7	7	7	8
Dukes County, MA	2	2	2	2	2	2	2	2
Norfolk County, MA	5	4	3	3	3	3	2	2
Bristol County, RI	2	2	2	2	2	1	1	1
Newport County, RI	3	5	5	5	5	6	5	4
New London County, CT	5	5	5	5	5	3	4	4
Nassau County, NY	49	48	49	48	49	48	49	15
Richmond County, NY	7	7	7	5	6	5	6	7
Bergen County, NJ	7	7	8	6	8	7	5	8
Camden County, NJ	6	6	5	3	3	3	3	3
Hudson County, NJ	10	9	8	12	10	11	11	14
New Castle County, DE	2	3	3	6	9	6	4	5
Cecil County, MD	73	67	63	65	70	77	145	131
Queen Anne's County, MD		3	11	18	6	6	6	5
Chesapeake City, VA	5	5	5	5	6	6	5	5
Norfolk City, VA	15	15	15	12	13	13	13	15
Portsmouth City, VA	2	5	4	4	4	4	4	4
Brunswick County, NC	1	2	3	3	2		1	1
Pasquotank County, NC	1	1	1	1	1	1	1	1

Ship building and repairing NAICS 336611

The ship building and repair sector comprises establishments engaged in the fabrication or repair of watercraft intended for commercial use. This industry includes shipyards that may be dedicated to the construction of very large ocean-going vessels such as cargo or tankers or the construction of smaller vessels such as commercial fishing or lobster boats. The ship building industry accounts for a comparatively small number of Northeast region establishments but employs a large number of people through a small number of large establishments primarily in Connecticut, Maine, and Virginia. Regionwide, the number of establishments was 139 in 1986 and 142 in 2005 (Table 80). On average the annual change in number of establishment was positive (0.5%) from 1986-1996, but was effectively zero from 1997-2005 although the number of establishments has been trending downward since peaking at 156 in 1999.

Across states the number of establishments ranges from one or two in Delaware and in New Hampshire to more than 30 in Virginia. On average, the annual change in numbers of shipyards was positive for most states, but was negative in Massachusetts, North Carolina, New Jersey, and New York.

Total employment in the ship building sector exceeded 60,000 from 1986-1992 but has since declined to less than 40,000 employees in every year since 2000 (Table 81). Ship building exhibits substantial regional concentration in terms of employment with approximately 91% of regionwide employment in three states; Maine (17%), Connecticut (23%), and Virginia (51%). Much of the regional decline in ship building employment has been due to reduced employment

in these three states, although employment has stabilized at around 20,000 in Virginia and has been increasing since 2002 in Connecticut.

Table 80. Number of Northeast Region (NER) ship building establishments by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	5	1	12	16	10	2	1	19	38	8	27	139
1987	7	1	13	14	14	2	2	21	35	11	26	146
1988	7	1	11	13	13	7	1	22	29	11	33	148
1989	7	1	10	13	13	7	0	20	28	12	34	145
1990	7	1	12	13	12	7	0	21	29	9	33	144
1991	7	1	14	11	13	6	0	22	29	7	37	147
1992	10	1	13	12	13	7	0	22	29	8	41	156
1993	9	1	15	12	14	11	0	19	29	6	37	153
1994	7	1	15	14	10	11	0	18	26	6	31	139
1995	6	1	15	14	13	7	0	16	23	5	26	126
1996	7	1	20	14	13	8	0	20	23	7	30	143
1997	9	2	20	18	10	10	0	18	22	6	35	150
1998	10	2	19	17	13	8	0	22	21	7	33	152
1999	8	2	20	18	13	8	0	20	23	9	35	156
2000	9	2	19	17	13	10	0	21	23	6	31	151
2001	7	2	17	17	12	10	0	19	24	7	35	150
2002	7	1	15	18	14	10	0	18	17	7	39	146
2003	10	1	19	20	13	7	2	15	18	9	30	144
2004	10	1	19	21	11	6	2	15	20	8	32	145
2005	10	1	14	20	12	6	2	14	20	10	33	142
1986-1996 Average Change	5.3%	0.0%	6.2%	-0.9%	4.3%	28.7%	n/a	1.1%	-4.7%	1.2%	2.0%	0.5%
1997-2005 Average Change	5.9%	5.6%	-3.0%	4.5%	0.3%	-1.6%	n/a	-3.3%	-0.8%	6.3%	1.8%	0.0%

Table 81. Northeast Region (NER) ship building mid-March employment by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	17,734	5	2048	756	7,386	4	2	1,261	1,836	1,139	32,278	64,449
1987	17,981	8	473	1,865	6,951	5	9	1,216	970	944	29,773	60,195
1988	17,566	7	575	2,003	7,665	1,609	7	1,117	986	1,310	32,245	65,089
1989	17,038	18	468	1,226	10,800	1,877	0	1,137	850	1,429	32,310	67,152
1990	13,326	6	462	966	11,800	1,360	0	1,010	1,021	1,237	30,551	61,739
1991	13,304	7	454	474	11,325	982	0	784	814	911	31,946	61,001
1992	16,324	6	428	905	9,277	562	0	533	1,077	429	31,060	60,601
1993	14,787	12	403	1,239	8,823	1,323	0	564	985	241	26,912	55,290
1994	13,887	12	360	1,019	8,602	1,149	0	653	545	117	24,659	51,003
1995	13,686	6	231	1,283	8,779	1,142	0	820	509	113	23,635	50,205
1996	12,323	7	270	928	8,139	1,094	0	952	550	118	22,631	47,013
1997	11,147	9	288	942	7,691	1,099	0	962	606	133	21,975	44,852
1998	7,870	7	194	999	8,088	827	0	1,032	680	216	21,546	41,459
1999	7,250	7	284	998	8,699	829	0	1,189	587	216	20,943	41,004
2000	7,056	9	232	747	7,100	888	0	1,423	609	183	21,185	39,432
2001	7,215	8	260	629	7,315	1,157	0	1,390	582	237	19,897	38,689
2002	7,118	8	277	542	6,081	778	0	1,406	373	349	20,970	37,901
2003	7,712	7	285	643	6,619	71	175	1,294	372	462	20,354	37,993
2004	8,207	7	395	240	6,680	51	85	1,260	424	361	20,674	38,383
2005	8,502	6	266	197	6,044	40	182	1,450	431	499	21,041	38,660
1986-1996 Average Change	-3.0%	20.4%	-11.8%	15.1%	2.0%	4.5%	n/a	-1.2%	-7.9%	-15.6%	-3.3%	-3.0%
1997-2005 Average Change	-3.4%	1.4%	3.3%	-12.1%	-2.8%	-17.8%	n/a	5.2%	-1.4%	20.6%	-0.8%	-2.1%

Consistent with the regional dominance in ship building employment, the location quotient exceeded one in only Maine, Connecticut, and Virginia (Table 82). In relative terms, this means that the share of ship building employment in these states was substantially greater than the average employment share. Thus, a change in ship building employment in these states would have a proportionally greater effect on coastal economies as compared to other states in the Northeast region.

The ship building Herfindahl index for the Northeast region ranged from 0.152 in 1988 and 1989 to 0.216 in 2004 (Table 83). The index value was the highest among all other marine sectors identified herein and has been increasing over time. The magnitude of the ship building Herfindahl index is due to the dominance of a small number of large employers. The Herfindahl index exceeded 0.9 in both Connecticut and Maine because there was a single employer in each of these states that employed more than 5,000 people. Since 1998, no other establishment in either state employed more than 100. The Herfindahl index was also quite high in Virginia, but the state was more diverse in terms of the range of employment size class compared to either Maine or Connecticut.

Table 82. Ship building location quotient by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1986	4.1	0.0	0.2	0.2	6.6	0.0	0.0	0.1	0.1	1.0	5.4
1987	4.4	0.0	0.1	0.4	6.5	0.0	0.0	0.1	0.1	0.9	5.2
1988	4.0	0.0	0.1	0.4	6.3	0.2	0.0	0.1	0.0	1.1	5.1
1989	3.9	0.0	0.1	0.2	8.4	0.2	0.0	0.1	0.0	1.2	4.9
1990	3.3	0.0	0.1	0.2	10.3	0.2	0.0	0.1	0.1	1.2	4.9
1991	3.4	0.0	0.1	0.1	10.2	0.1	0.0	0.1	0.0	0.9	5.1
1992	4.2	0.0	0.1	0.2	8.4	0.1	0.0	0.1	0.1	0.4	4.9
1993	4.2	0.0	0.1	0.3	8.6	0.2	0.0	0.1	0.1	0.3	4.6
1994	4.4	0.0	0.1	0.3	9.0	0.2	0.0	0.1	0.0	0.1	4.5
1995	4.4	0.0	0.0	0.3	9.3	0.2	0.0	0.1	0.0	0.1	4.4
1996	4.3	0.0	0.0	0.3	9.2	0.2	0.0	0.1	0.0	0.2	4.4
1997	4.0	0.0	0.1	0.3	9.2	0.2	0.0	0.2	0.0	0.2	4.5
1998	3.1	0.0	0.0	0.3	10.4	0.2	0.0	0.2	0.1	0.3	4.7
1999	2.9	0.0	0.1	0.3	11.1	0.2	0.0	0.2	0.1	0.3	4.6
2000	3.0	0.0	0.0	0.2	9.4	0.2	0.0	0.3	0.1	0.3	4.8
2001	3.1	0.0	0.1	0.2	9.9	0.2	0.0	0.3	0.1	0.4	4.6
2002	3.1	0.0	0.1	0.2	8.4	0.2	0.0	0.3	0.0	0.6	4.9
2003	3.4	0.0	0.1	0.2	9.2	0.0	0.2	0.2	0.0	0.7	4.7
2004	3.6	0.0	0.1	0.1	9.2	0.0	0.1	0.2	0.0	0.6	4.6
2005	3.7	0.0	0.1	0.1	8.2	0.0	0.2	0.3	0.0	0.8	4.6

Table 83. Northeast Region (NER) ship building Herfindahl Index by state (1986–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1986	0.991	1.000	0.625	0.645	0.937	0.500	1.000	0.200	0.189	0.504	0.520	0.173
1987	0.985	1.000	0.439	0.856	0.930	0.500	0.612	0.300	0.092	0.470	0.477	0.177
1988	0.971	1.000	0.496	0.861	0.948	0.424	1.000	0.369	0.097	0.348	0.375	0.152
1989	0.982	1.000	0.425	0.820	0.962	0.472	n/a	0.389	0.107	0.343	0.370	0.152
1990	0.973	1.000	0.526	0.716	0.964	0.439	n/a	0.448	0.107	0.308	0.402	0.165
1991	0.977	1.000	0.224	0.561	0.972	0.503	n/a	0.136	0.186	0.326	0.398	0.181
1992	0.970	1.000	0.277	0.732	0.977	0.463	n/a	0.135	0.154	0.260	0.374	0.181
1993	0.978	1.000	0.207	0.774	0.962	0.374	n/a	0.175	0.215	0.250	0.438	0.181
1994	0.977	1.000	0.234	0.598	0.966	0.351	n/a	0.300	0.142	0.291	0.488	0.199
1995	0.978	1.000	0.160	0.497	0.972	0.452	n/a	0.292	0.164	0.306	0.484	0.201
1996	0.976	1.000	0.138	0.500	0.959	0.499	n/a	0.445	0.315	0.241	0.487	0.196
1997	0.964	0.612	0.148	0.498	0.964	0.456	n/a	0.505	0.154	0.406	0.474	0.195
1998	0.947	0.612	0.175	0.496	0.924	0.814	n/a	0.423	0.208	0.306	0.517	0.198
1999	0.942	0.612	0.153	0.578	0.956	0.772	n/a	0.496	0.290	0.283	0.582	0.211
2000	0.969	0.612	0.157	0.327	0.955	0.743	n/a	0.696	0.141	0.312	0.503	0.202
2001	0.974	0.612	0.326	0.349	0.941	0.884	n/a	0.624	0.137	0.364	0.513	0.197
2002	0.970	1.000	0.272	0.394	0.948	0.828	n/a	0.642	0.211	0.320	0.557	0.209
2003	0.958	1.000	0.264	0.456	0.947	0.233	0.858	0.799	0.207	0.231	0.566	0.207
2004	0.955	1.000	0.267	0.105	0.948	0.327	0.727	0.818	0.189	0.291	0.527	0.216
2005	0.968	1.000	0.307	0.096	0.948	0.477	0.858	0.826	0.178	0.240	0.507	0.214
1986-1996 Average Change	-0.2%	0.0%	-9.9%	-0.9%	0.2%	3.1%	n/a	17.4%	13.4%	-6.2%	-0.1%	1.5%
1997-2005 Average Change	-0.1%	2.7%	13.3%	-8.6%	-0.1%	9.8%	n/a	8.3%	0.8%	3.5%	0.7%	1.0%

Among Northeast region coastal counties, the ship building location quotient exceeded one in 19 of 143 counties. These counties include major ship building facilities in New London County, CT, Sagahadoc County, ME, and in Newport News City, VA. In 2005, these three counties alone accounted for 42% of the regionwide total number of establishments (Table 84) and 83% of total Northeast region employment (Table 85).

Table 84. Number of ship building establishments in Northeast Region coastal counties where the location quotient exceeded one

	1998	1999	2000	2001	2002	2003	2004	2005
Sagadahoc County, ME	1	2	2	2	2	1	1	1
Bristol County, MA	4	5	6	5	6	7	7	5
Essex County, MA	6	6	5	6	5	7	6	4
Bristol County, RI	1	1	1	1	1	1	1	3
Newport County, RI	2	3	2	2	2	4	3	3
New London County, CT	4	4	4	3	3	4	4	4
Kings County, NY	5	5	5	7	5	6	6	6
Richmond County, NY	3	4	4	3	2	1	2	2
Burlington County, NJ	2	2	2	2	2	2	2	2
Hudson County, NJ	3	3	3	4	4	4	4	4
Sussex County, DE	1	1	1	1	1	1	1	1
Anne Arundel County, MD	6	7	8	6	5	6	6	6
Baltimore City, MD	4	4	4	5	6	5	6	5
Baltimore County, MD	1	1	1	1	2	3	2	1
Calvert County, MD	1	1	1	1	1	1	1	1
Dorchester County, MD	1	1	1	1	2	2	2	2
Newport News City, VA	1	1	1	2	3	1	1	2
Norfolk City, VA	12	12	9	11	12	11	11	9
Portsmouth City, VA	1	1	2	3	7	5	7	8

Table 85. Ship building employment in Northeast Region coastal counties where the location quotient exceeded one

	1998	1999	2000	2001	2002	2003	2004	2005
Sagadahoc County, ME	6992	7188	7027	6931	6270	5849	5910	5809
Bristol County, MA	151	147	134	200	214	215	214	190
Essex County, MA	29	33	40	25	43	45	52	33
Bristol County, RI	58	61	64	64	30	57	2	60
Newport County, RI	67	74	70	64	60	135	150	84
New London County, CT	8226	8208	8214	6397	7346	7312	7802	8636
Kings County, NY	145	62	70	61	61	93	139	116
Richmond County, NY	358	409	377	289	212	148	173	162
Burlington County, NJ	668	830	1062	1123	1143	1054	1074	1181
Hudson County, NJ	106	82	68	86	104	89	73	93
Sussex County, DE	7	7	7	6	7	7	6	6
Anne Arundel County, MD	55	47	93	62	52	77	131	67
Baltimore City, MD	153	153	152	144	112	77	100	65
Baltimore County, MD	554	702	338	369	386	446	12	3
Calvert County, MD	28	28	31	15	16	2	6	12
Dorchester County, MD	14	12	11	13	18	9	18	10
Newport News City, VA	17459	17604	16806	16165	17551	12347	13667	17698
Norfolk City, VA	3373	2442	2784	2485	2125	2063	1921	2529
Portsmouth City, VA	7	6	626	616	536	322	618	684

Water transportation service NAICS 4883

Establishments in the water transportation services include a wide range of activities that facilitate the flow of marine cargo and passengers from one port to another. These activities include port and harbor operations (docking and pier facilities as well as waterfront terminals and canals), marine cargo handling (stevedoring and lumping services), navigation services to shipping (piloting, tugboats, and ship traffic reporting), as well as floating drydocks, marine surveyors, and cargo checkers. The number of water transportation service establishments was 481 in 1998 but has been declining over time to 437 establishments in 2005 (Table 86).

Table 86. Total Northeast Region (NER) water transportation service establishments by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER Total
1998	26	19	23	58	34	36	6	96	98	25	60	481
1999	28	20	18	56	35	36	6	96	93	22	56	466
2000	24	20	19	54	31	33	5	104	97	23	58	468
2001	26	19	20	57	30	32	5	103	97	23	56	468
2002	30	20	19	56	33	27	5	106	79	22	63	460
2003	22	19	23	58	29	29	5	93	79	18	67	442
2004	24	18	27	54	29	31	4	84	79	17	67	434
2005	28	17	26	54	32	36	6	83	73	17	65	437
Annual Average Change	2.3%	-1.5%	2.7%	-0.9%	-0.5%	0.5%	2.2%	-1.8%	-3.9%	-5.1%	1.3%	-1.3%

Total employment in water transportation services grew from 15,048 in 1998 to 16,773 in 2005 (Table 87). Note that employment has been increasing even as the number of establishments has been falling. Employment in this sector was concentrated in the mid-Atlantic states of New York, New Jersey, Maryland, and Virginia. These four states accounted for an average of 85% of Northeast region water transportation services employment. The average annual change in employment was positive in all but three states: Massachusetts, North Carolina, and Rhode Island.

Table 87. Northeast Region (NER) water transportation service mid-March employment by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	260	461	395	2,406	234	1099	21	4,640	2,011	152	3,369	15,048
1999	150	498	438	2,464	130	892	16	4,100	2,114	130	3,410	14,342
2000	140	356	350	2,509	142	899	14	5,173	2,369	135	3,942	16,029
2001	223	341	252	2,222	250	798	15	4,615	2,113	121	3,303	14,253
2002	247	294	245	2,111	201	931	14	4,498	2,054	143	2,873	13,611
2003	309	689	218	2,546	295	826	30	5,143	1,919	125	3,560	15,660
2004	323	617	190	2,685	233	865	26	5,700	2,113	168	3,476	16,396
2005	344	615	295	2,396	229	830	24	6,005	1,973	108	3,954	16,773
Annual Average Change	8.2%	12.2%	-1.2%	0.4%	6.5%	-3.3%	13.5%	4.5%	0.1%	-2.4%	3.3%	1.9%

The location quotient exceeded one in all years in Delaware, Maryland, New Jersey, and Virginia (Table 88). Note that these states form a contiguous area from Virginia to New Jersey where the share of employment in water transportation services is greater than both the employment share for the Northeast region as a whole and the average employment share within each state.

Table 88. Northeast Region water transportation service location quotient by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA
1998	0.3	2.1	0.2	2.0	0.8	0.6	0.1	2.2	0.5	0.6	2.0
1999	0.2	2.4	0.3	2.2	0.5	0.5	0.1	2.1	0.5	0.6	2.1
2000	0.1	1.5	0.2	2.0	0.5	0.4	0.0	2.3	0.5	0.5	2.2
2001	0.3	1.6	0.1	1.9	0.9	0.4	0.0	2.3	0.5	0.5	2.1
2002	0.3	1.4	0.2	1.9	0.8	0.5	0.0	2.3	0.5	0.6	1.9
2003	0.3	2.9	0.1	2.0	1.0	0.4	0.1	2.4	0.4	0.5	2.0
2004	0.3	2.5	0.1	2.0	0.7	0.4	0.1	2.5	0.5	0.6	1.8
2005	0.3	2.4	0.2	1.7	0.7	0.4	0.1	2.6	0.4	0.4	2.0

The Northeast region water transportation services Herfindahl index was 0.019 in 1998 but has increased to 0.022 in 2005 (Table 89). The higher index in 2005 was due to a small increase in the dispersion effect which is suggestive of a slight shift toward greater concentration of employment in large establishments at least for the region as a whole. Note that this trend in the Herfindahl index is reflected in the overall downward trend in number of establishments coupled with the upward trend in total employment.

This does not mean that any such concentration has been significant since the regional Herfindahl index is still quite low. Among states the Herfindahl was highest in New Hampshire, Connecticut, and Delaware. The New Hampshire Herfindahl index was high because of the small number of establishments (the fewness effect) as none of the establishments in New Hampshire employed more than 19 people. By contrast, the Herfindahl index in Connecticut and Delaware were comparatively high because proportionally more people were employed by a small number of larger establishments.

Table 89. Northeast Region (NER) water transportation services Herfindahl Index by state (1998–2005)

Year	CT	DE	MA	MD	ME	NC	NH	NJ	NY	RI	VA	NER
1998	0.262	0.258	0.266	0.139	0.087	0.194	0.214	0.072	0.136	0.115	0.092	0.019
1999	0.099	0.260	0.481	0.143	0.068	0.173	0.211	0.104	0.123	0.130	0.103	0.022
2000	0.113	0.264	0.578	0.173	0.074	0.174	0.256	0.085	0.201	0.121	0.132	0.026
2001	0.394	0.278	0.380	0.163	0.332	0.212	0.256	0.068	0.115	0.121	0.101	0.020
2002	0.332	0.232	0.339	0.151	0.116	0.117	0.256	0.074	0.132	0.110	0.112	0.020
2003	0.351	0.347	0.150	0.126	0.079	0.124	0.330	0.080	0.075	0.134	0.088	0.019
2004	0.331	0.376	0.100	0.123	0.079	0.120	0.375	0.094	0.126	0.192	0.094	0.022
2005	0.222	0.370	0.245	0.136	0.102	0.104	0.286	0.089	0.118	0.138	0.124	0.022
Annual Average Change	21.8%	6.8%	15.9%	0.4%	38.0%	-6.2%	5.6%	5.1%	6.4%	4.9%	6.3%	3.7%

Among counties the water transportation services sector location quotient exceeded one in 22 of 143 Northeast region coastal counties. Many of these counties include a major port and accounted for 43% of the total number of water transportation service establishments (Table 90) and 84% of regional employment (Table 91).

Table 90. Number of water transportation services establishments in Northeast Region coastal counties where the location quotient exceeded one

	1998	1999	2000	2001	2002	2003	2004	2005
Lincoln County, ME	5	5	5	7	6	7	7	8
Waldo County, ME	3	3	2	3	5	5	6	5
Washington County, ME	1	1	1	1	1	1	1	1
Suffolk County, MA	5	5	6	6	5	5	5	5
Newport County, RI	9	8	8	7	6	7	6	6
Washington County, RI	7	6	6	7	6	4	5	6
New Haven County, CT	7	8	5	8	7	6	5	8
Kings County, NY	10	10	11	11	8	5	6	5
Richmond County, NY	19	16	15	15	13	15	15	14
Camden County, NJ	14	13	11	12	12	10	10	10
Essex County, NJ	8	9	9	8	9	9	5	6
Hudson County, NJ	17	15	20	18	18	17	16	15
Union County, NJ	12	15	16	15	13	12	11	11
New Castle County, DE	13	14	14	13	16	14	14	13
Baltimore City, MD	22	22	20	23	20	23	20	21
Newport News City, VA	7	8	7	7	8	8	9	8
Norfolk City, VA	23	21	20	19	16	14	16	16
Portsmouth City, VA	3	3	4	5	7	9	6	7
Brunswick County, NC	4	4	4	4	4	2	2	2
Carteret County, NC	5	5	5	5	6	5	6	7
New Hanover County, NC	16	17	15	13	12	12	11	13

Table 91. Water transportation services employment in Northeast Region coastal counties where the location quotient exceeded one

	1998	1999	2000	2001	2002	2003	2004	2005
Lincoln County, ME	11	17	11	17	19	34	29	69
Waldo County, ME	65	14	17	17	60	55	52	22
Washington County, ME	39	0	13	13	7	25	28	62
Suffolk County, MA	327	365	310	207	204	134	93	212
Newport County, RI	46	36	42	39	36	30	31	26
Washington County, RI	20	17	21	18	18	16	76	16
New Haven County, CT	182	83	62	184	186	251	262	183
Kings County, NY	481	388	279	244	215	196	365	225
Richmond County, NY	796	1034	1367	1019	1043	892	893	929
Camden County, NJ	390	414	529	411	496	903	1045	916
Essex County, NJ	1054	1051	1055	850	835	478	541	478
Hudson County, NJ	750	729	986	813	602	1244	1213	1502
Union County, NJ	1850	1277	2269	2263	2267	2125	2567	2696
New Castle County, DE	424	459	330	310	256	634	577	514
Baltimore City, MD	2051	2059	2099	1867	1659	2255	2123	2055
Newport News City, VA	424	400	373	342	286	337	351	333
Norfolk City, VA	1999	1787	1780	1748	1508	1613	1813	2058
Portsmouth City, VA	675	912	1439	966	910	1232	944	1267
Brunswick County, NC	299	231	201	334	175	164	165	132
Carteret County, NC	128	120	121	92	79	64	56	63
New Hanover County, NC	656	523	538	280	647	321	318	333

ENDNOTES

1. Industrial classification systems are used by governments to categorize individual establishments based on similarities in products and/or production technologies for purposes of tracking trends in industries. The Standard Industrial Classification was the classification system in use in the United States until it was replaced in 1997 by the North American Industry Classification System (NAICS).

2. The North American Industry Classification System codes were developed by the Office of Management and Budget in cooperation with Statistics Canada, and the Instituto Nacional de Estadística y Geografía of Mexico.

3. http://www.bls.gov/cew/data.htm

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