

Economic Value and Impacts of Coastal and Ocean Industries in the MARCOOS Region

By

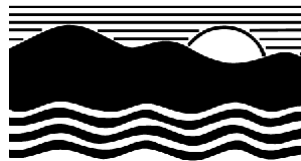
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Introduction

The Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS) was formed by MACOORA (The Mid-Atlantic Coastal Ocean Observing Regional Association) "to generate quality controlled and sustained ocean observations and forecasts that fulfill user needs." In order to target and justify spending on specific MARCOOS work products, a research task is underway to trace and measure how fulfilling specific user needs will generate measurable benefits.

This report provides an overview of coastal economies and the size and economic impacts of ocean and coastal industries in the MARCOOS region. It puts the number of potential users of MARCOOS work products and the range of potential MARCOOS benefits in perspective, and provides a baseline for estimating the potential economic benefits of MARCOOS work products.

Table 1.1 lists ten general categories of users and potential users of MARCOOS observations. These users include:

- Decision-makers in the public sector who use ocean observations to improve maritime safety, spill response capabilities, coastal zone management, search and rescue, and fishery and ecosystem management and thereby generate benefits that accrue to others.
- Decision-makers in coastal and ocean-related industries who use ocean observations directly in ways that reduce costs and risks and generate benefits that accrue to themselves and related businesses and households.

Basis of potential MARCOOS Economic Impacts

This report does not provide an estimate of how MARCOOS work products are used by decision makers in the private or public sectors to generate benefits. It only provides baseline statistics that illustrate the range of potential economic benefits and impacts that could accrue in ocean and coastal dependent industries as a result of improved decision-making associated with the use of MARCOOS work products.

Table 1.13 (page 20), for example, illustrates that the Living Resources economic sectors (including commercial fishing, fish hatcheries, aquaculture, etc.) in the MARCOOS region directly generated about \$1.7 billion per year in state Gross Domestic Product (GDP) and \$470 million in wages. The same table shows that the multiplier effects associated with these direct economic impacts, impacts associated with the indirect and induced effects of the living resources economic sectors on other parts of the economy, add an additional \$1.2 billion to state GDPs in the region and an additional \$541 million in wages,. In total, the direct, indirect and induced impacts of the living resources economic sectors in the MARCOOS region reach over \$2.9 billion in state GDP and \$1 billion in wages.

Similarly, coastal Tourism and Recreation sectors is shown in Table 1.13 (page 20) to generate significant economic impacts that are associated with recreational fishing and boating and related activities. Within the MARCOOS region spending on boats, sporting goods, marina services, lodging, food, etc. are shown to generate about \$21.7 billion per year in direct state Gross Domestic Product (GDP) and \$10.2 billion in direct wages. The

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multiplier effects associated with these direct economic impacts are associated with the indirect and induced impacts of coastal tourism on other parts of the regional economy and add another \$15 billion in state GDP and \$5.6 billion in wages. In total, the direct, indirect and induced effects of these economic sectors reach over \$36.9 billion in state GDP and \$15.9 billion in wages.

Sources of potential MARCOOS Benefits

For illustration consider the potential economic benefits of MARCOOS benefits related to fisheries. MARCOOS work products can be expected to improve fishery economic impacts in three ways: by improving fishery management, by helping commercial fishermen reduce search time and dollar and energy use costs, and by improving the safety and enjoyment of recreational fishing. The baseline values for fisheries presented in this report and referred to above indicate that if MARCOOS output improves the economic value of commercial fisheries in the region by even 1%, the direct annual impacts from just this one pathway would be an increase in state GDP of around \$17.2 million. Similarly, a 1% increase in coastal tourism would generate an increase of \$218 million in state GDP. Similar exercises can be used to put hypothetical ranges of potential MARCOOS benefits in perspective even before specific links have been established to show how the use of MARCOOS work products improves decision-making by users and how those improved decisions generate specific economic benefits.

The MARCOOS Region

The MACOORA/MARCOOS region reaches from Cape Cod Massachusetts to Cape Hatteras, North Carolina (See Figure 1.1) and encompasses 9 states, 66 million people, four major estuaries (including the world's largest estuary), many military bases (including the world's largest Navy base), and several important seaports (including the second largest U.S. port) that, during 2006 handled about 14,282 ship visits and over 293 million metric tons of cargo worth approximately \$290 billion. The region also contains some of the most actively used coastal beach use and recreational boating areas in the U.S. All of this industrial, military, and recreational activity is affected in one way or another by ocean and coastal sea conditions and the impacts of wind, surge, tides, currents, and precipitation.

Economic Data Sources

The following sections present baseline quantitative information about the size and economic impacts of coastal and ocean industries and activities in each state in the MARCOOS region and for the MARCOOS region overall. With a few exceptions these economic statistics were derived from databases developed and maintained by the National Ocean Economics Program (NOEP) (<http://noep.mbari.org>).

The NOEP was established in 1999 to provide a full range of economic and socio-economic information on changes and trends along the U.S. coast and in coastal waters and is sponsored by NOAA's National Ocean Service and Coastal Services Centers and is funded by federal, state, university, and private grants and contracts. NOEP has compiled and maintains a comprehensive collection of data on the economic value of the ocean and coastal resources of the United States. Additional information can be obtained from their website:

<http://noep.mbari.org/>.

Table 1.1 Users & Potential Users of MARCOOS Data and Related Work Products

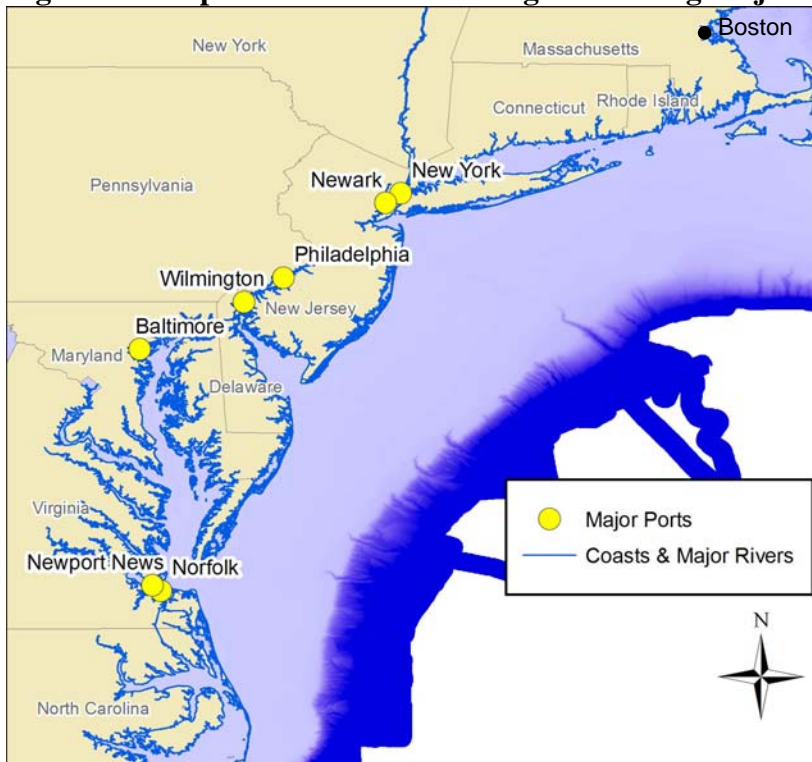
Energy Industry	a) Shore-based (facilities/equipment at risk) b) Offshore (rigs, wind/wave energy)
Transportation Industry	a) Shore-based (ports, roads, waterways) b) Offshore (ships)
Fishing Sectors	a) Commercial (search efficiency/vessel safety) b) Recreational (search efficiency/vessel safety)
Ocean Resource Managers	a) Fisheries (population dynamics, migrations, etc.) b) Aquaculture (location decisions/risk assessment) c) Marine Mammals (threats, resiliency, migrations) d) Endangered Species (threats, resiliency, migrations) e) Habitat Conservation/Restoration
Coastal Resource Managers	a) Beach Use (closures/openings) b) Recreational Boating (safety at sea, improved planning) c) Other Coastal Recreation (better planning, less risk)
Emergency Managers	a) Health and Safety (plumes) b) Storm Response (surge, waves, inundation) c) Spill Response (targeting containment/clean up efforts)
Search and Rescue	a) Assessing Risks (before and during operations) b) Targeting Operations (reduced search time) c) Managing Operations (manpower/asset deployment)
Homeland Security/National Defense	a) Vulnerability Assessments b) Response Planning
Research	a) Climate Change b) Other
Education	a) K-12 b) Undergraduate/Graduate

Distinguishing the Ocean and Coastal Economies

This report is divided into two parts to describe two different but related sets of economic conditions: 1. The Ocean Economy and 2. The Coastal Economy. The Ocean and Coastal Economies have been defined by the National Ocean Economics Program (NOEP) to distinguish industries dependent on the ocean from those influenced by proximity to the ocean. The *Ocean Economy* includes economic activity that uses the ocean as an input, while the *Coastal Economy* includes economic activity conducted along the coast that may not rely specifically on the ocean as an input.

The Ocean Economy and the Coastal Economy share components but are not identical. The Ocean Economy is captured through activity within specific economic sectors, where the activity, although ocean-dependent, may not be located along the coast. The Coastal Economy is captured by examining all economic activity within the counties that are near the coast or near major rivers that drain to the coast.

Figure 1.1 Map of the MARCOOS Region showing Major Ports



Part 1. The Ocean Economy

This section presents regional ocean economic conditions in the MARCOOS region as well as a state-by-state break-down of ocean economic activity.

Highlights of the Regional Ocean Economy

Shipping Activity

- The value of shipping activity in MARCOOS ports exceeded \$290 billion in 2006

Marine Construction

- Marine Construction generated over 5,200 jobs in 2004. Wages in this sector exceeded \$304 billion and generated over \$580 billion in State Gross Domestic Product (GDP). (Data include Connecticut, Maryland, Massachusetts, New Jersey and New York and exclude Delaware, North Carolina, Pennsylvania, Rhode Island and Virginia due to disclosure issues preventing data reporting by state).

Marine Living Resources

- Fish hatcheries, aquaculture, fishing, seafood processing and seafood markets generated over 15,000 jobs in 2004. Wages in this sector exceeded \$490 million and generated over \$1.7 billion in State GDP.

Minerals – Offshore

- Limestone, Sand & Gravel and Oil & Gas Exploration and Production generated about 1000 jobs in 2004. Wages in this sector exceeded \$44 million and generated over \$168 million in State GDP. (Data include only Maryland, Massachusetts, New Jersey, New York, North Carolina and Pennsylvania and exclude Connecticut, Delaware, Rhode Island and Virginia, due to disclosure issues preventing data reporting by state).

Ship & Boat Building and Repairs

- Ship & Boat Building and Repairs generated over 42,000 jobs in 2004. Wages in this sector exceeded \$2 billion and generated over \$2.7 billion in State GDP. (Connecticut data were excluded due to disclosure issues).

Coastal Tourism & Recreation

- Tourism services and recreation establishments generated over 550,000 jobs in 2004. Wages in this sector exceeded \$10.9 billion and generated over \$23.1 billion in State GDP.

Marine Transportation

- Deep Sea Freight Transportation, Marine Passenger Transportation, Marine Transportation Services, Search & Navigation Equipment and Warehousing generated over 97,000 jobs. Wages in this sector exceeded \$6.1 billion and generated over \$8.1 billion in State GDP.

Ocean Economic Sectors

The major industries that make up the Ocean Economy in the Mid-Atlantic region include aspects of construction, fisheries, mining, tourism shipping and transportation as shown in Table 1.2 and as defined by NOEP.

Table 1.2 Ocean Economy Sectors and Industries by NAICS Codes

Sector	Industry	NAICS Code*	NAICS Industry
Construction - Marine	Marine Related Construction	237120	Oil and Gas Pipeline and Related Structures
		237990	Other Heavy and Civil Engineering Construction
Living Resources - Marine	Fish Hatcheries & Aquaculture	112511	Finfish Farming and Fish Hatcheries
		112512	Shellfish Farming
	Fishing	114111	Finfish Fishing
		114112	Shellfish Fishing
	Seafood Processing	311711	Seafood Canning
		311712	Fresh and Frozen Seafood Processing
	Seafood Markets	445220	Fish and Seafood Markets
Minerals - Offshore	Limestone, Sand & Gravel	212321	Construction Sand and Gravel Mining
		212322	Industrial Sand Mining
	Oil & Gas Exploration and Production	211111	Crude Petroleum and Natural Gas Extraction
		213111	Drilling Oil and Gas Wells
		213112	Support Activities for Oil and Gas Operations
		541360	Geophysical Exploration and Mapping Services
Ship & Boat Building and Repair	Boat Building & Repair	336612	Boat Building & Repair
	Ship Building & Repair	336611	Ship Building & Repair
Tourism & Recreation - Coastal	Boat Dealers	441222	Boat Dealers
		Eating & Drinking Places	722110
	722211		Limited Service Eating Places
	722212		Cafeterias
	722213		Snack and Nonalcoholic Beverage Bars
	Hotels & Lodging Places		721110
		721191	Bed and Breakfast Inns
	Marinas	713930	Marinas
		Recreational Vehicle Parks & Campsites	721211
	Scenic Water Tours		487210
		Sporting Goods	339920
	Amusement & Recreation Services		487990
		611620	Sports and Recreation Instruction
		532292	Recreation Goods Rental
		713990	Amusement and Recreation Services Not Elsewhere Classified
712130		Zoos and Botanical Gardens	
Zoos, Aquaria	712190	Nature Parks and Other Similar Institutions	

Table 1.2 (cont.) Ocean Economy Sectors and Industries by NAICS Codes

Sector	Industry	NAICS Code*	NAICS Industry
Transportation - Marine	Deep Sea Freight	483111	Deep Sea Freight Transportation
		483113	Coastal and Great Lakes Freight Transportation
	Marine Passenger Transportation	483112	Deep Sea Passenger Transportation
		483114	Coastal and Great Lakes Passenger Transportation
		4489	Water Transportation of Passengers Not Elsewhere Classified
	Marine Transportation Services	488310	Port and Harbor Operations
		488320	Marine Cargo Handling
		488330	Navigational Services to Shipping
		488390	Other Support Activities for Water Transportation
	Search and Navigation Equipment	334511	Search, Detection, Navigation, Guidance, Aeronautical and Nautical System and Instrument Manufacturing
	Warehousing	493110	General Warehousing and Storage
		493120	Refrigerated Warehousing and Storage
		493130	Farm Product Warehousing and Storage

* North American Industrial Classification System

Explanation of Statistics

Wage and Salary Employment Definition

NOEP uses employer-reported data to calculate jobs, wages and salary. These statistics cover about 90% of employment in the U.S. but exclude farm employment, the military, railroads, and self-employment. According to NOEP, “The exclusion of self-employment excludes almost all the Fish Harvesting industry’s employment, plus self-employed persons in the Coastal Tourism & Recreation sector among the ocean economy sectors.”

Other important issues with the data relate to reporting area and how jobs are counted. Wage and salary employment assesses jobs where people work, not where they live. Also, the data are annual average employment, meaning they do not explicitly distinguish between full-and part-time work or year-round and part-year jobs. Each distinct job is counted as a single job and total jobs are averaged over the year.

State Gross Domestic Product (GDP) or Gross State Product (GSP) Definition

The Bureau of Economic Analysis (BEA) defines State GDP or GSP as follows:

GSP is the value added in production by the labor and property located in a state. GSP for a State is derived as the sum of the gross state product originating in all industries in a State. In concept, an industry's GSP, referred to as its "value added", is equivalent to its gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus its intermediate inputs (consumption of goods and services purchased from other U.S. industries or imported). Thus, GSP is often considered the state counterpart of the nation's gross domestic product (GDP), BEA's featured measure of U.S. output. In practice, GSP estimates are measured as the sum of the costs incurred and incomes earned in the production of GDP, e.g. the net cost of production.

From A Guide to the Measurement of the Market Data for the Ocean and Coastal Economy in the National Ocean Economics Program, 2007,

GSP data are published for industry aggregations larger than those used in the Ocean Economy definition. NOEP estimates the share of State GSP for a given sector ‘based on the proportion of total wages paid in that sector by a given establishment.’ The proportion of GSP for a given establishment or industry equals that establishment’s or industry’s share of total wages. Since wages often account for as much as 60% of GSP, this method is a reasonable approximation of individual establishments’ contribution to GSP.

What are establishments?

From NOEP, “Establishments are simply places of work. Employment is measured by the location of an establishment, not the firm, as there are many firms that have multiple establishments.”

What are the sources of data?

Establishments, employment, and wages are taken from the Quarterly Census of Employment and Wages (QCEW). This data series also is known as the ES-202 data.

State by State Description of the Ocean Economy for MARCOOS Region

Figure 1.2 Number of Establishments Engaged in Ocean Economy Related Activities in the MARCOOS Region

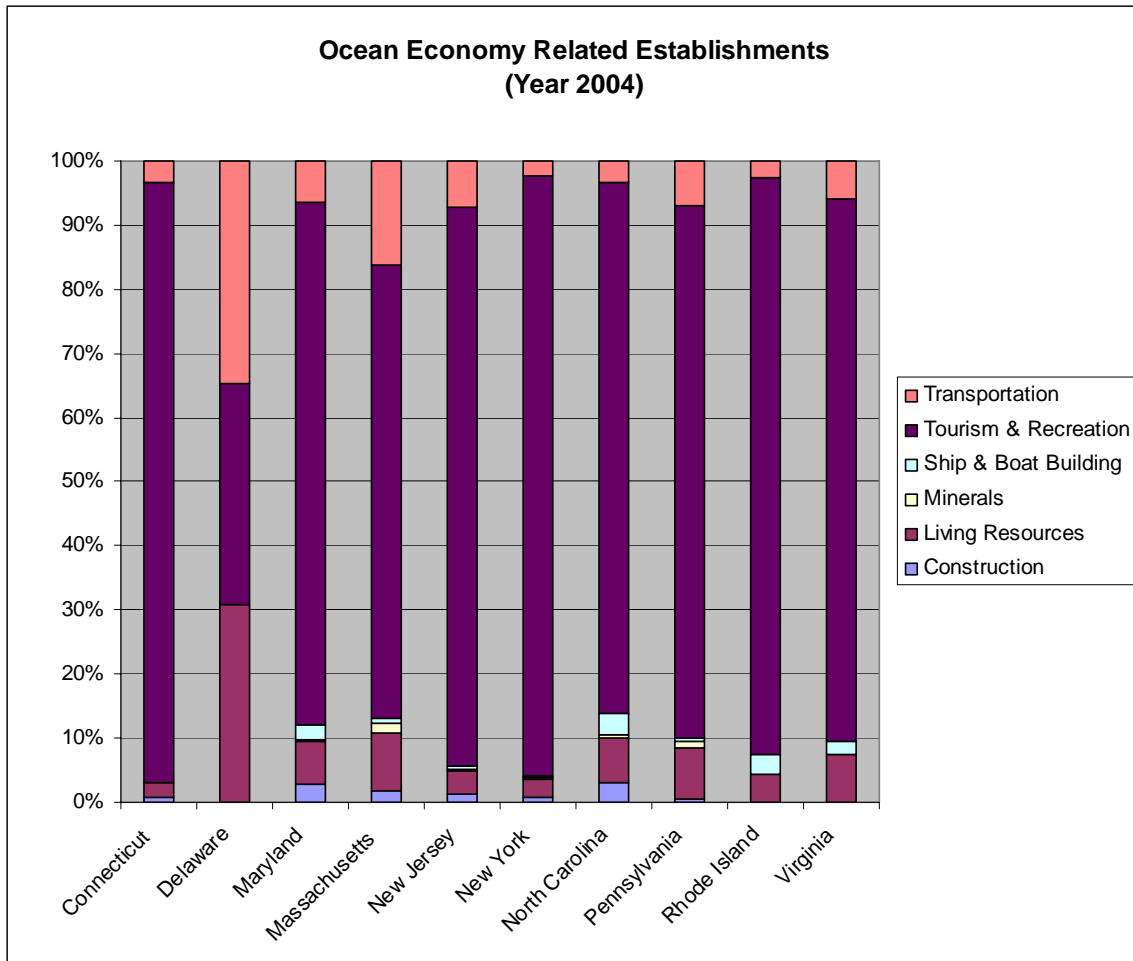


Table 1.3 Connecticut Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	185	144	329
Living Resources	414	220	634
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	36,612	11,457	48,069
Transportation	3,306	5,250	8,556
Ocean Economy	48,703	11,185	59,888
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$13,846,626	\$10,732,520	\$24,579,146
Living Resources	\$11,768,908	\$10,712,060	\$22,480,968
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	\$682,715,490	\$381,842,774	\$1,064,558,264
Transportation	\$209,103,070	\$196,494,155	\$405,597,225
Ocean Economy	\$1,509,919,248	\$167,601,037	\$1,677,520,285
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$26,644,700	\$20,854,807	\$47,499,507
Living Resources	\$43,975,800	\$27,590,417	\$71,566,217
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	\$1,323,004,100	\$913,666,631	\$2,236,670,731
Transportation	\$333,767,500	\$260,906,055	\$594,673,555
Ocean Economy	\$2,645,858,900	\$665,698,099	\$3,311,556,999

D = Disclosure issues prevent this data from being presented.

Table 1.4 Delaware Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	442	147	589
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	12,997	2,714	15,711
Transportation	2,180	941	3,121
Ocean Economy	15,714	3,834	19,548
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$10,279,547	\$15,512,864	\$25,792,411
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	\$188,532,229	\$69,587,246	\$258,119,475
Transportation	\$65,979,501	\$27,368,297	\$93,347,798
Ocean Economy	\$268,029,895	\$114,555,977	\$382,585,872
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$19,201,800	\$9,230,305	\$28,432,105
Minerals	D	N/A	N/A
Ship & Boat Building	D	N/A	N/A
Tourism & Recreation	\$373,863,400	\$182,258,408	\$556,121,808
Transportation	\$90,465,600	\$51,248,762	\$141,714,362
Ocean Economy	\$489,459,100	\$240,324,418	\$729,783,518

D = Disclosure issues prevent this data from being presented.

Table 1.5 Maryland Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	804	639	1,443
Living Resources	2,152	1,656	3,808
Minerals	91	58	149
Ship & Boat Building	1,063	575	1,638
Tourism & Recreation	35,014	11,790	46,804
Transportation	13,524	21,641	35,165
Ocean Economy	52,647	36,358	89,005
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$29,523,907	\$19,158,063	\$48,681,970
Living Resources	\$55,545,248	\$58,250,302	\$113,795,550
Minerals	\$4,016,407	\$21,584,573	\$25,600,980
Ship & Boat Building	\$35,509,795	\$33,752,060	\$69,261,855
Tourism & Recreation	\$566,771,344	\$337,682,367	\$904,453,711
Transportation	\$1,033,693,213	\$781,885,546	\$1,815,578,759
Ocean Economy	\$1,725,059,914	\$1,252,312,911	\$2,977,372,825
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$54,264,100	\$42,239,175	\$96,503,275
Living Resources	\$147,451,300	\$92,171,808	\$239,623,108
Minerals	\$21,788,400	\$11,460,698	\$33,249,098
Ship & Boat Building	\$40,314,200	\$25,986,533	\$66,300,733
Tourism & Recreation	\$1,119,400,700	\$823,319,215	\$1,942,719,915
Transportation	\$1,037,984,800	\$787,000,075	\$1,824,984,875
Ocean Economy	\$2,421,203,500	\$1,782,177,504	\$4,203,381,004

D = Disclosure issues prevent this data from being presented.

Table 1.6 Massachusetts Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	696	2,586	3,282
Living Resources	2,419	3,746	6,165
Minerals	327	14	341
Ship & Boat Building	207	-155	52
Tourism & Recreation	54,062	15,081	69,143
Transportation	12,958	18,205	31,163
Ocean Economy	70,669	39,477	110,146
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$38,553,937	\$174,869,092	\$213,423,029
Living Resources	\$147,052,587	\$127,700,467	\$274,753,054
Minerals	\$16,091,038	-\$1,395,093	\$14,695,945
Ship & Boat Building	\$7,328,606	-\$5,559,481	\$1,769,125
Tourism & Recreation	\$1,095,816,188	\$436,901,914	\$1,532,718,102
Transportation	\$737,938,713	\$479,955,339	\$1,217,894,052
Ocean Economy	\$2,042,781,069	\$1,212,472,238	\$3,255,253,307
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$68,149,700	\$55,760,085	\$123,909,785
Living Resources	\$314,826,800	\$269,995,464	\$584,822,264
Minerals	\$32,208,100	\$17,968,899	\$50,176,999
Ship & Boat Building	\$16,202,000	\$9,180,053	\$25,382,053
Tourism & Recreation	\$2,080,336,200	\$1,474,334,265	\$3,554,670,465
Transportation	\$1,039,007,600	\$611,663,774	\$1,650,671,374
Ocean Economy	\$3,550,730,300	\$2,438,902,471	\$5,989,632,771

D = Disclosure issues prevent this data from being presented.

Table 1.7 New Jersey Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	1,448	1,145	2,593
Living Resources	1,670	1,278	2,948
Minerals	140	120	260
Ship & Boat Building	2,117	1,111	3,228
Tourism & Recreation	58,787	18,438	77,225
Transportation	24,295	27,078	51,373
Ocean Economy	88,457	49,170	137,627
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$88,047,021	\$59,722,294	\$147,769,315
Living Resources	\$47,602,322	\$59,260,131	\$106,862,453
Minerals	\$6,690,561	\$43,609,077	\$50,299,638
Ship & Boat Building	\$78,871,304	\$75,211,675	\$154,082,979
Tourism & Recreation	\$1,020,732,937	\$586,819,365	\$1,607,552,302
Transportation	\$1,598,860,954	\$1,172,444,738	\$2,771,305,692
Ocean Economy	\$2,840,805,099	\$1,997,067,280	\$4,837,872,379
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$177,559,400	\$144,409,060	\$321,968,460
Living Resources	\$143,800,700	\$99,035,542	\$242,836,242
Minerals	\$16,930,300	\$9,662,122	\$26,592,422
Ship & Boat Building	\$73,584,800	\$43,797,673	\$117,382,473
Tourism & Recreation	\$2,198,637,500	\$1,608,303,331	\$3,806,940,831
Transportation	\$2,087,002,300	\$1,704,872,179	\$3,791,874,479
Ocean Economy	\$4,697,515,000	\$3,610,079,907	\$8,307,594,907

D = Disclosure issues prevent this data from being presented.

Table 1.8 New York Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	2,087	1,539	3,626
Living Resources	2,618	1,163	3,781
Minerals	250	200	450
Ship & Boat Building	651	549	1,200
Tourism & Recreation	227,974	76,179	304,153
Transportation	17,799	25,192	42,991
Ocean Economy	251,378	104,822	356,200
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$132,513,367	\$85,828,908	\$218,342,275
Living Resources	\$73,954,247	\$52,581,470	\$126,535,717
Minerals	\$11,208,712	\$41,465,509	\$52,674,221
Ship & Boat Building	\$32,411,038	\$17,553,818	\$49,964,856
Tourism & Recreation	\$5,596,826,931	\$3,201,385,005	\$8,798,211,936
Transportation	\$1,232,863,190	\$1,036,714,656	\$2,269,577,846
Ocean Economy	\$7,079,777,485	\$4,435,529,366	\$11,515,306,851
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$250,666,300	\$199,530,375	\$450,196,675
Living Resources	\$195,729,800	\$137,382,747	\$333,112,547
Minerals	\$75,240,700	\$44,331,820	\$119,572,520
Ship & Boat Building	\$56,699,800	\$41,623,323	\$98,323,123
Tourism & Recreation	\$12,197,767,500	\$8,687,250,014	\$20,885,017,514
Transportation	\$1,483,059,700	\$1,305,092,536	\$2,788,152,236
Ocean Economy	\$14,259,163,800	\$10,415,210,815	\$24,674,374,615

D = Disclosure issues prevent this data from being presented.

Table 1.9 North Carolina Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	526	338	864
Living Resources	1,580	1,175	2,755
Minerals	79	38	117
Ship & Boat Building	4,084	3,007	7,091
Tourism & Recreation	31,933	9,550	41,483
Transportation	2,151	3,093	5,244
Ocean Economy	40,353	17,201	57,554
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$16,607,132	\$11,518,707	\$28,125,839
Living Resources	\$25,915,672	\$72,973,349	\$98,889,021
Minerals	\$3,174,360	\$2,505,522	\$5,679,882
Ship & Boat Building	\$135,723,102	\$87,514,256	\$223,237,358
Tourism & Recreation	\$387,164,508	\$218,438,215	\$605,602,723
Transportation	\$127,181,646	\$87,857,081	\$215,038,727
Ocean Economy	\$695,766,420	\$480,807,130	\$1,176,573,550
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$34,707,100	\$25,002,995	\$59,710,095
Living Resources	\$168,354,400	\$114,278,967	\$282,633,367
Minerals	\$6,809,200	\$2,823,775	\$9,632,975
Ship & Boat Building	\$406,159,900	\$232,770,239	\$638,930,139
Tourism & Recreation	\$868,232,500	\$606,286,755	\$1,474,519,255
Transportation	\$256,437,500	\$193,379,519	\$449,817,019
Ocean Economy	\$1,740,700,600	\$1,174,542,250	\$2,915,242,850

D = Disclosure issues prevent this data from being presented.

Table 1.10 Pennsylvania Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	46	40	86
Living Resources	1,250	798	2,048
Minerals	91	86	177
Ship & Boat Building	968	867	1,835
Tourism & Recreation	23,364	8,266	31,630
Transportation	6,951	8,764	15,715
Ocean Economy	32,670	18,821	51,491
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$2,149,559	\$1,746,947	\$3,896,506
Living Resources	\$33,061,851	\$36,354,811	\$69,416,662
Minerals	\$3,410,996	\$3,991,889	\$7,402,885
Ship & Boat Building	\$46,870,069	\$34,486,997	\$81,357,066
Tourism & Recreation	\$317,021,302	\$226,923,848	\$543,945,150
Transportation	\$295,146,116	\$286,557,364	\$581,703,480
Ocean Economy	\$697,659,893	\$590,061,856	\$1,287,721,749
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$4,090,700	\$3,809,260	\$7,899,960
Living Resources	\$199,958,600	\$149,529,041	\$349,487,641
Minerals	\$15,319,200	\$10,328,205	\$25,647,405
Ship & Boat Building	\$79,378,900	\$71,290,190	\$150,669,090
Tourism & Recreation	\$625,916,500	\$552,183,536	\$1,178,100,036
Transportation	\$445,102,900	\$420,310,668	\$865,413,568
Ocean Economy	\$1,369,766,800	\$1,207,450,900	\$2,577,217,700

D = Disclosure issues prevent this data from being presented.

Table 1.11 Rhode Island Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	600	284	884
Minerals	D	N/A	N/A
Ship & Boat Building	3,590	1,873	5,463
Tourism & Recreation	23,416	4,996	28,412
Transportation	1,968	1,555	3,523
Ocean Economy	29,665	8,954	38,619
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$22,452,538	\$11,345,267	\$33,797,805
Minerals	D	N/A	N/A
Ship & Boat Building	\$151,694,419	\$56,339,307	\$208,033,726
Tourism & Recreation	\$394,071,330	\$136,624,530	\$530,695,860
Transportation	\$134,803,060	\$53,988,626	\$188,791,686
Ocean Economy	\$706,419,000	\$262,152,091	\$968,571,091
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$83,662,800	\$29,976,381	\$113,639,181
Minerals	D	N/A	N/A
Ship & Boat Building	\$185,473,800	\$69,886,528	\$255,360,328
Tourism & Recreation	\$869,969,700	\$378,349,823	\$1,248,319,523
Transportation	\$97,130,400	\$49,070,278	\$146,200,678
Ocean Economy	\$1,243,619,100	\$526,797,051	\$1,770,416,151

D = Disclosure issues prevent this data from being presented.

Table 1.12 Virginia Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	2,483	2,590	5,073
Minerals	D	N/A	N/A
Ship & Boat Building	29,338	21,652	50,990
Tourism & Recreation	46,827	14,410	61,237
Transportation	12,047	15,323	27,370
Ocean Economy	91,533	54,242	145,775
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$63,063,917	\$82,670,489	\$145,734,406
Minerals	D	N/A	N/A
Ship & Boat Building	\$1,532,991,604	\$782,745,513	\$2,315,737,117
Tourism & Recreation	\$669,121,385	\$374,707,976	\$1,043,829,361
Transportation	\$694,811,214	\$549,873,595	\$1,244,684,809
Ocean Economy	\$2,991,654,177	\$1,807,258,288	\$4,798,912,465
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	D	N/A	N/A
Living Resources	\$382,757,800	\$257,978,757	\$640,736,557
Minerals	D	N/A	N/A
Ship & Boat Building	\$1,850,673,500	\$1,145,937,031	\$2,996,610,531
Tourism & Recreation	\$1,432,917,800	\$959,195,175	\$2,392,112,975
Transportation	\$1,248,580,600	\$928,319,676	\$2,176,900,276
Ocean Economy	\$4,972,858,800	\$3,357,176,976	\$8,330,035,776

D = Disclosure issues prevent this data from being presented.

Regional Ocean Economic Summary

Table 1.13 Regional Ocean Economy, 2004

Ocean Economy Employment, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	4,870	5,624	10,494
Living Resources	15,538	12,954	28,492
Minerals	917	434	1,351
Ship & Boat Building	43,985	31,375	75,360
Tourism & Recreation	524,132	163,993	688,125
Transportation	75,035	103,057	178,092
Ocean Economy	673,685	312,095	985,780
Ocean Economy Wages, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$249,801,660	\$315,372,944	\$565,174,604
Living Resources	\$469,010,187	\$541,074,428	\$1,010,084,615
Minerals	\$41,075,873	\$70,657,922	\$111,733,795
Ship & Boat Building	\$2,078,251,735	\$1,094,346,726	\$3,172,598,461
Tourism & Recreation	\$10,285,205,215	\$5,602,532,090	\$15,887,737,305
Transportation	\$4,658,701,369	\$3,588,551,740	\$8,247,253,109
Ocean Economy	\$18,412,833,521	\$10,803,558,024	\$29,216,391,545
Ocean Economy GDP, 2004			
Sector	Direct	Indirect & Induced	Total
Construction	\$473,229,700	\$372,199,692	\$845,429,392
Living Resources	\$1,724,273,500	\$1,202,412,854	\$2,926,686,354
Minerals	\$158,174,800	\$89,737,172	\$247,911,972
Ship & Boat Building	\$3,041,062,000	\$1,829,444,136	\$4,870,506,136
Tourism & Recreation	\$21,759,640,900	\$15,183,130,577	\$36,942,771,477
Transportation	\$6,287,974,100	\$4,800,370,862	\$11,088,344,962
Ocean Economy	\$34,434,061,500	\$22,982,822,734	\$57,416,884,234

Regional Shipping Activities

Shipping activities are presented by major ports within the region.

Table 1.14 Volume and Value of Shipping Activity at Ports in the MARCOOS Region (Year 2006)

MARCOOS Area	State	National Ranking (out of 236)			Export			Import			Total Cargo Throughput (Imports + Exports)			
		Value Export (USD)	Value Import (USD)	Value Total Cargo (USD)	Volume (metric Ton)	Value (Thousands USD)	\$USD/metric Ton	Volume (metric Ton)	Value (Thousands USD)	\$USD/metric Ton	Volume (metric Ton)	Value (Thousands USD)	% Import Value	% Export Value
Major Ports														
Newark	NJ	15	2	2	3,918,704	6,945,122	1,772	53,210,410	100,835,455	1,895	57,129,114	107,780,577	94%	6%
Philadelphia	PA	22	6	13	1,883,091	2,430,518	1,291	53,942,598	29,462,379	546	55,825,689	31,892,897	92%	8%
Baltimore	MD	10	9	9	7,631,685	9,599,931	1,258	20,192,191	27,105,718	1,342	27,823,877	36,705,649	74%	26%
Norfolk	VA	5	8	6	17,047,498	16,595,053	973	8,494,807	27,226,542	3,205	25,542,305	43,821,596	62%	38%
New York	NY	3	18	8	10,394,650	26,218,253	2,522	10,023,034	11,521,083	1,149	20,417,684	37,739,336	31%	69%
Wilmington	DE	24	37	32	1,122,933	2,175,543	1,937	12,286,980	5,499,290	448	13,409,912	7,674,833	72%	28%
Newport News	VA	47	46	50	4,490,016	802,252	179	4,073,141	2,486,969	611	8,563,157	3,289,221	76%	24%
Small Ports														
Chester	PA	32	35	34	329,615	1,594,532	4,838	8,117,224	5,684,958	700	8,446,839	7,279,490	78%	22%
Perth Amboy	NJ	64	44	48	252,387	220,703	874	6,848,671	3,441,226	502	7,101,058	3,661,930	94%	6%
Providence	RI	83	38	39	371,813	92,154	248	4,949,520	5,269,111	1,065	5,321,333	5,361,265	98%	2%
New Haven	CT	92	51	56	285,921	70,940	248	3,166,745	1,859,660	587	3,452,665	1,930,600	96%	4%
Fall River	MA	139	90	102	568	2,024	3,566	2,314,032	138,820	60	2,314,600	140,844	99%	1%
Bridgeport	CT	120	85	94	6,042	8,143	1,348	1,983,495	211,444	107	1,989,537	219,587	96%	4%
Paulsboro	NJ	84	79	86	196,543	88,580	451	403,180	255,203	633	599,724	343,784	74%	26%
Newport	RI	128	98	113	881	5,148	5,846	382,758	89,112	233	383,639	94,260	95%	5%
Richmond-Petersburg	VA	50	58	60	140,591	630,100	4,482	233,546	1,011,248	4,330	374,137	1,641,348	62%	38%
New London	CT	201	94	105	0	4		183,741	125,263	682	183,741	125,266	100%	0%
Plymouth	MA	222	106	122	0	0	0	166,187	49,567	298	166,187	49,567	100%	0%
Camden	NJ	74	103	95	79,082	149,969	1,896	45,588	67,409	1,479	124,670	217,378	31%	69%
Massena	NY	153	170	176	49,653	984	20	124	363	2,931	49,777	1,346	27%	73%
New Bedford	MA	119	135	141	9,857	8,553	868	5,791	7,729	1,335	15,648	16,282	47%	53%
Annapolis	MD	103	142	132	13,874	25,981	1,873	592	4,745	8,017	14,466	30,726	15%	85%
Hopewell	VA	192	157	182	20	42	2,076	6,000	970	162	6,020	1,011	96%	4%
Gloucester City	NJ	123		159	1,690	6,240	3,692	0	0	0	1,690	6,240	0%	100%
Washington	DC	158	150	168	237	784	3,301	499	1,696	3,397	737	2,480	68%	32%
Hartford	CT	159	168	179	112	775	6,889	203	409	2,014	316	1,184	35%	65%
Melville	RI	146		177	78	1,280	16,415	0	0	0	78	1,280	0%	100%
Cambridge	MD	190	186	207	58	45	782	20	39	2,001	78	85	46%	54%
Crisfield	MD	176	206	201	68	273	3,990	0	0	0	68	273	0%	100%
Alexandria	VA	200	213	215	0	4		0	0	0	0	4	0%	100%
Provincetown	MA	223	199	225	0	0	0	0	0	0	0	0	0%	0%
TOTAL					48,227,667	67,673,931	73,635	191,031,077	222,356,407	39,728	239,258,745	290,030,338		

(Source: MARAD, Census Bureau's Foreign Trade Division, U.S. Waterborne Foreign Trade by U.S. Custom Port)

Figure 1.3 Volume of Total Cargo Throughput for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

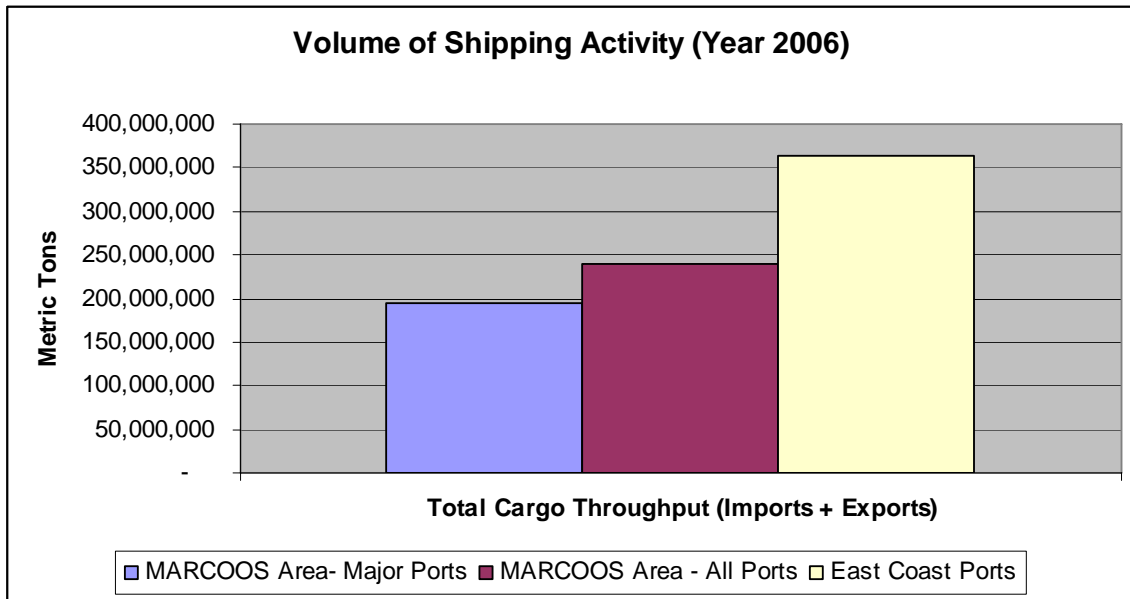


Figure 1.4 Volume of Total Cargo Exports for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

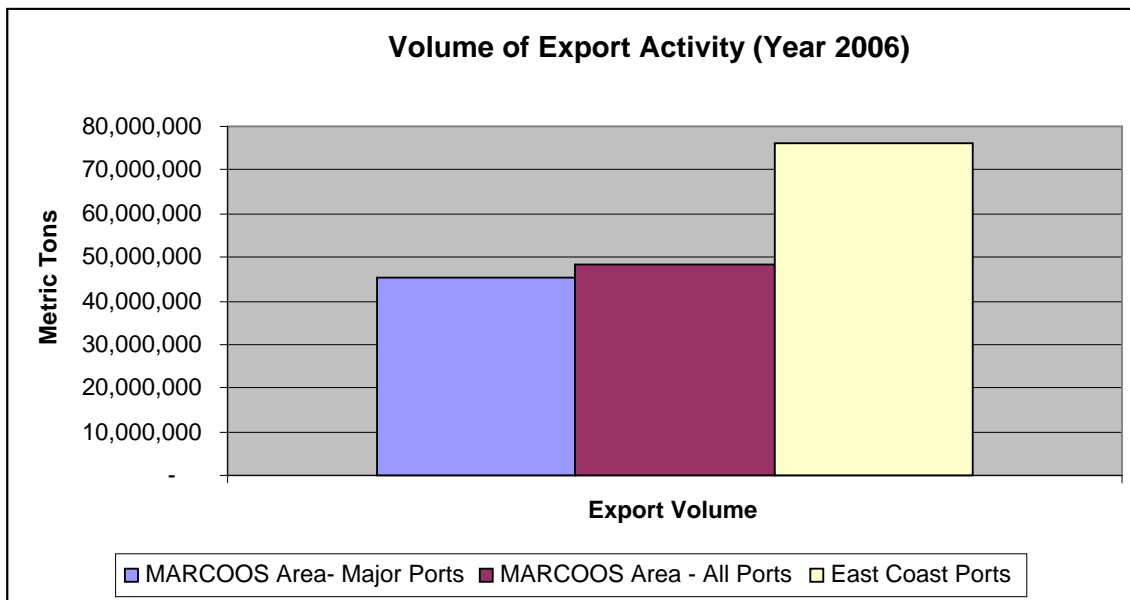


Figure 1.5 Volume of Total Cargo Imports for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

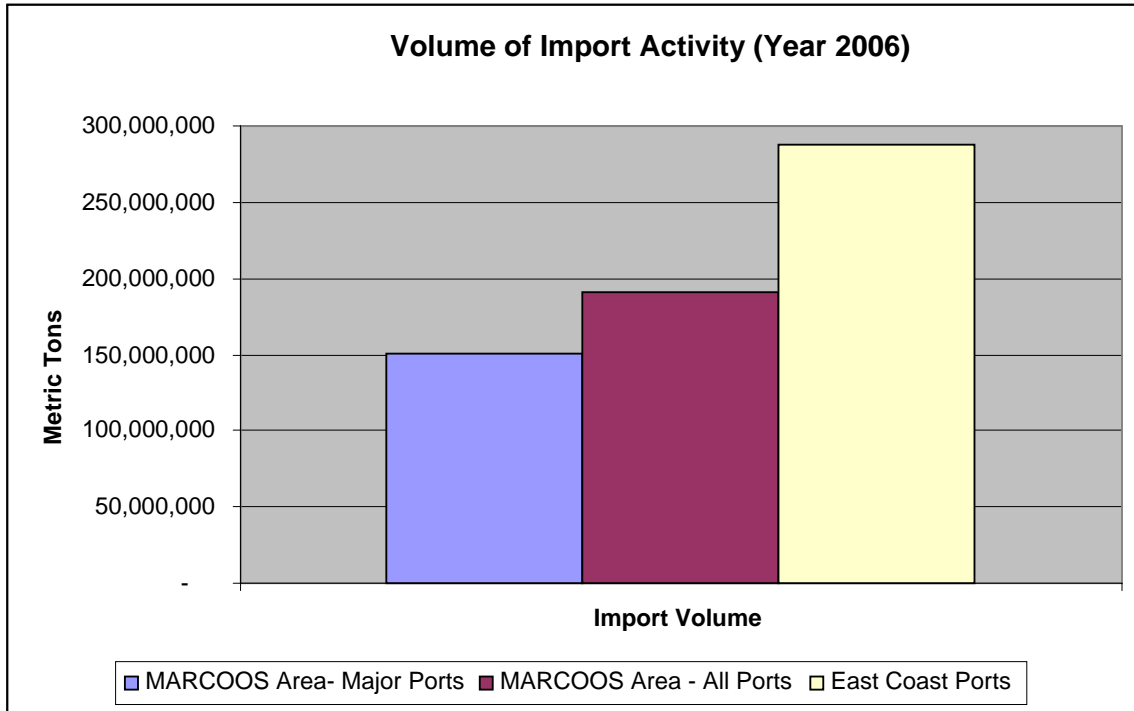


Figure 1.6 Value of Total Cargo Throughput for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

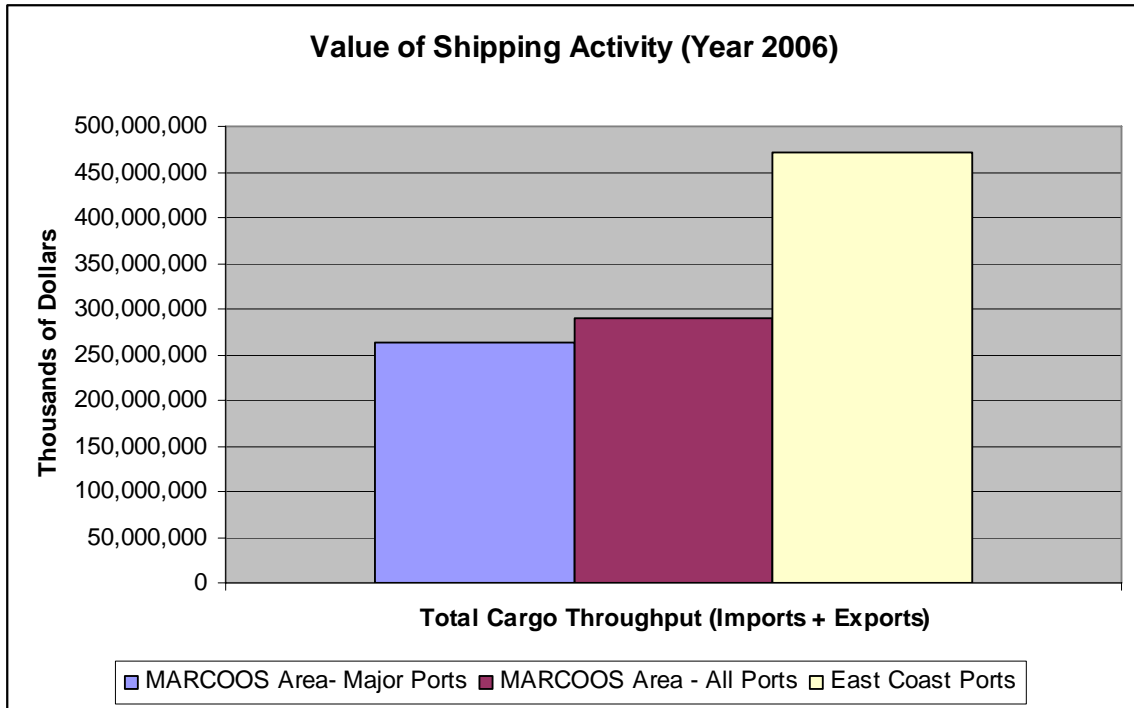


Figure 1.7 Value of Total Cargo Exports for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

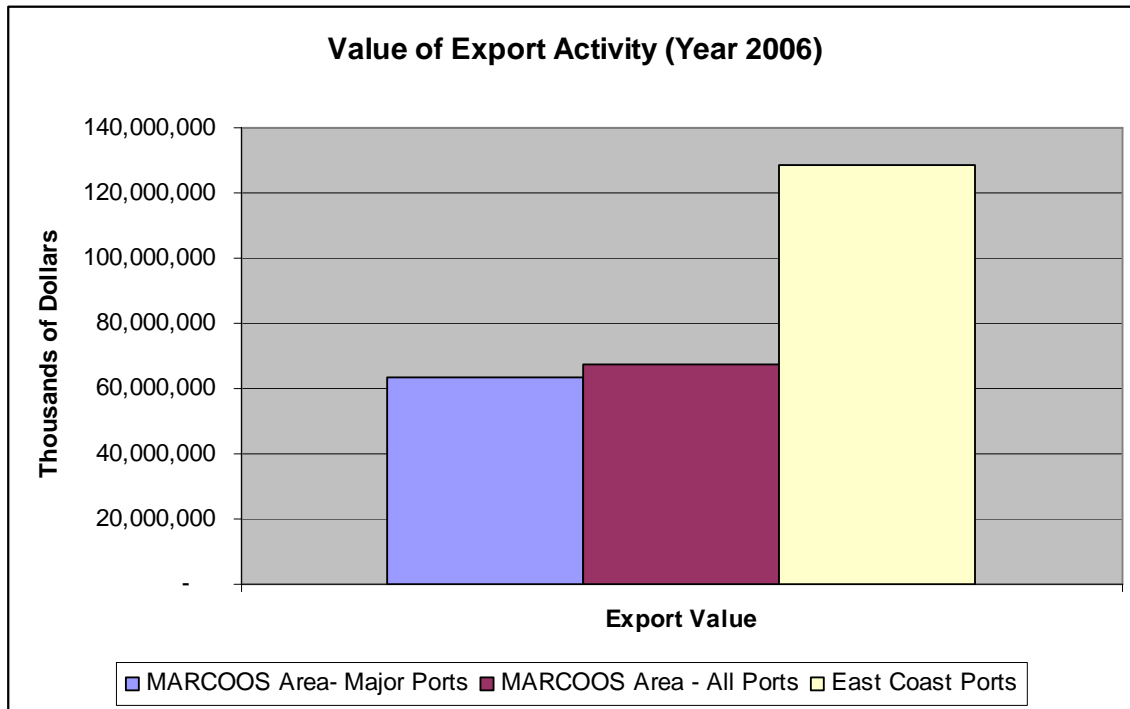


Figure 1.8 Value of Total Cargo Imports for MARCOOS Ports Compared to Mid-Atlantic Area and East Coast Ports

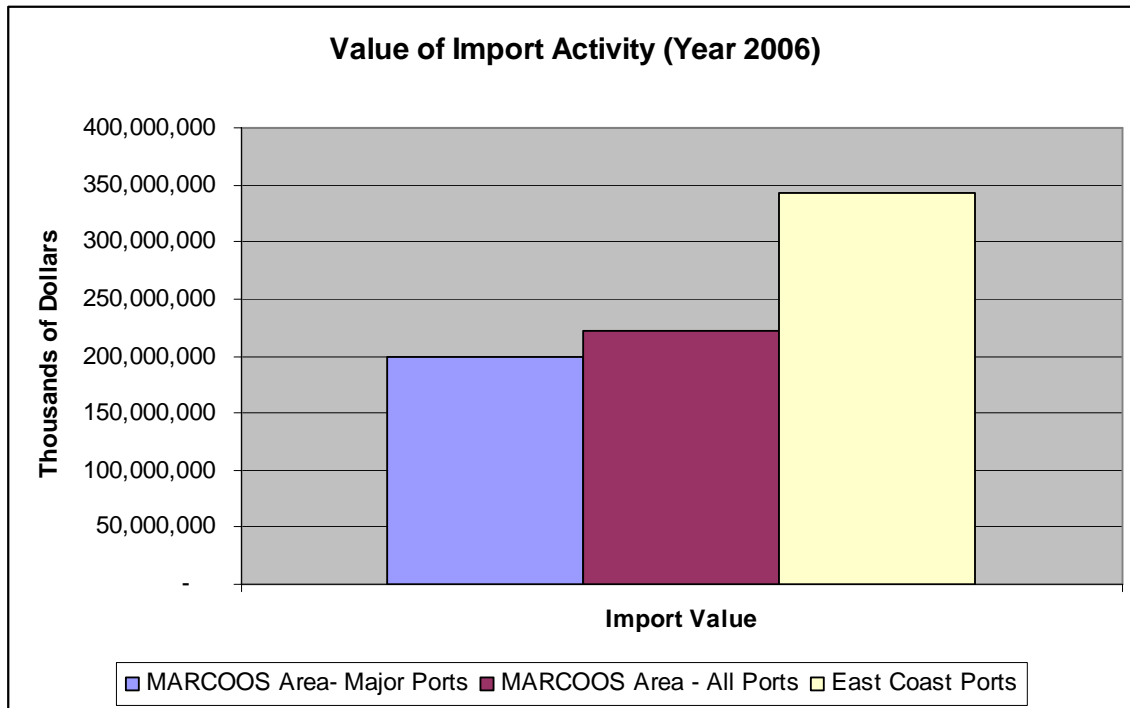


Figure 1.9 Volume of Total Cargo Throughput for Major MARCOOS Ports

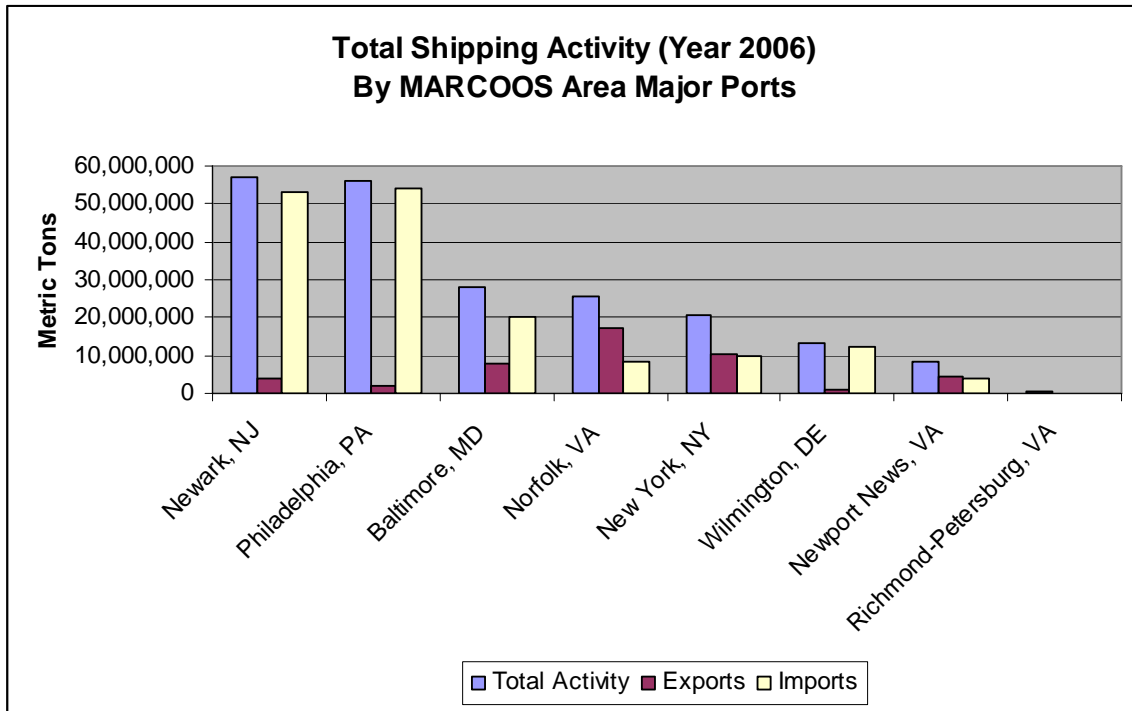
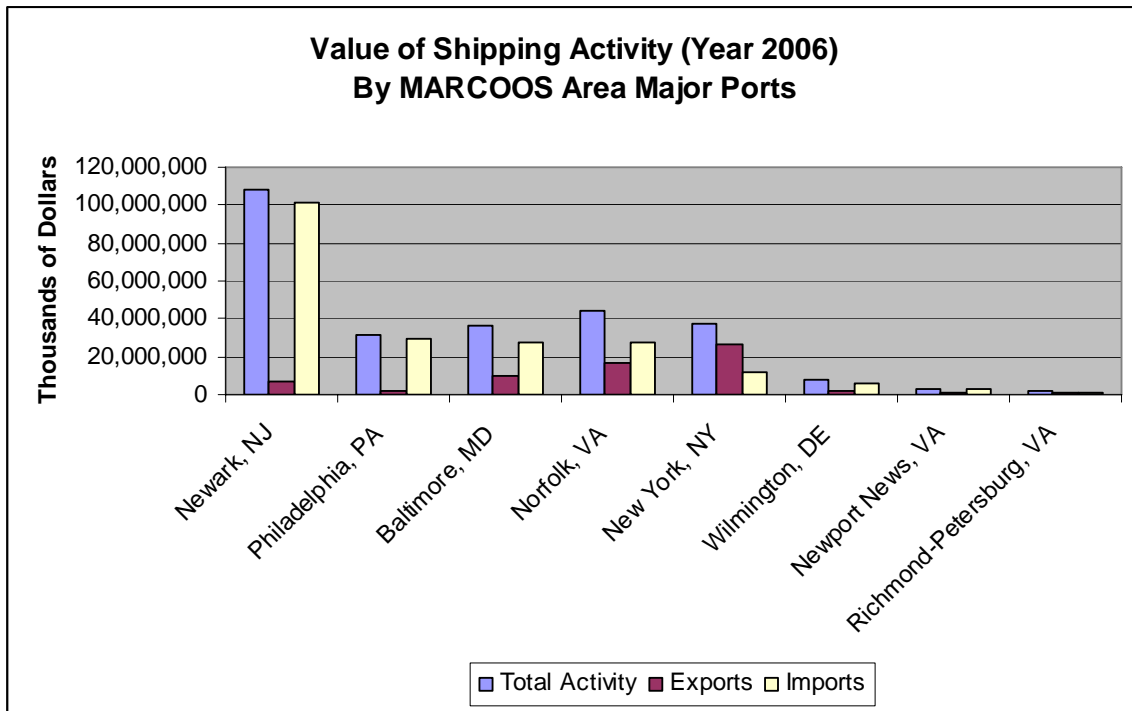


Figure 1.10 Value of Total Cargo Throughput for Major MARCOOS Ports



Marine Research & Education

The federal level of spending on coastal and ocean support including research and education are presented here. Although we did not select funding specific to the MARCOOS region, the many research and educational institutions in the region would be expected to attract a substantial portion of the federal budget dedicated to marine research and education.

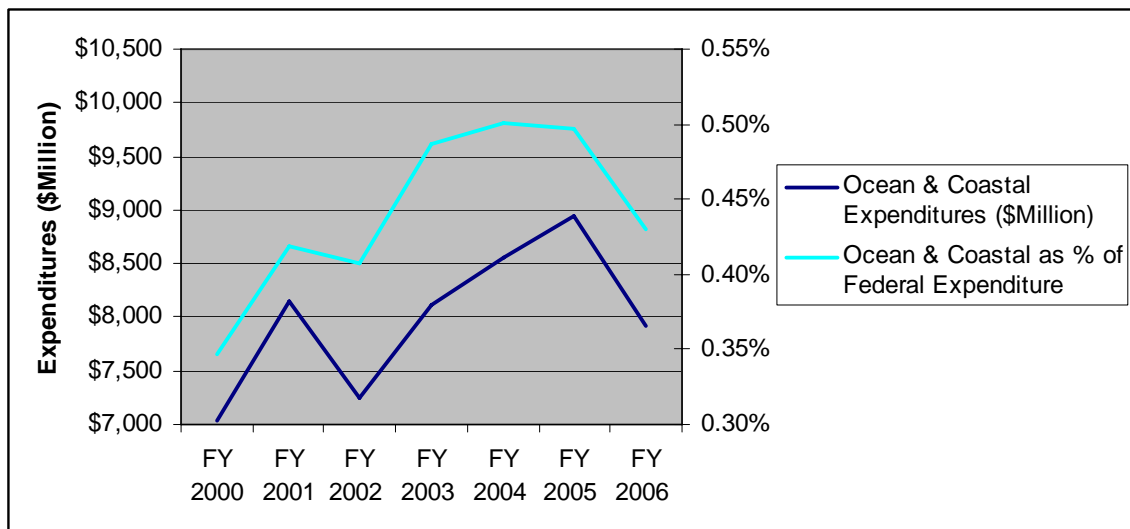
Federal Ocean and Coastal Expenditures

The federal government is generally the largest source of funding for marine research and education. Federal government expenditures on ocean and coastal support include funding through the various departments and agencies shown in Table 1.15. The funding allocated to each department is shown in Table 1.16. The departments receiving the highest levels of funding in 2005 (the most recent year for which enacted budgets were available) were Homeland Security Commerce (which includes NOAA), and Defense.

Ocean and Coastal expenditures declined as a proportion of the total budget were lower than any of the previous six years (Figure 1.11). Other recent status and trend figures include:

- 2006:** 0.4% of the total Federal budget is allocated to ocean and coastal support, \$8.2 billion (2000 dollars).
- 2005-06:** Federal ocean and coastal expenditures decreased 12%.
- 2000-06:** The Federal government spent \$56.3 billion on the oceans and coasts (2000 dollars).

Figure 1.11 Federal Coastal and Ocean Expenditures and %Federal Expenditures



* Data are from NOEP and represent dollars allocated by the federal government to ocean and/or coastal related activities. These allocations are reported in the biannual Budget of the United States Government volumes.

Table 1.15 Components of the Ocean Budget (Federal spending data compiled by NOEP)

U.S. Executive Department	U.S. Agency	Sub Agency, Bureau, Account and/or Program
Department of Agriculture	Agriculture Research Service	
	Cooperative State Research, Education and Extension Service	
	Natural Resources Conservation Service	
Department of Commerce	National Oceanic and Atmospheric Administration	<i>National Ocean Service</i>
		<i>National Marine Fisheries Service</i>
		<i>Oceanic and Atmospheric Research</i>
		<i>National Weather Service</i>
		<i>NOAA Marine and Aviation Operations</i>
		<i>National Environmental Satellite, Data and Information Service</i>
	Program Support	
National Institute of National Standards and Technology		
Department of Defense	Defense Advanced Research Projects Agency	
	The Center of Excellence for Research in Ocean Sciences	
	Office of the Secretary of Defense	
	Department of the Army	<i>U.S. Army Corps of Engineers</i>
	Department of the Navy	
Department of Energy	Office of Science	
	Office of Fossil Fuel Research and Development	
Environmental Protection Agency	Office of Water	
	Office of International Affairs	
	Office of Air and Radiation	
	Office of Research and Development	
Department of Homeland Security	United States Coast Guard	
	Federal Emergency Management Agency	
Department of the Interior	United States Geological Survey	
	Bureau of Land Management	
	Minerals Management Service	
	National Park Service	
	Natural Resource Damage Assessment and Restoration Program	
	<i>Fish and Wildlife Service</i>	

Table 1.15 (cont.) Components of the Ocean Budget (Federal spending data compiled by NOEP)

U.S. Executive Department	U.S. Agency	Sub Agency, Bureau, Account and/or Program
Marine Mammal Commission (independent U.S. agency)		
National Aeronautic and Space Administration		
National Science Foundation	Directorate for Geosciences	
	Division of Ocean Sciences	
	Office of Biological Sciences	
	Division of Environmental Biology	
	Division of Integrative Organismal Biology	
	Division of Molecular and Cellular Biosciences	
	Division of Biological Infrastructure	
	Division of Emerging Frontiers	
Smithsonian Institution		
Department of State and USAID	Bureau of Oceans and international Environmental and Scientific Affairs	
	International and Organization and Programs	
	Contributions to International Organizations	
	United States Agency for International Development	
Department of Transportation	St. Lawrence Seaway Development Corporation	
	Maritime Administration	
<i>Department of Treasury</i>		

The table lists the agencies and programs accounted for in the Administration Ocean Budget Dataset as reported by OMB.

Table 1.16 Federal Ocean Expenditures by Department for FY2005 (from NOEP)

Department	Period	Enacted Budget (\$Million)	Total Federal Ocean (\$Million)	Total Budget (\$Million)	% Federal Ocean	% Total Federal Budget
Agriculture	FY 2005	\$669.10	\$10,199	\$2,052,845	6.6%	0.033%
Commerce	FY 2005	\$2,100.69	\$10,199	\$2,052,845	20.6%	0.102%
Defense	FY 2005	\$1,527.80	\$10,199	\$2,052,845	15.0%	0.074%
Energy	FY 2005	\$16.01	\$10,199	\$2,052,845	0.2%	0.001%
Environmental Protection Agency	FY 2005	\$962.77	\$10,199	\$2,052,845	9.4%	0.047%
Health and Human Services	FY 2005	\$7.20	\$10,199	\$2,052,845	0.1%	0.000%
Homeland Security	FY 2005	\$2,770.67	\$10,199	\$2,052,845	27.2%	0.135%
Interior	FY 2005	\$751.74	\$10,199	\$2,052,845	7.4%	0.037%
Marine Mammal Commission	FY 2005	\$1.86	\$10,199	\$2,052,845	0.0%	0.000%
National Aeronautic and Space Administration	FY 2005	\$103.80	\$10,199	\$2,052,845	1.0%	0.005%
National Science Foundation	FY 2005	\$340.27	\$10,199	\$2,052,845	3.3%	0.017%
Smithsonian Institution	FY 2005	\$0.56	\$10,199	\$2,052,845	0.0%	0.000%
State	FY 2005	\$93.47	\$10,199	\$2,052,845	0.9%	0.005%
Transportation	FY 2005	\$837.09	\$10,199	\$2,052,845	8.2%	0.041%
Treasury	FY 2005	\$16.00	\$10,199	\$2,052,845	0.2%	0.001%

Non-Market Value of Coastal Tourism and Recreation

The state-by-state analysis of the ocean economy captures how tourism expenditures move through the economy to generate jobs, wages and state GDP. In this section, we isolate the effects of tourism to understand the level of *expenditures* associated with two types of coastal recreation and evaluate the likely *benefits* people derive from those activities.

Coastal areas generate aesthetics, amenities and recreational opportunities that can have a substantial effect on state economies. The value people attach to coastal regions is evident in the extra money people are willing to pay to have a house on the coast and the money and time residents and non-residents spend to enjoy the recreational options in the coastal zone. The purchases by fishers, hunters, beachgoers and others on equipment, food, lodging, etc. feeds back into the economy to generate jobs, economic output and tax revenues.

In addition to these economic impacts, people derive benefits from their enjoyment of recreation that is above and beyond what they spend. This difference between expenditures and the value someone would put on a coastal recreation experience is a measure of social welfare known as *consumer surplus*. Consumer surplus values for fishing and coastal wildlife viewing (waterfowl, water birds, fish and marine mammals) estimated by state are shown in Tables 1.19 and 1.22. Wildlife participation rates were developed from the US Fish and Wildlife Service 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation and average consumer surplus values were derived from literature values summarized for the Northeast region from NOEP data (Table 1.18.).

Economic Impacts of Recreational Fisheries

Expenditures

Table 1.17 Estimated 2007 Value of Recreational Saltwater Fishing Expenditures in MARCOOS Region (all values in \$ thousands)*

State	Party Charter	Private/Rental	Shore	Equipment and Durable Goods	Total
Connecticut	\$2,171	\$35,785	\$14,034	\$457,593	\$509,583
Delaware	\$2,786	\$23,242	\$22,399	\$242,312	\$290,739
Maryland	\$19,675	\$89,421	\$62,016	\$713,952	\$885,064
Massachusetts	\$13,593	\$93,356	\$65,929	\$904,351	\$1,077,229
New Jersey	\$36,616	\$182,066	\$42,525	\$556,100	\$817,307
New York	\$15,334	\$130,203	\$30,705	\$544,252	\$720,494
North Carolina	\$32,994	\$173,002	\$215,577	\$1,882,623	\$2,304,196
Pennsylvania	N/A	N/A	N/A	N/A	N/A
Rhode Island	\$5,331	\$20,281	\$21,098	\$126,115	\$172,825
Virginia	\$6,601	\$124,925	\$49,144	\$514,760	\$695,430
MARCOOS RegionTotal	\$135,101	\$872,281	\$523,427	\$5,942,058	\$7,472,867

*Recreational values are based on 1998 expenditures updated to 2007 using the 1998-2007 change in the Consumer Price Index. Source: National Marine Fisheries Service

Benefits

Existing literature values were used to generate a per trip value of coastal recreational fishing in the MARCOOS region (Table 1.18). The most commonly used value of \$207.26 was used in Table 1.19.

Table 1.18 Coastal Recreational Fishing Values for the Northeastern U.S.

	Author and Date	Consumer Surplus/ Day	Study Methodology
Connecticut	Norton et al., 1983	\$207.26/trip	TC (residents; secondary data only)
Delaware	Norton et al., 1983	\$407.29/trip	TC (residents; secondary data only; shore fishing)
Delaware	McConnell & Strand, 1994	\$17.07-\$18.51 /day	TC and RUM (non-residents; secondary data only)
Maine	Norton et al., 1983	\$207.26/trip	TC (residents; secondary data only)
Maryland	McConnell & Strand, 1994	\$44.67-\$45.73 /day	TC and RUM (non-residents; secondary data only)
Massachusetts	Norton et al., 1983	\$207.26/trip	TC (residents; secondary data only)
New Hampshire	Norton et al., 1983	\$207.26/trip	TC (residents; secondary data only)
New Jersey	Norton et al., 1983	\$407.29/trip	TC (residents; secondary data only; shore fishing)
New Jersey	McConnell & Strand, 1994	\$54.03-\$56.95 /day	TC and RUM (non-residents; secondary data only)
New York	Norton et al., 1983	\$407.29/trip	TC (residents; secondary data only; shore fishing)
New York	McConnell & Strand, 1994	\$96.35-\$98.31 /day	TC and RUM (non-residents; secondary data only)
Rhode Island	Norton et al., 1983	\$207.26/trip	TC (residents; secondary data only)
DE, FL, GA, MD, NC, NJ, NY, SC, VA	McConnell et al., 1993	\$215.85 /day	CVM (non-residents; secondary data only)

TC = Travel Cost Method; RUM = Random Utility Model; CVM = Contingent Valuation Method

Table 1.19 Estimated 2007 Recreational Saltwater Fishing Benefit Values in MARCOOS Region (all values in \$ thousands)

State	Number of Trips	Consumer Surplus
Connecticut	1,263	\$ 261,769
Delaware	605	\$ 125,392
Maryland	2,542	\$ 526,855
Massachusetts	2,566	\$ 531,829
New Jersey	4,860	\$ 1,007,284
New York	3,013	\$ 624,474
North Carolina	2,107	\$ 436,697
Pennsylvania	0	\$ -
Rhode Island	989	\$ 204,980
Virginia	2,371	\$ 491,413

Value per trip was estimated to be \$207.26 for all states.

Economic Impacts of Marine-Related Wildlife Viewing

Expenditures

Table 1.20 Estimated 2006 Value of Coastal and Marine Wildlife Viewing Expenditures in MARCOOS Region (all values in thousands)

State	Participants Involved in Wildlife Watching	Trip Related Expenditures	Equipment and Other Expenditures	Total Expenditures
Connecticut	405	\$ 48,600	\$ 155,520	\$ 204,120
Delaware	142	\$ 16,472	\$ 51,830	\$ 68,302
Maryland	670	\$ 108,540	\$ 247,900	\$ 356,440
Massachusetts	1,206	\$ 249,642	\$ 364,212	\$ 613,854
New Jersey	1,141	\$ 256,725	\$ 236,187	\$ 492,912
New York	1,952	\$ 1,003,328	\$ 365,024	\$ 1,368,352
North Carolina	856	\$ 291,040	\$ 212,288	\$ 503,328
Pennsylvania	1,186	\$ 304,802	\$ 316,662	\$ 621,464
Rhode Island	340	\$ 160,480	\$ 90,100	\$ 250,580
Virginia	1,168	\$ 385,440	\$ 237,104	\$ 622,544

Economic Benefits of Wildlife Viewing

An average of literature values was used to generate a per day value (Table 1.21) of coastal wildlife viewing for use in estimates of total value by state (Table 1.22).

Table 1.21 Coastal Recreational Viewing Benefit Values for the Northeastern U.S.

	Author and Date	Consumer Surplus/ Activity Day	Study Methodology
New York	Johnston et al., 2002	\$63.80	TC
New England (whale watching)	Hoagland and Meeks, 2000	\$62.50 - \$70.40	TC

Table 1.22 Estimated 2006 Coastal and Marine Wildlife Viewing Benefit Values in MARCOOS Region (all values in thousands)

State	Number of Activity Days	Consumer Surplus
Connecticut	405	\$ 25,839
Delaware	142	\$ 9,060
Maryland	670	\$ 42,746
Massachusetts	1206	\$ 76,943
New Jersey	1141	\$ 72,796
New York	1952	\$ 124,538
North Carolina	856	\$ 54,613
Pennsylvania	1186	\$ 75,667
Rhode Island	340	\$ 21,692
Virginia	1168	\$ 74,518

Value per activity day was estimated to be \$63.80 for all states.

Coastal Beach Use Benefits

Available literature shows a range of benefit values for a trip or day (Table 1.23), however, estimates of beach use were not available for calculating total benefits by state. Nonetheless, we can assume from these study results that beach use is a significant source of value to beachgoers in the region.

Table 1.23 Coastal Beach Use Benefit Values for the Northeastern US

	Author and Date	Consumer Surplus	Study Methodology
Delaware	Parsons et al., 1999	\$0.07 - \$12.70/trip*	TC, RUM (6 beaches)
Maine	Huang and Poor, 2004	\$3.61 /household /day*	CVM, DC (conjoint, fees)
Maryland	Parsons et al., 1999	\$0.07 - \$12.70/trip*	TC, RUM (6 beaches)
Massachusetts	Hanemann, 1978	\$1.04 / day	TC

Table 1.23 (cont.) Coastal Beach Use Benefit Values for the Northeastern US

Massachusetts	Binkley and Hanemann, 1978	\$7.29 /household/trip	CVM
Massachusetts	Meta Systems, 1985	\$20.32 / day	TC (Boston beaches)
Massachusetts	McConnell, 1992	\$1.05 - \$1.70 / day	TC
Massachusetts	Kline and Swallow, 1998	\$5.36 / day	CVM, DC (fees)
New Hampshire	Huang and Poor, 2004	\$3.61 /household /day*	CVM, DC (conjoint, fees)
New Jersey	Leeworthy and Wiley, 1991	\$31.45 / day	TC
New Jersey	Parsons et al., 1999	\$0.07 - \$12.70/trip*	TC, RUM (6 beaches)
Rhode Island	McConnell, 1977	\$1.42 - \$6.43 / day	CVM (6 beaches)
Rhode Island	McConnell and Weaver, 1977	\$5.74 / day	CVM (working paper)

* Indicates loss due to beach closure
Table from NOEP

Part 2. The Coastal Economy

The coastal economy is distinct from the Ocean Economy because it covers activity within all sectors of the economy (Table 2.1) and uses a different geographic area for analysis. As previously discussed, the Coastal Economy consists of economic activity occurring within the Coastal Zone, which is generally represented by counties adjacent to shorelines and major rivers (Figure 2.2).

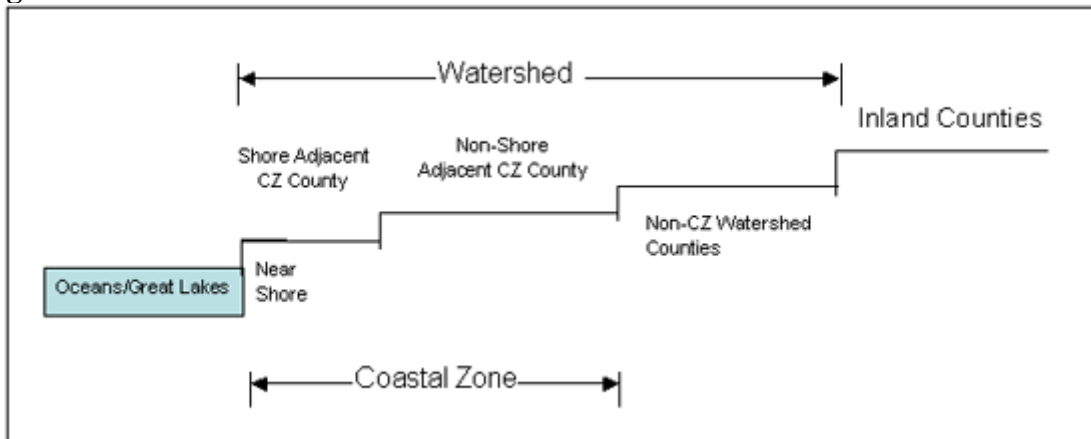
Table 2.1 Economic Sectors of the Economy within the Coastal Zone

Construction
Education and Health Services
Financial Activities
Information
Leisure and Hospitality
Manufacturing
Natural Resources and Mining
Other Services
Professional and Business Services
Public Administration
Trade, Transportation, and Utilities

NOEP Definition of Coastal Zone

The definition of the NOEP Coastal Economy, “relies on a tiered approach of geography extending inland from the shorelines of the ocean or Great Lakes. These tiers are based on zip code or county boundaries starting with the shoreline and proceeding in an inland direction,” as shown in Figure 2.1. For the majority of states, the Coastal Zone consists of the shore-adjacent counties.

Figure 2.1 Definition of the Coastal Zone



(Source: <http://noep.mbari.org/market/coastal/coastalecon.asp>)

Components of the Coastal Zone (from NOEP)

Near-Shore: establishments or population located in a zip code that is immediately adjacent to an ocean, Great Lake, or included river or bay. Near-Shore data are available for the 1990 and 2000 census years only.

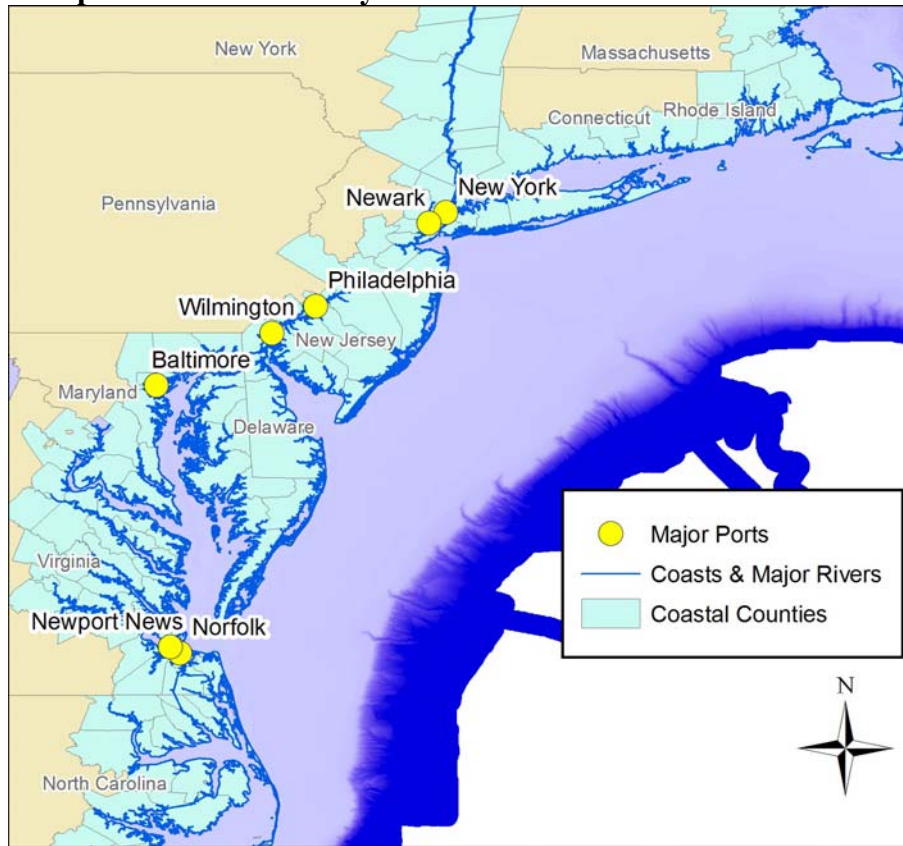
Shore-Adjacent Coastal Zone (CZ) Counties: counties touched in whole or in part by a state's coastal zone for purposes of the Coastal Zone Management Act of 1972 as defined by that state and which are adjacent to an ocean, Great Lake, or included river or bay. These include near-shore zip codes.

Non-Shore-Adjacent Coastal Zone (CZ) Counties: counties touched in whole or in part by a state's coastal zone for purposes of the Coastal Zone Management Act of 1972 as defined by that state and which are not adjacent to an ocean, Great Lake, or included river or bay.

Coastal Zone Counties: counties comprised of shore-adjacent plus non-shore adjacent counties. For Illinois, which does not have a Federal Coastal Zone Management program, the coastal zone counties are defined as Cook and Lake Counties. Both are shore-adjacent. *These counties were used in this analysis of the coastal economy.*

Non-coastal zone Watershed Counties and Inland Counties: are all other counties not falling into the previous categories.

Figure 2.2 Map of Coastal Economy Counties



Population and Housing

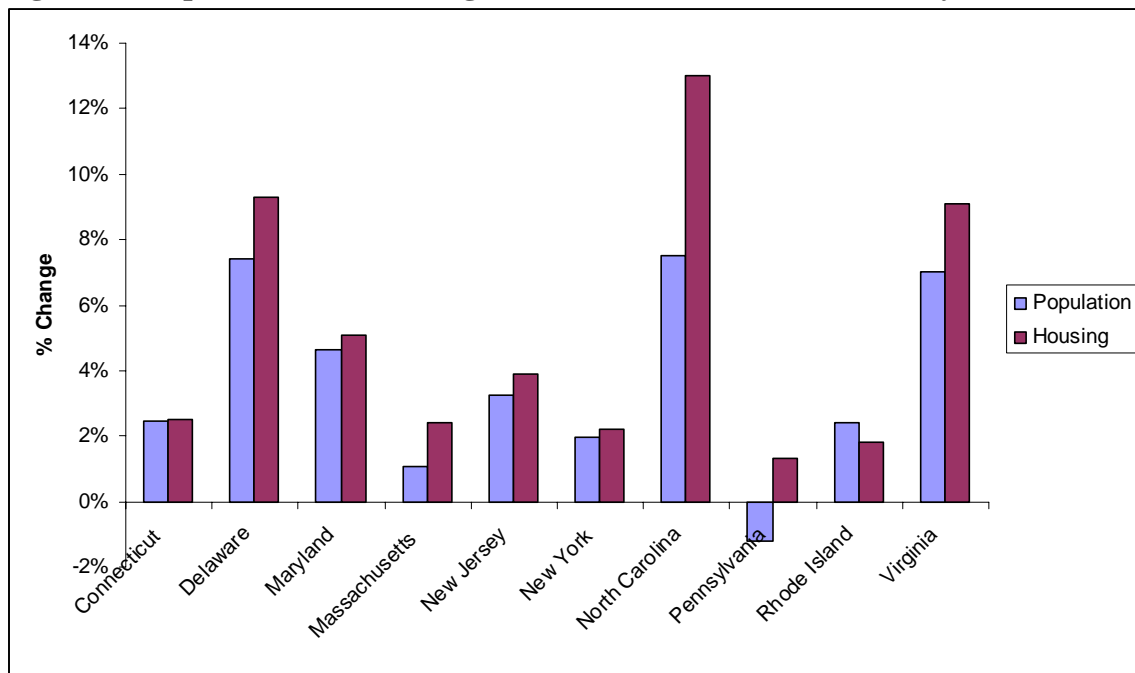
The coastal zone counties of the MARCOOS region contain a significant share of the state's population in most cases and have relatively high population and housing densities in some states (Table 2.2). Housing is being added to all areas and some areas, such as Delaware, North Carolina, and Virginia, are growing rapidly (Figure 2.3).

Table 2.2 Population and Housing Characteristics of Coastal Zone by State (2005)

State	Population	% of State Population	Population Density (persons per mi ²)	Housing	% of State Housing	Housing Density (units per mi ²)
Connecticut	2,172,685	62%	959	879,677	62%	388
Delaware	841,741	100%	431	374,872	100%	192
Maryland	3,759,543	67%	589	1,563,205	69%	245
Massachusetts	4,833,389	75%	1363	2,028,219	75%	572
New Jersey	7,819,981	90%	1387	3,109,413	90%	551
New York	16,406,796	85%	861	6,515,991	83%	342
North Carolina	887,965	10%	95	471,628	12%	50
Pennsylvania	2,910,699	23%	1684	1,234,351	23%	714
Rhode Island	1,073,579	100%	1027	447,810	100%	429
Virginia	4,785,948	63%	542	1,948,281	61%	221
Total	45,492,326			18,573,447		

Data source: NOEP

Figure 2.3 Population and Housing Growth Rates for Coastal Zone by State (2005)



Data source: NOEP

Highlights of the Coastal Economy in the MARCOOS Region

The Coastal Zone economy of the MARCOOS region is dominated by Financial Services, Professional and Business Services and Information and Technology goods and services (Table 2.3). Sectors such as Natural Resources & Mining, Manufacturing, Other Services, and Trade, Transportation, & Utilities contribute the least of the major sectors to the region's economy. The economy is diverse and reflects the history and aesthetics of the proximity to the coast.

Table 2.3 Total Coastal Economic Activity for MARCOOS region in 2005[†]

State	Establishments	Employment	Wages	GDP*
Construction	122,446	921,496	\$45,334,058,194	\$92,300,023,440
Education and Health Services	136,896	4,648,712	\$197,510,429,265	\$204,308,054,444
Financial Activities	127,100	1,542,370	\$157,252,719,830	\$631,500,754,602
Information	125,176	4,263,626	\$182,344,431,285	\$191,130,416,654
Leisure and Hospitality	111,940	1,795,482	\$36,895,007,642	\$74,846,614,220
Manufacturing	47,403	1,497,489	\$84,507,510,889	\$169,789,569,588
Natural Resources and Mining	5,307	52,496	\$1,664,589,768	\$6,215,504,528
Other Services	144,391	727,146	\$21,569,755,571	\$49,990,405,803
Professional and Business Services	226,094	2,930,114	\$185,789,297,436	\$335,789,784,998
Public Administration	10,952	1,170,758	\$64,697,837,397	\$271,835,000,739
Trade, Transportation, and Utilities	155,685	972,454	\$30,025,060,172	\$69,507,204,561

[†] Data used in this analysis were drawn from the most recent finalized economic data, available from NOEP, which was 2005.

*GDP here refers to State GDP or Gross State Product (GSP) and is the value added in production by the labor and property located in a state.

Market Economy Data

Construction

Table 2.4 Coastal Zone Counties Data for Construction Sector in the MARCOOS Region

Construction Coastal Zone Counties (Year 2005)				
State	Establishments	Employment	Wages	GDP
Connecticut	6,467	24,341	\$1,211,373,134	\$3,248,937,511
Delaware	3,463	28,257	\$1,214,061,347	\$2,241,000,000
Maryland	11,142	112,960	\$5,055,886,213	\$9,417,556,876
Massachusetts	16,123	114,118	\$6,283,360,666	\$11,931,620,998
New Jersey	20,138	142,245	\$7,440,003,262	\$15,825,660,488
New York	36,929	271,153	\$14,118,459,467	\$27,941,719,120
North Carolina	3,365	23,360	\$735,476,238	\$1,597,524,802
Pennsylvania	5,791	44,774	\$2,262,915,165	\$4,756,555,871
Rhode Island	4,043	21,849	\$975,823,930	\$2,211,000,000
Virginia	14,985	138,439	\$6,036,698,772	\$13,128,447,774

Figure 2.4 Number of Establishments Conducting Construction Activities in the Coastal Zone Counties of the MARCOOS Region

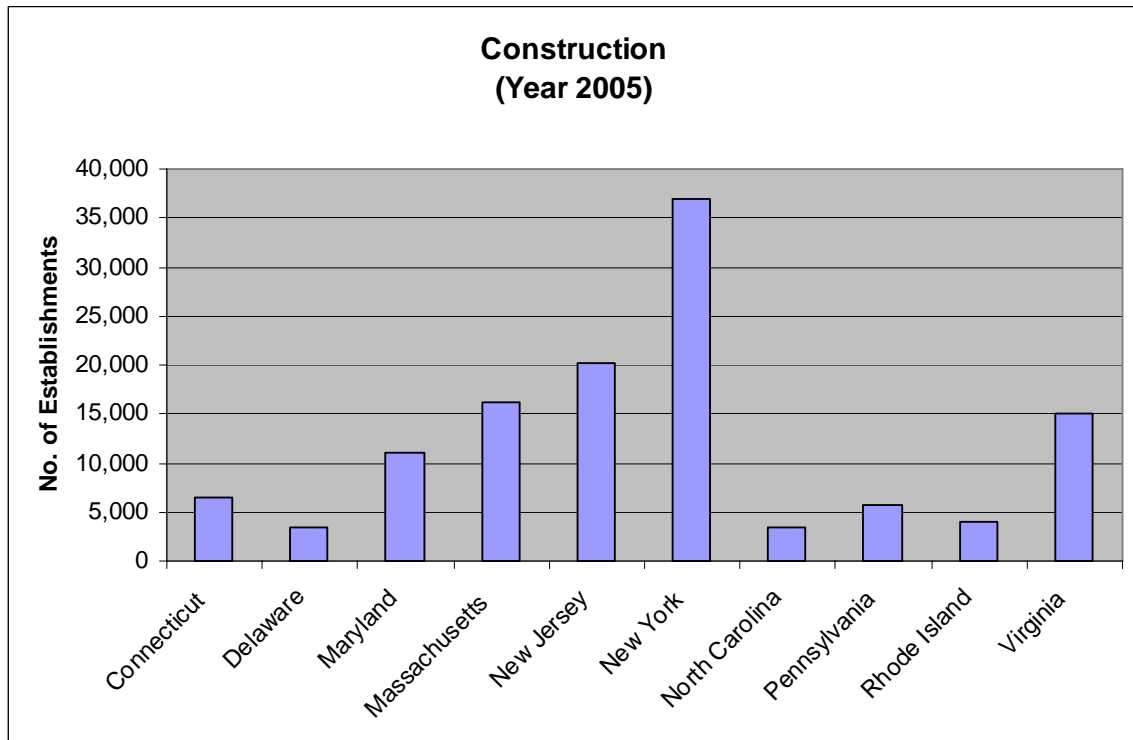


Figure 2.5 Number of Construction Related Jobs in the Coastal Zone Counties of the MARCOOS Region

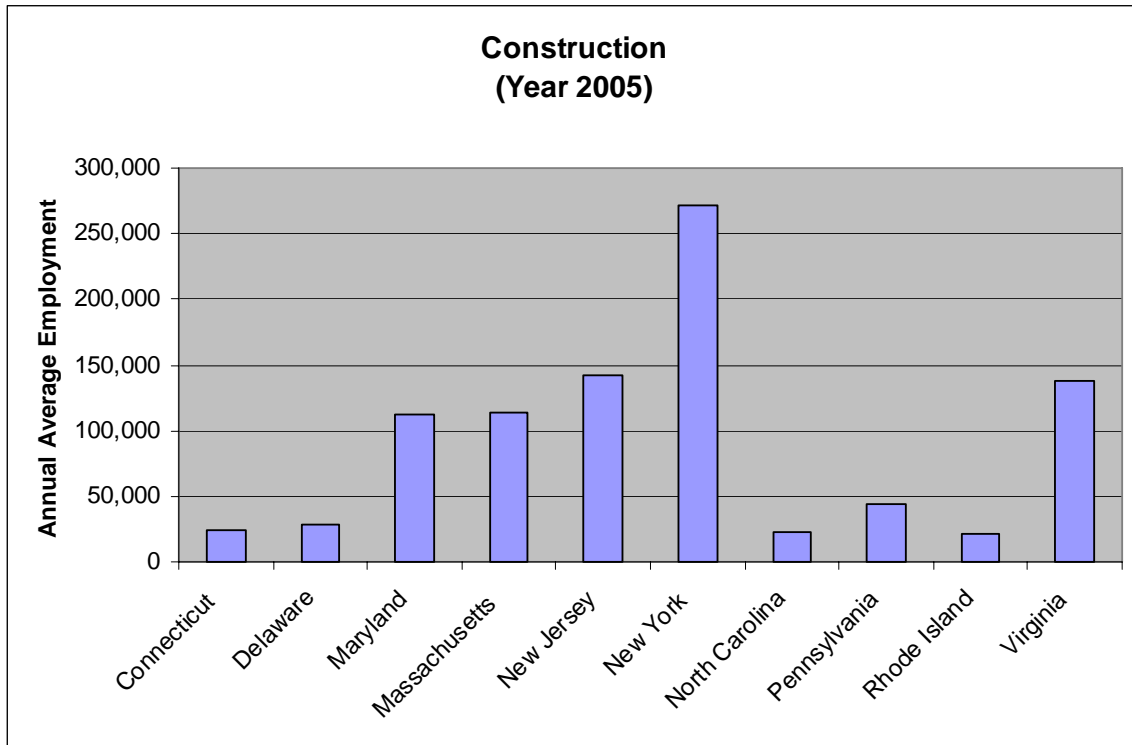


Figure 2.6 Wages Reported in Construction Sector in the Coastal Zone Counties of the MARCOOS Region

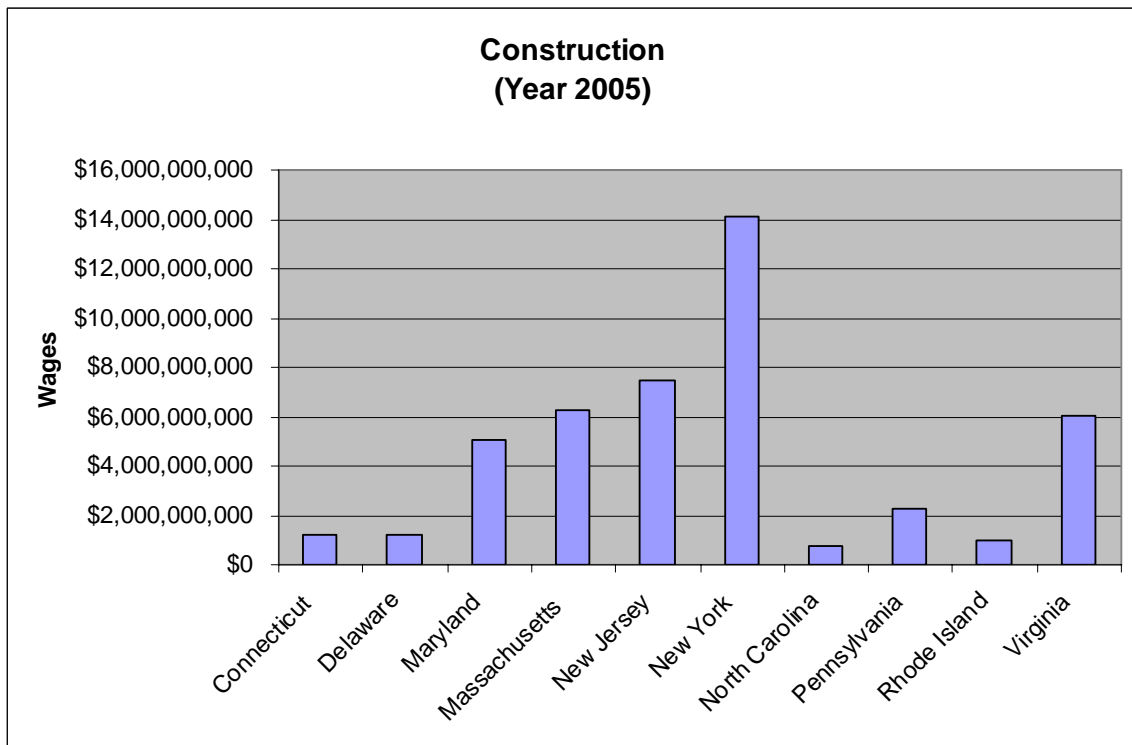
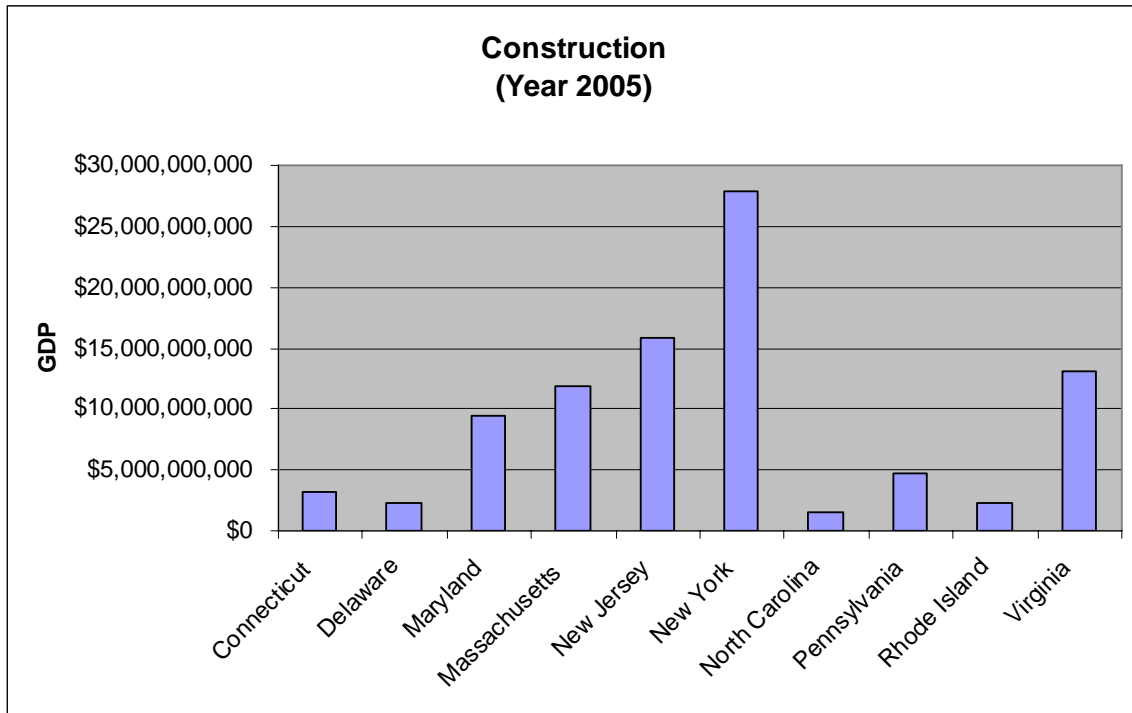


Figure 2.7 State GDP for Construction Sector in the Coastal Zone Counties of the MARCOOS Region



Education and Health Services

Table 2.5 Coastal Zone Counties Data for Education and Health Services Sector in the MARCOOS Region

**Education and Health Services
Coastal Zone Counties
(Year 2005)**

State	Establishments	Employment	Wages	GDP
Connecticut	6,986	241,082	\$10,771,464,404	\$11,139,541,416
Delaware	2,383	74,631	\$3,251,712,174	\$3,188,000,000
Maryland	10,619	362,464	\$15,105,800,892	\$14,685,639,552
Massachusetts	14,848	570,241	\$26,157,099,955	\$28,564,443,138
New Jersey	24,319	736,298	\$33,317,201,742	\$30,919,216,370
New York	49,791	1,792,653	\$74,239,213,202	\$77,558,525,116
North Carolina	2,324	63,607	\$1,996,093,083	\$1,860,483,121
Pennsylvania	10,765	352,036	\$14,806,197,946	\$16,345,761,206
Rhode Island	3,440	115,070	\$4,505,518,251	\$5,019,000,000
Virginia	11,421	340,630	\$13,360,127,616	\$15,027,444,525

Figure 2.8 Number of Establishments Conducting Education and Health Services Activities in the Coastal Zone Counties of the MARCOOS Region

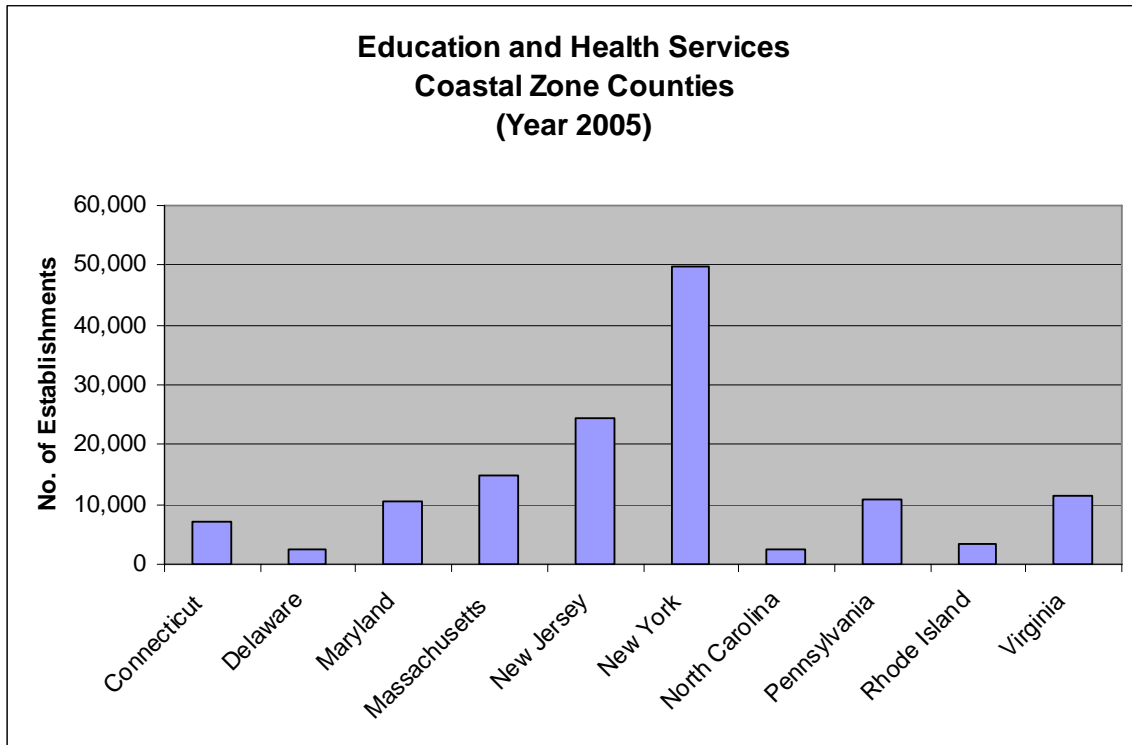


Figure 2.9 Number of Education and Health Services Related Jobs in the Coastal Zone Counties of the MARCOOS Region

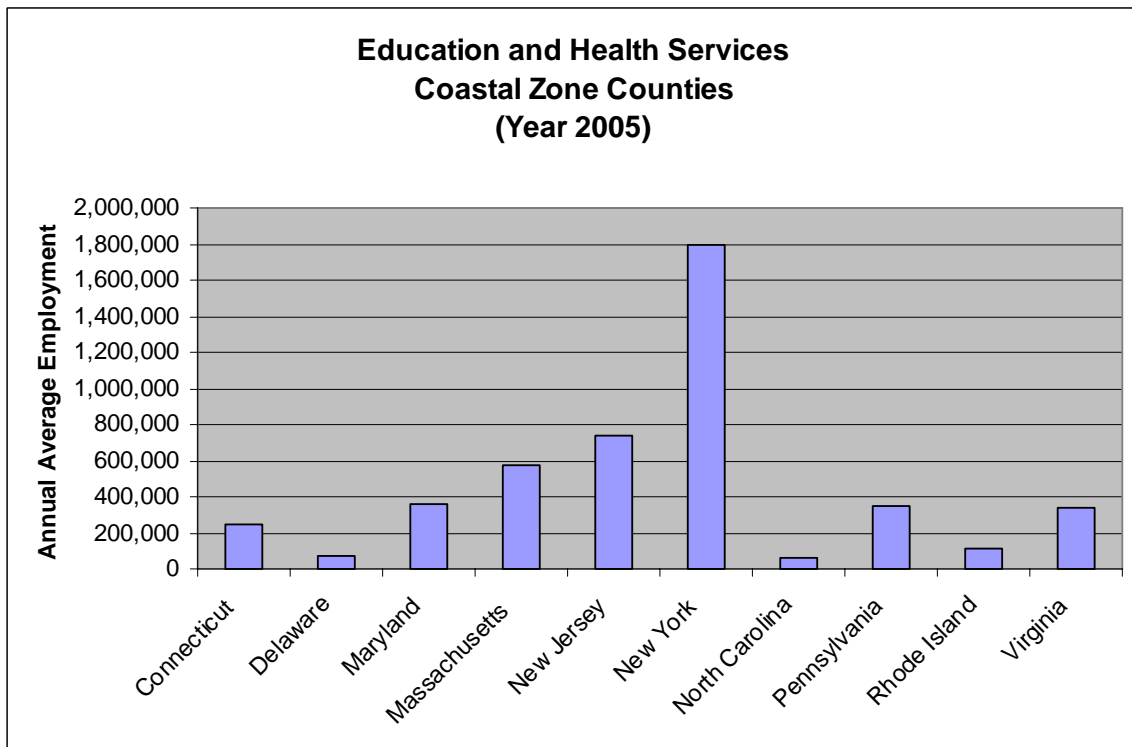


Figure 2.10 Wages Reported in Education and Health Services Sector in the Coastal Zone Counties of the MARCOOS Region

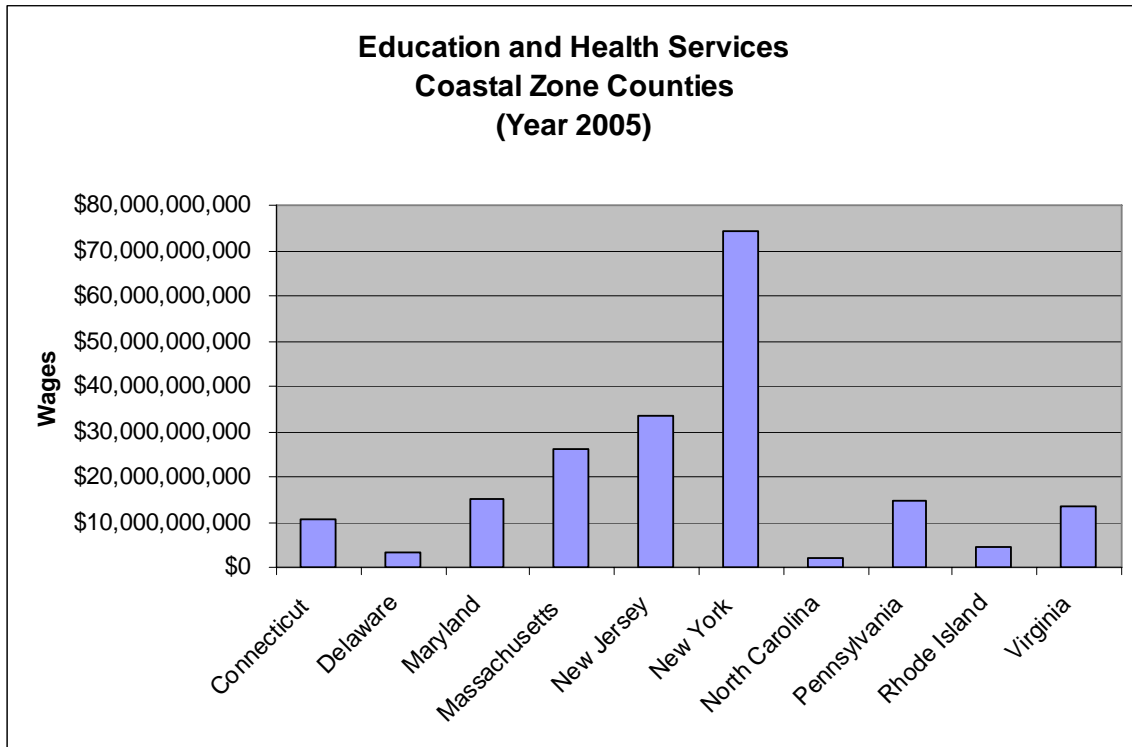
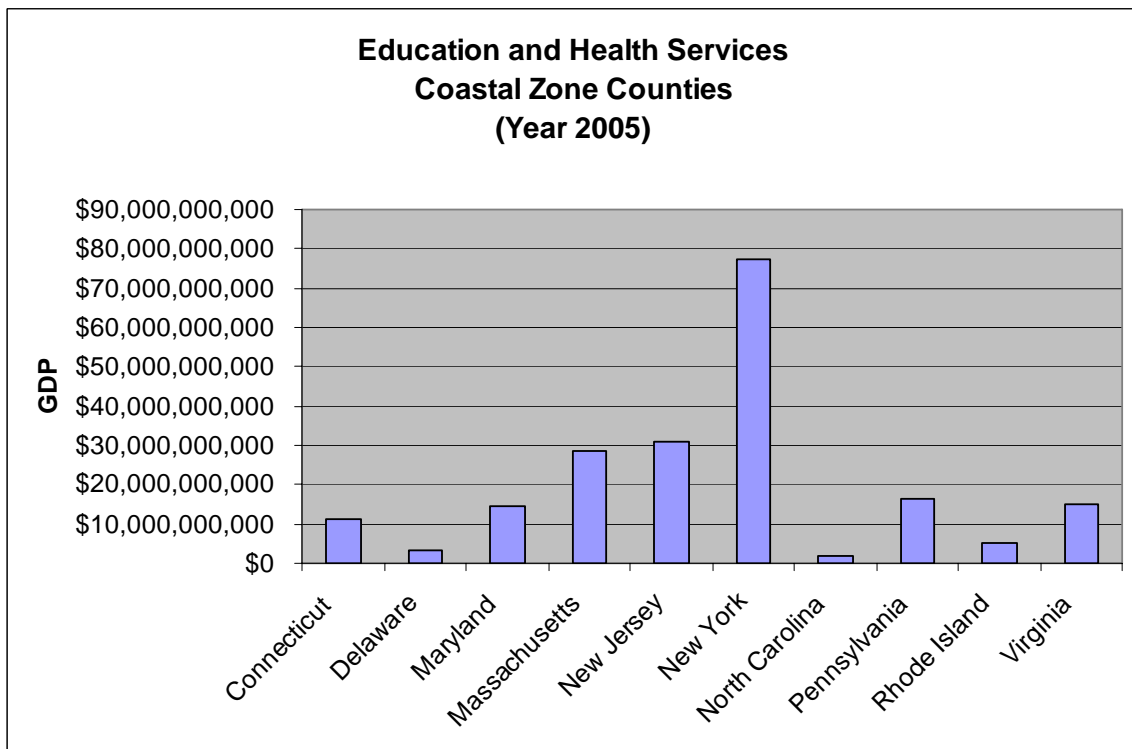


Figure 2.11 State GDP for Education and Health Services Sector in the Coastal Zone Counties of the MARCOOS Region



Financial Activities

Table 2.6 Coastal Zone Counties Data for Financial Activities Sector in the MARCOOS Region

Financial Activities Coastal Zone Counties (Year 2005)				
State	Establishments	Employment	Wages	GDP
Connecticut	6,495	72,984	\$10,352,529,360	\$37,184,936,271
Delaware	2,461	45,062	\$3,427,549,421	\$25,505,000,000
Maryland	8,698	93,492	\$5,839,119,134	\$32,802,618,495
Massachusetts	13,283	185,543	\$17,485,173,733	\$70,469,284,994
New Jersey	17,356	225,140	\$17,441,572,987	\$90,468,123,642
New York	54,487	648,191	\$86,043,642,547	\$277,014,020,017
North Carolina	2,270	15,587	\$529,846,304	\$3,455,666,893
Pennsylvania	6,044	79,578	\$5,120,414,743	\$24,610,648,275
Rhode Island	2,759	32,280	\$1,674,416,665	\$11,442,999,999
Virginia	13,247	144,513	\$9,338,454,936	\$58,547,456,016

Figure 2.12 Number of Establishments Conducting Financial Activities in the Coastal Zone Counties of the MARCOOS Region

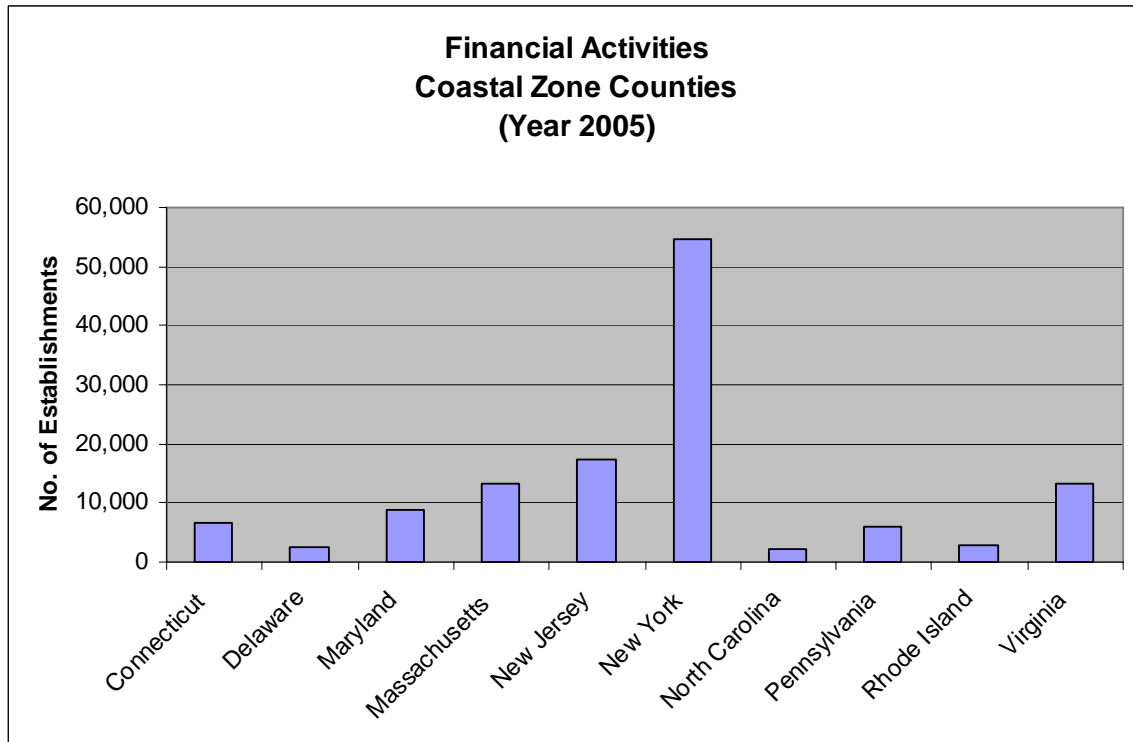


Figure 2.13 Number of Financial Activities Related Jobs in the Coastal Zone Counties of the MARCOOS Region

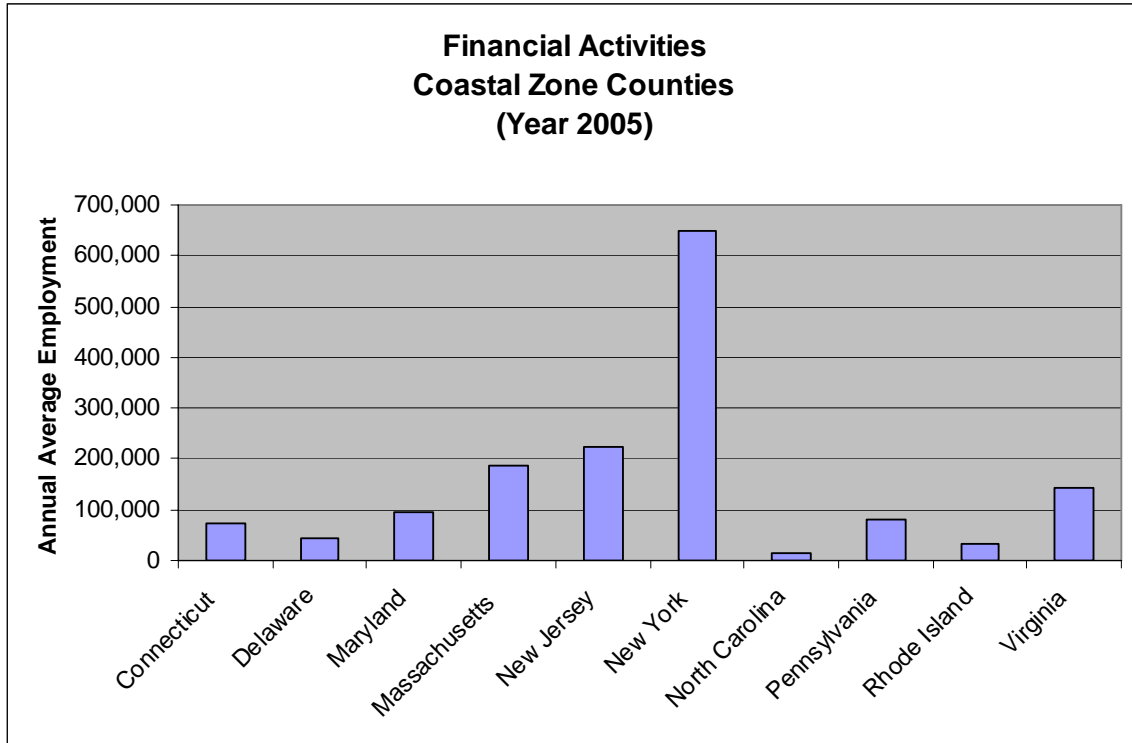


Figure 2.14 Wages Reported in Financial Activities Sector in the Coastal Zone Counties of the MARCOOS Region

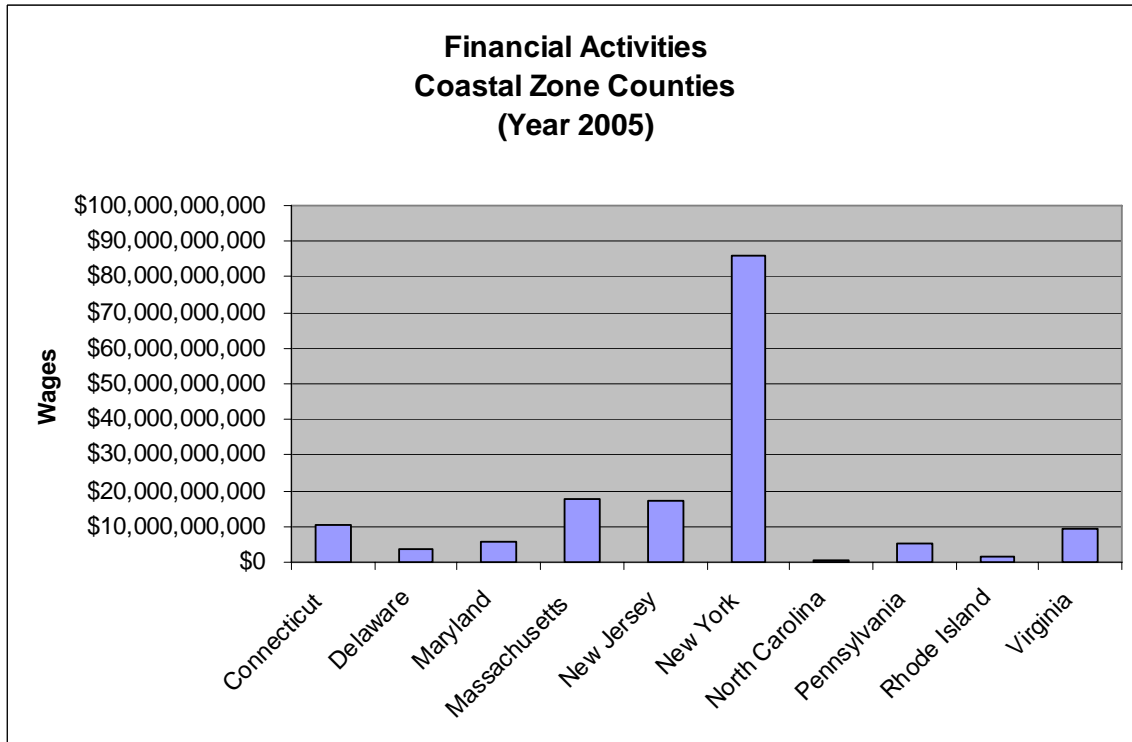
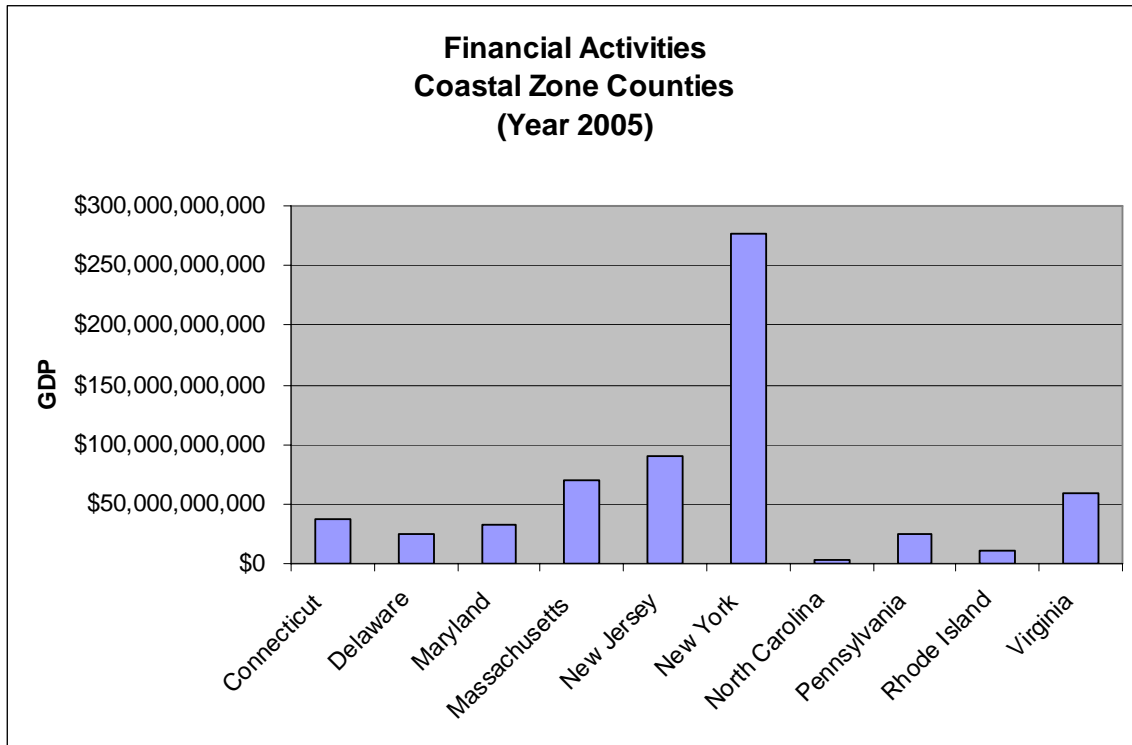


Figure 2.15 State GDP for Financial Activities Sector in the Coastal Zone Counties of the MARCOOS Region



Information

Table 2.7 Coastal Zone Counties Data for Information Sector in the MARCOOS Region

State	Establishments	Employment	Wages	GDP
Connecticut	1,156	26,251	\$1,628,197,162	\$5,177,815,757
Delaware	302	6,629	\$344,786,499	\$1,039,000,000
Maryland	1,343	28,065	\$1,544,820,692	\$4,545,512,119
Massachusetts	3,315	79,436	\$6,075,321,006	\$14,456,403,530
New Jersey	3,128	83,774	\$5,937,247,877	\$17,860,946,991
New York	9,018	239,714	\$18,998,167,638	\$66,251,417,946
North Carolina	343	5,682	\$195,312,862	\$574,398,390
Pennsylvania	1,026	24,875	\$1,440,980,187	\$4,454,208,147
Rhode Island	548	10,642	\$652,884,835	\$1,764,000,000
Virginia	2,587	68,010	\$5,071,298,626	\$13,889,739,849

Figure 2.16 Number of Establishments Conducting Information Activities in the Coastal Zone Counties of the MARCOOS Region

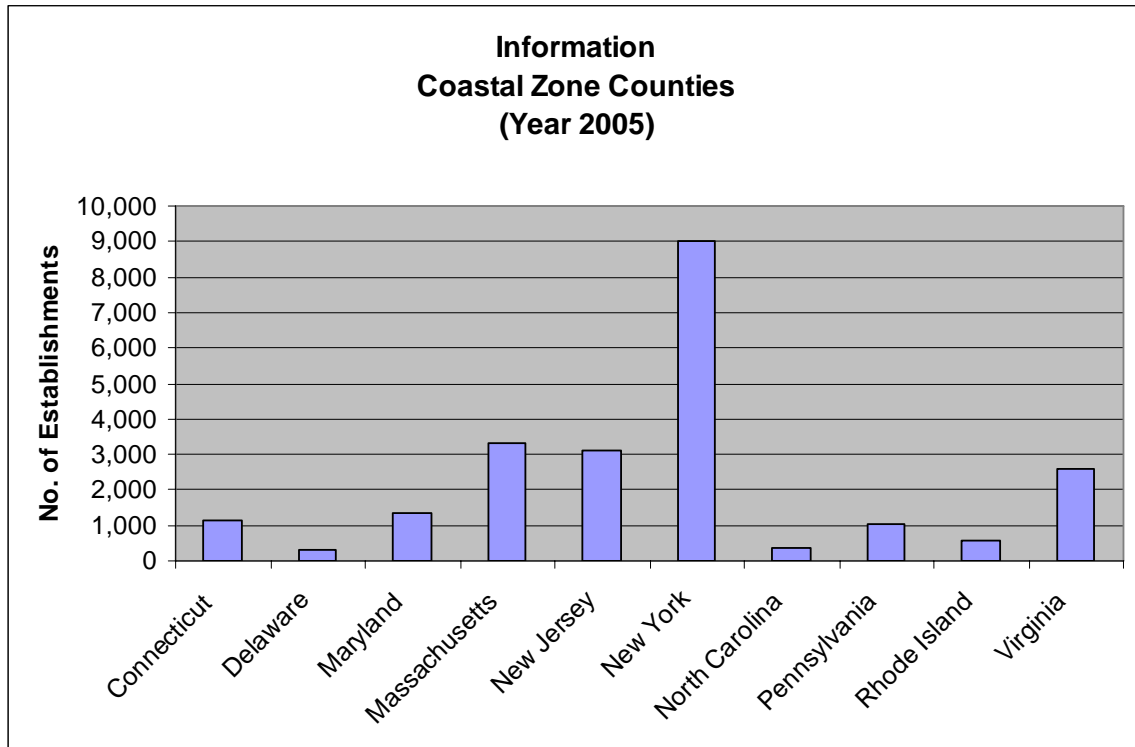


Figure 2.17 Number of Information Related Jobs in the Coastal Zone Counties of the MARCOOS Region

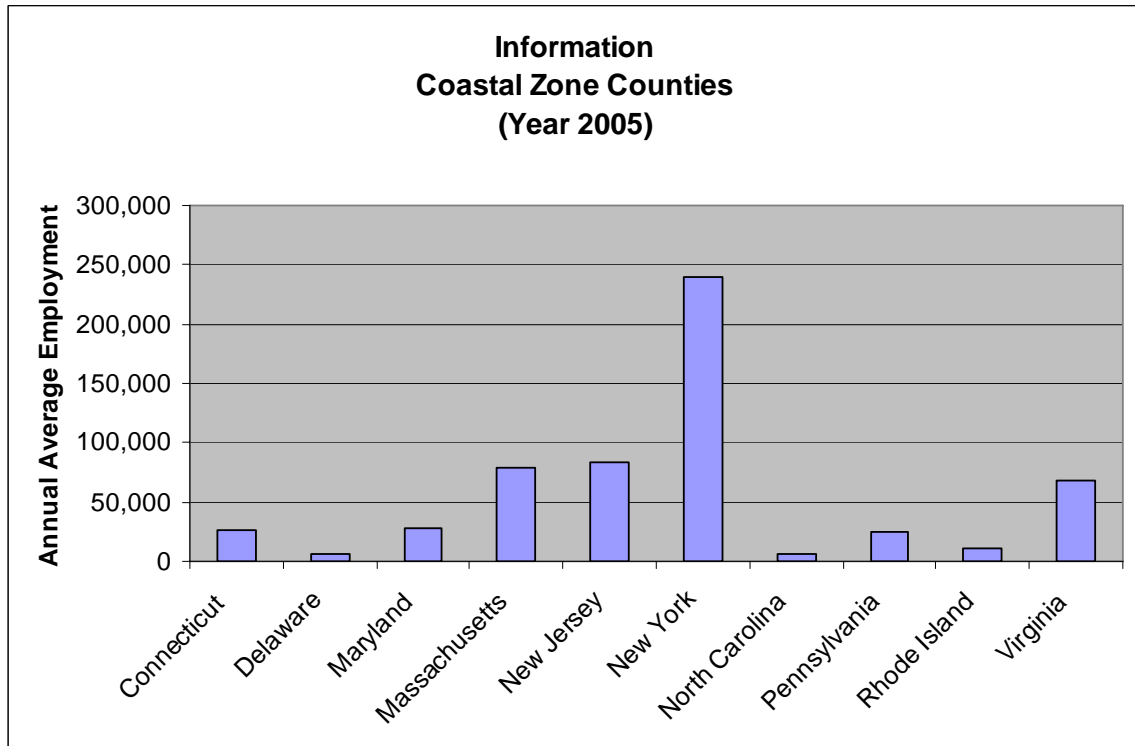


Figure 2.18 Wages Reported in Information Sector in the Coastal Zone Counties of the MARCOOS Region

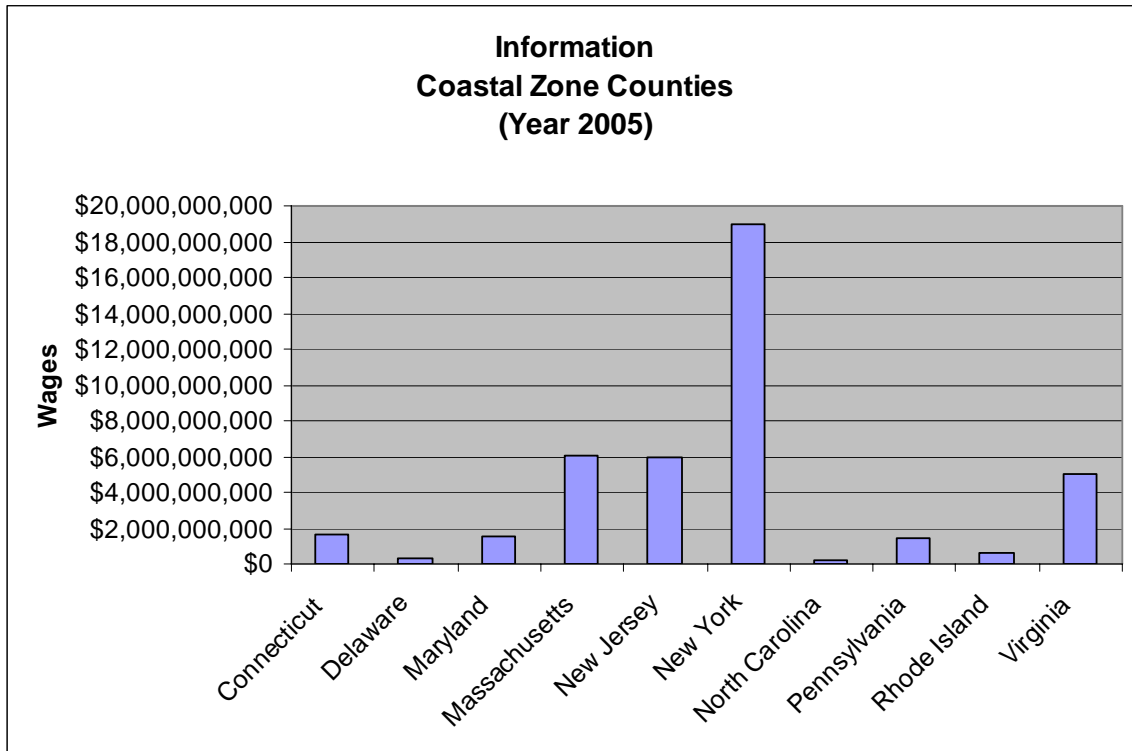
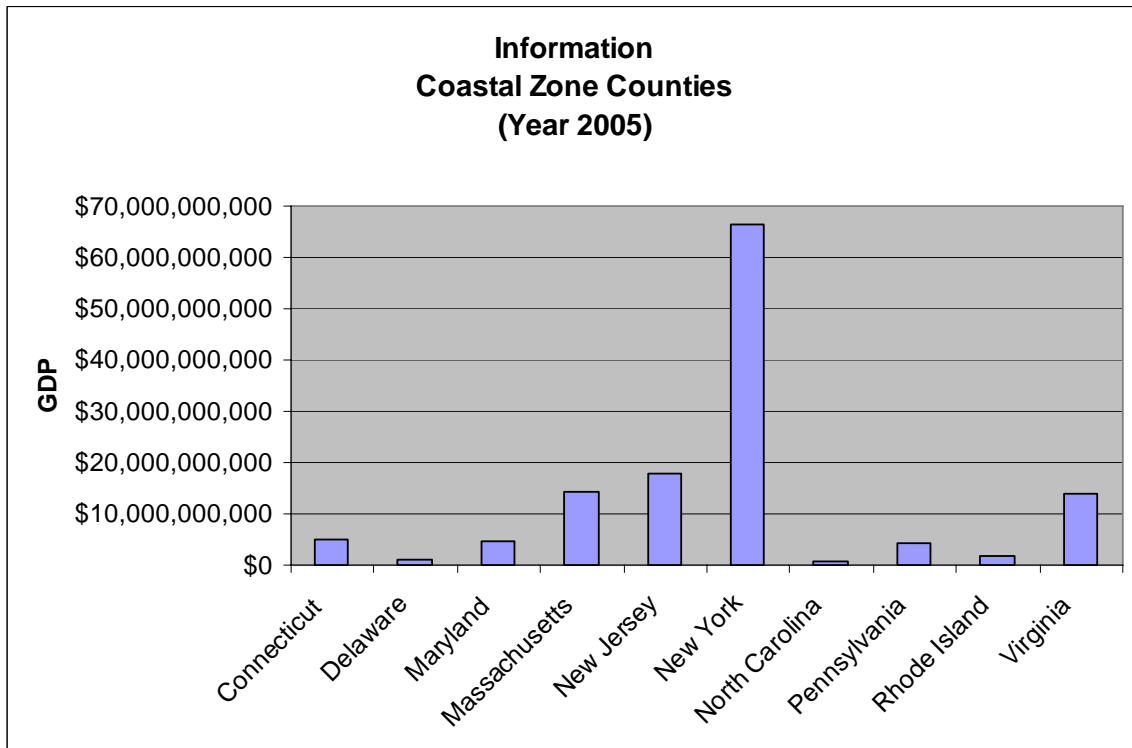


Figure 2.19 State GDP for Information Sector in the Coastal Zone Counties of the MARCOOS Region



Leisure and Hospitality

Table 2.8 Coastal Zone Counties Data for Leisure and Hospitality Sector in the MARCOOS Region

**Leisure and Hospitality
Coastal Zone Counties
(Year 2005)**

State	Establishments	Employment	Wages	GDP
Connecticut	5,675	79,873	\$1,573,279,124	\$3,453,605,185
Delaware	2,216	40,725	\$669,842,998	\$1,224,000,000
Maryland	8,352	152,253	\$2,637,846,960	\$5,261,224,381
Massachusetts	14,374	233,111	\$4,881,628,302	\$8,952,253,809
New Jersey	18,057	297,472	\$6,106,562,850	\$13,007,396,324
New York	39,726	554,877	\$13,832,782,816	\$29,136,501,880
North Carolina	2,497	44,140	\$547,859,413	\$1,081,023,652
Pennsylvania	6,891	108,886	\$2,166,021,841	\$4,160,096,724
Rhode Island	3,341	50,581	\$799,781,871	\$1,580,000,000
Virginia	10,811	233,564	\$3,679,401,467	\$6,990,512,265

Figure 2.20 Number of Establishments Conducting Leisure and Hospitality Activities in the Coastal Zone Counties of the MARCOOS Region

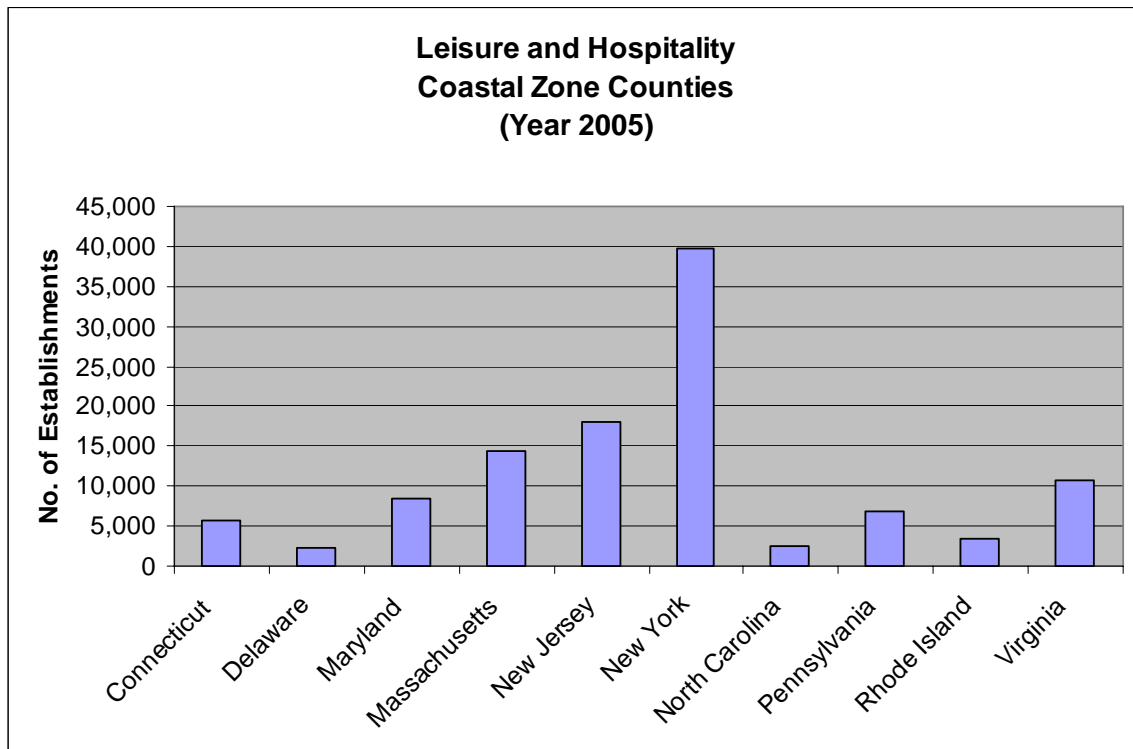


Figure 2.21 Number of Leisure and Hospitality Related Jobs in the Coastal Zone Counties of the MARCOOS Region

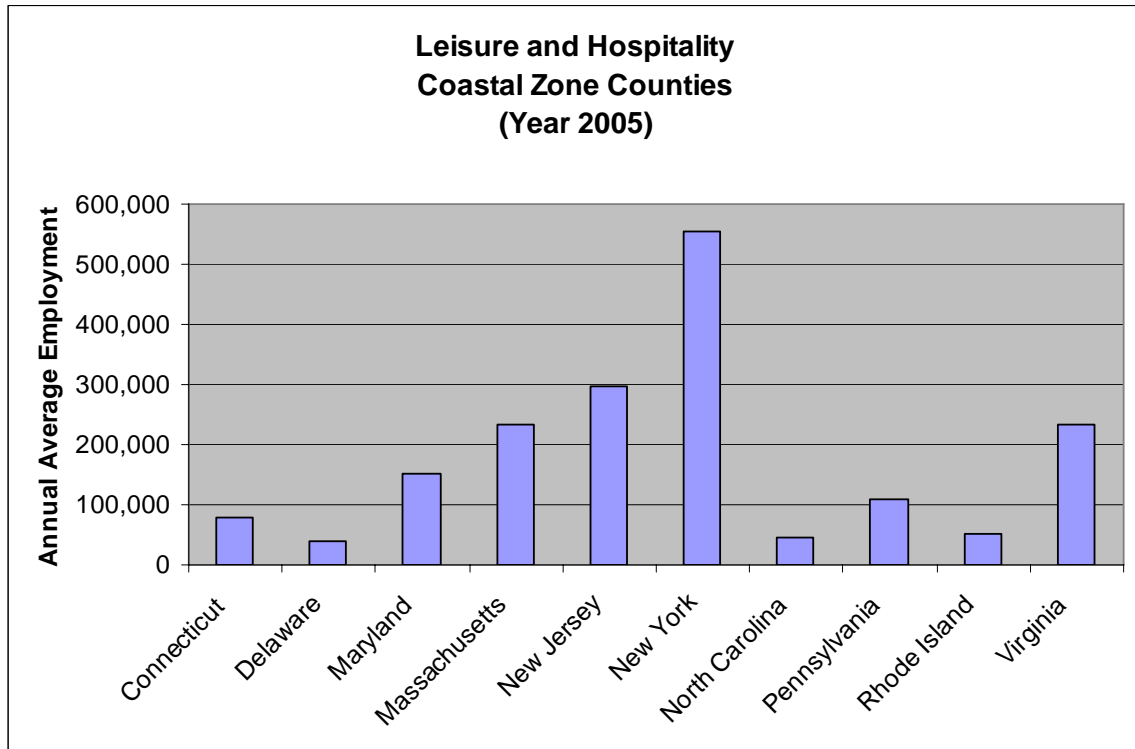


Figure 2.22 Wages Reported in Leisure and Hospitality Sector in the Coastal Zone Counties of the MARCOOS Region

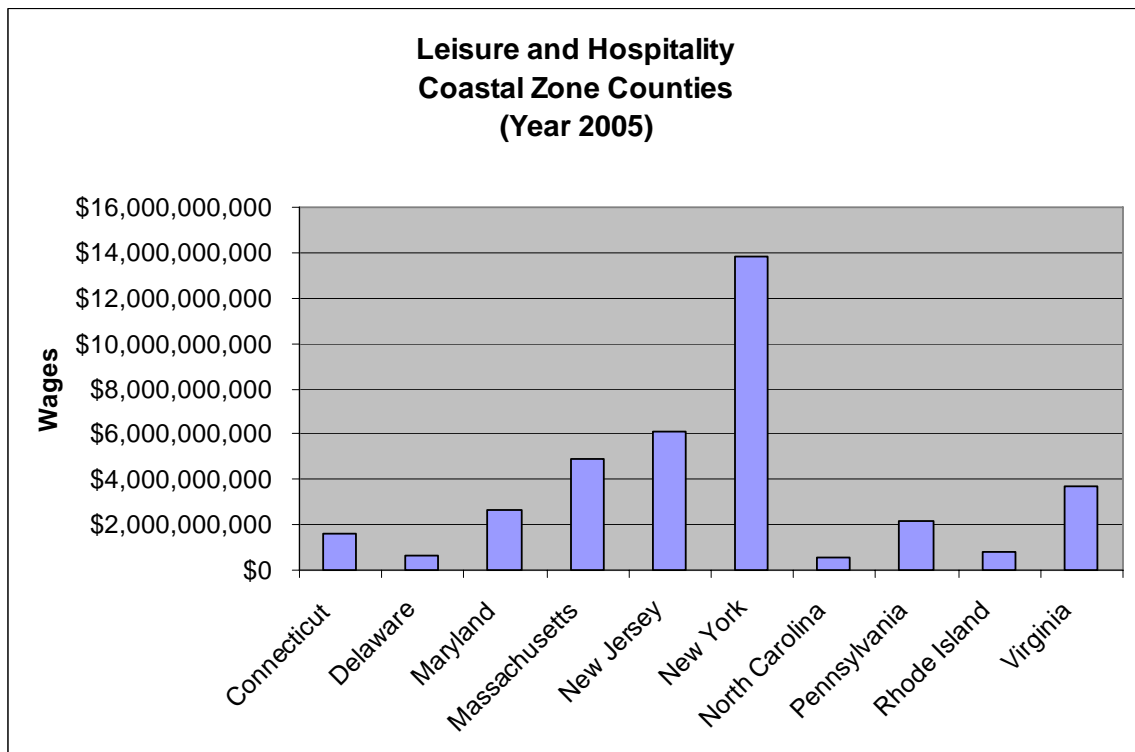
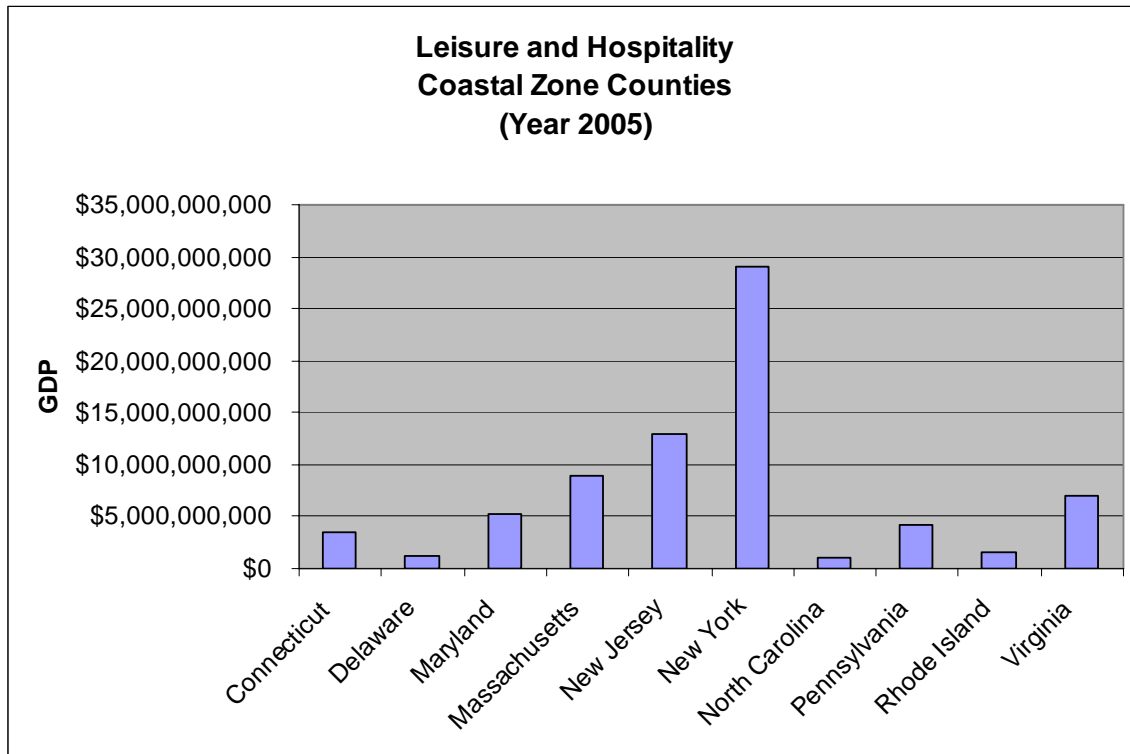


Figure 2.23 State GDP for Leisure and Hospitality Sector in the Coastal Zone Counties of the MARCOOS Region



Manufacturing

Table 2.9 Coastal Zone Counties Data for Manufacturing Sector in the MARCOOS Region

State	Establishments	Employment	Wages	GDP
Connecticut	3,131	114,046	\$7,574,311,641	\$13,758,068,680
Delaware	675	33,135	\$1,739,190,408	\$4,371,000,000
Maryland	2,645	94,213	\$5,023,813,851	\$9,048,888,086
Massachusetts	6,287	224,509	\$14,947,851,265	\$24,892,816,588
New Jersey	9,154	287,058	\$17,076,624,661	\$33,621,096,057
New York	16,250	430,059	\$23,058,683,342	\$48,360,124,415
North Carolina	783	23,776	\$987,141,551	\$2,911,253,938
Pennsylvania	3,256	106,289	\$5,392,158,631	\$12,042,591,334
Rhode Island	2,174	54,841	\$2,290,345,233	\$4,390,000,000
Virginia	3,048	129,563	\$6,417,390,306	\$16,393,730,490

Figure 2.24 Number of Establishments Conducting Manufacturing Activities in the Coastal Zone Counties of the MARCOOS Region

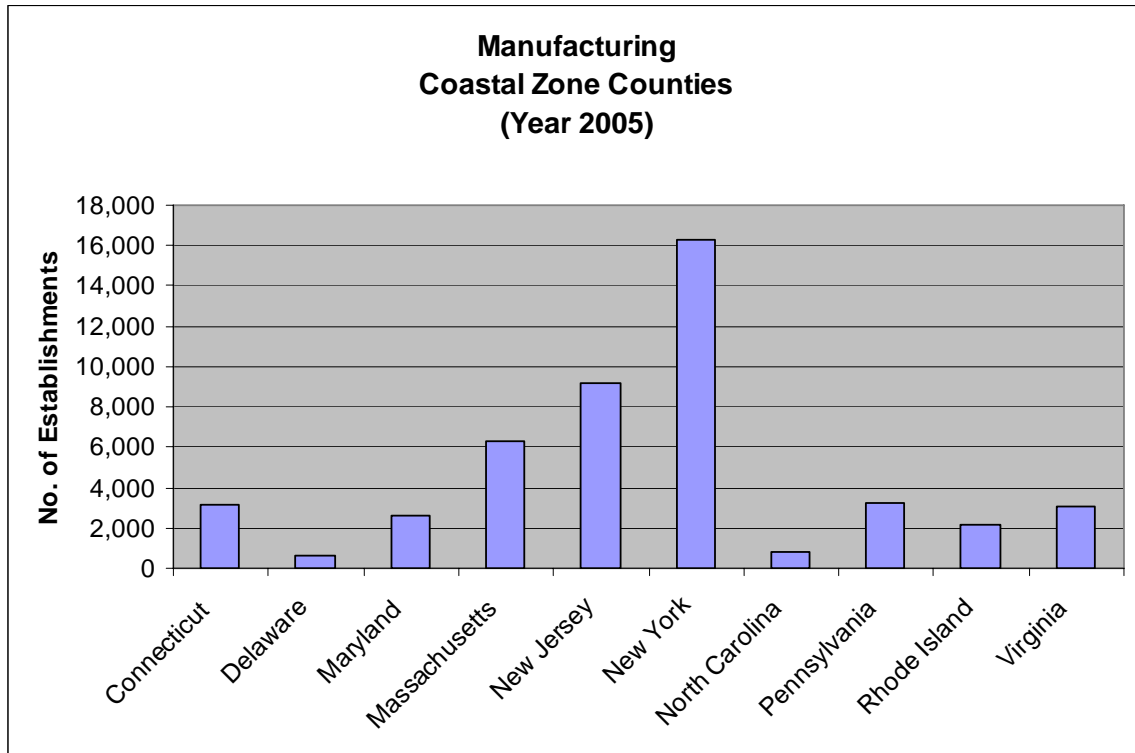


Figure 2.25 Number of Manufacturing Related Jobs in the Coastal Zone Counties of the MARCOOS Region

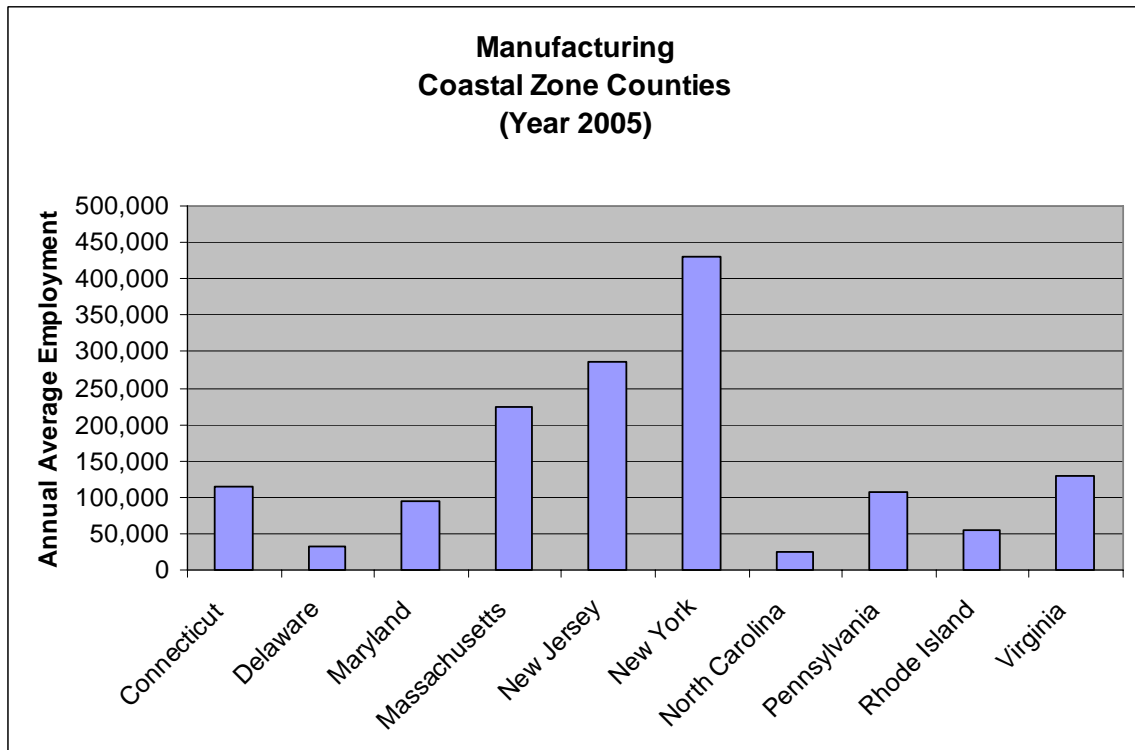


Figure 2.26 Wages Reported in Manufacturing Sector in the Coastal Zone Counties of the MARCOOS Region

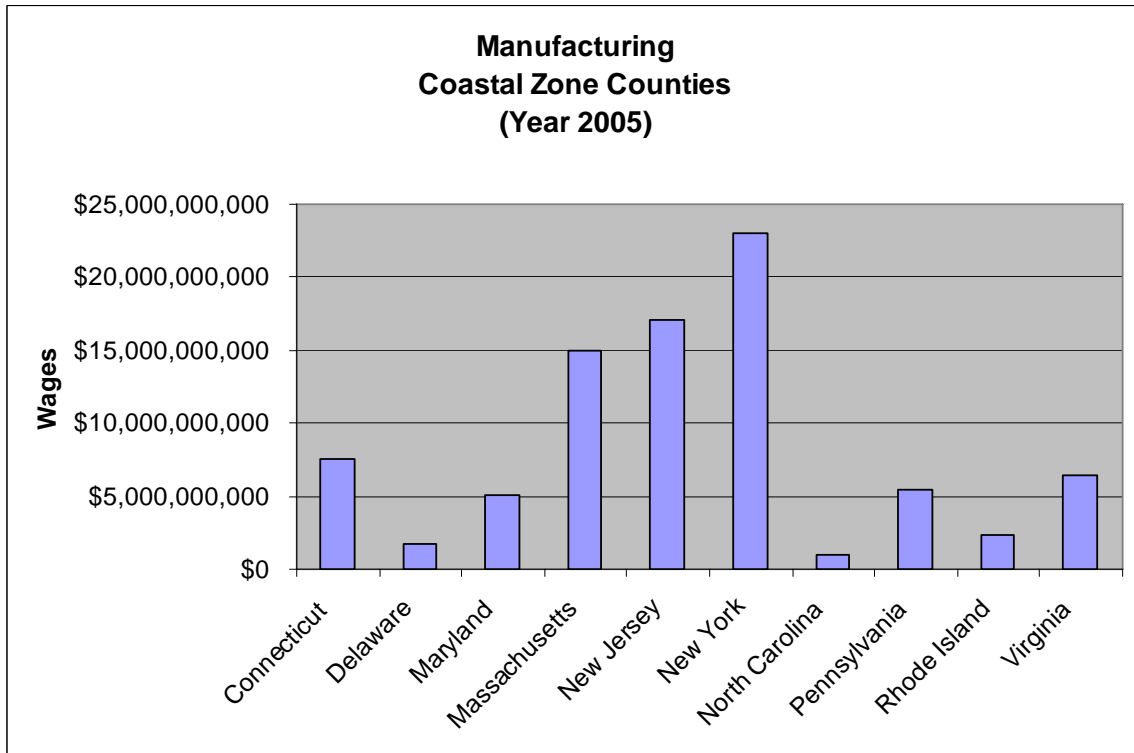
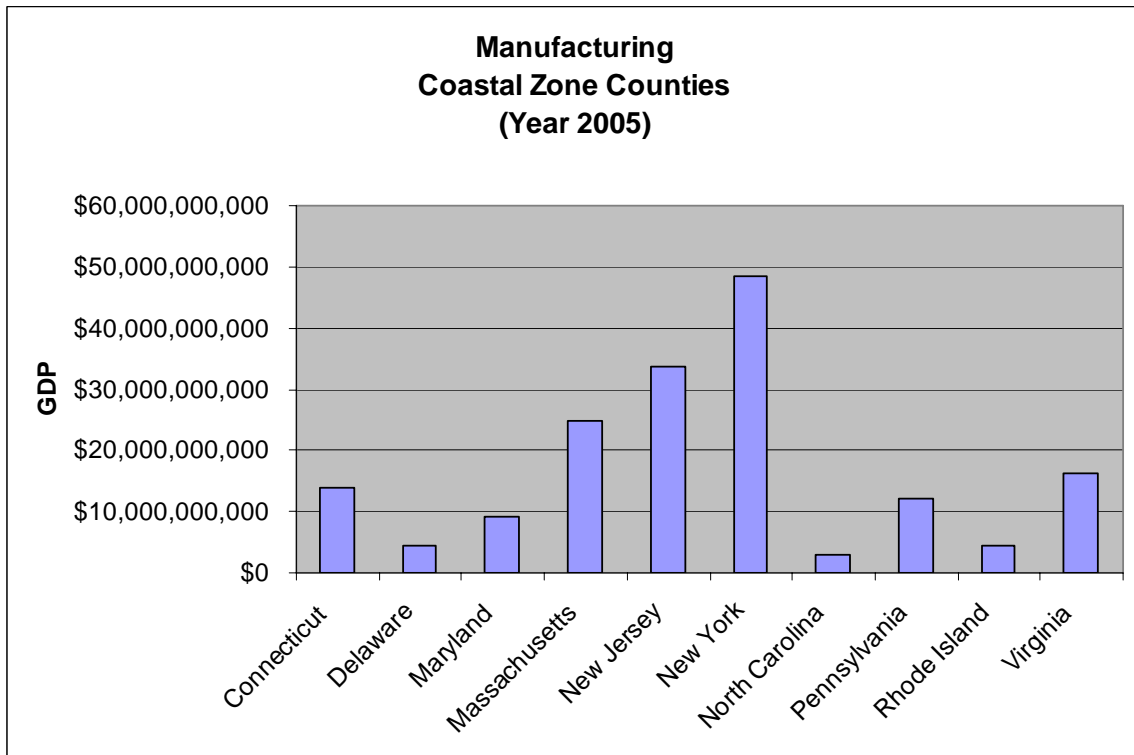


Figure 2.27 State GDP for Manufacturing Sector in the Coastal Zone Counties of the MARCOOS Region



Natural Resources and Mining

Table 2.10 Coastal Zone Counties Data for Natural Resources and Mining Sector in the MARCOOS Region

Natural Resources and Mining Coastal Zone Counties (Year 2005)				
State	Establishments	Employment	Wages	GDP
Connecticut	186	2,944	\$89,663,639	\$254,291,911
Delaware	157	1,094	\$35,491,785	\$462,000,000
Maryland	454	4,079	\$130,144,698	\$612,538,354
Massachusetts	809	6,370	\$326,903,036	\$841,932,705
New Jersey	877	9,771	\$277,071,652	\$776,452,702
New York	1,507	15,920	\$469,239,804	\$1,860,743,759
North Carolina	481	4,087	\$98,347,919	\$451,735,846
Pennsylvania	184	1,675	\$58,778,225	\$246,236,413
Rhode Island	189	1,093	\$33,745,660	\$112,999,999
Virginia	463	5,463	\$145,203,350	\$596,572,839

Figure 2.28 Number of Establishments Conducting Natural Resources and Mining Activities in the Coastal Zone Counties of the MARCOOS Region

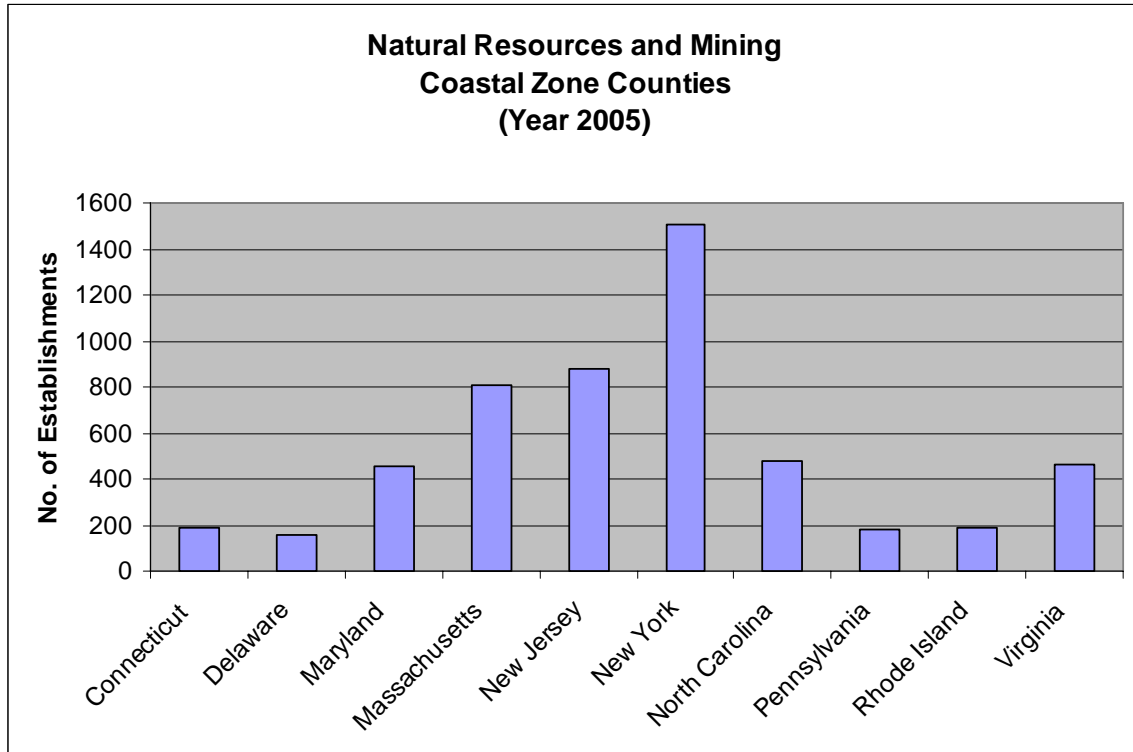


Figure 2.29 Number of Natural Resources and Mining Related Jobs in the Coastal Zone Counties of the MARCOOS Region

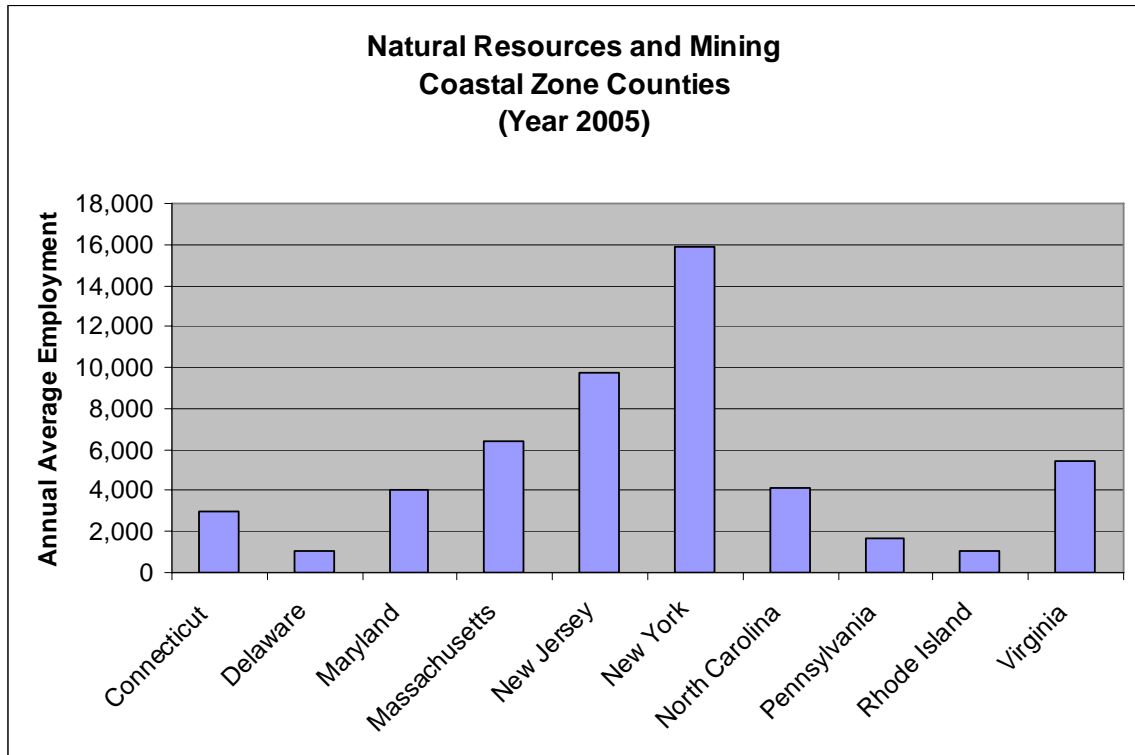


Figure 2.30 Wages Reported in Natural Resources and Mining Sector in the Coastal Zone Counties of the MARCOOS Region

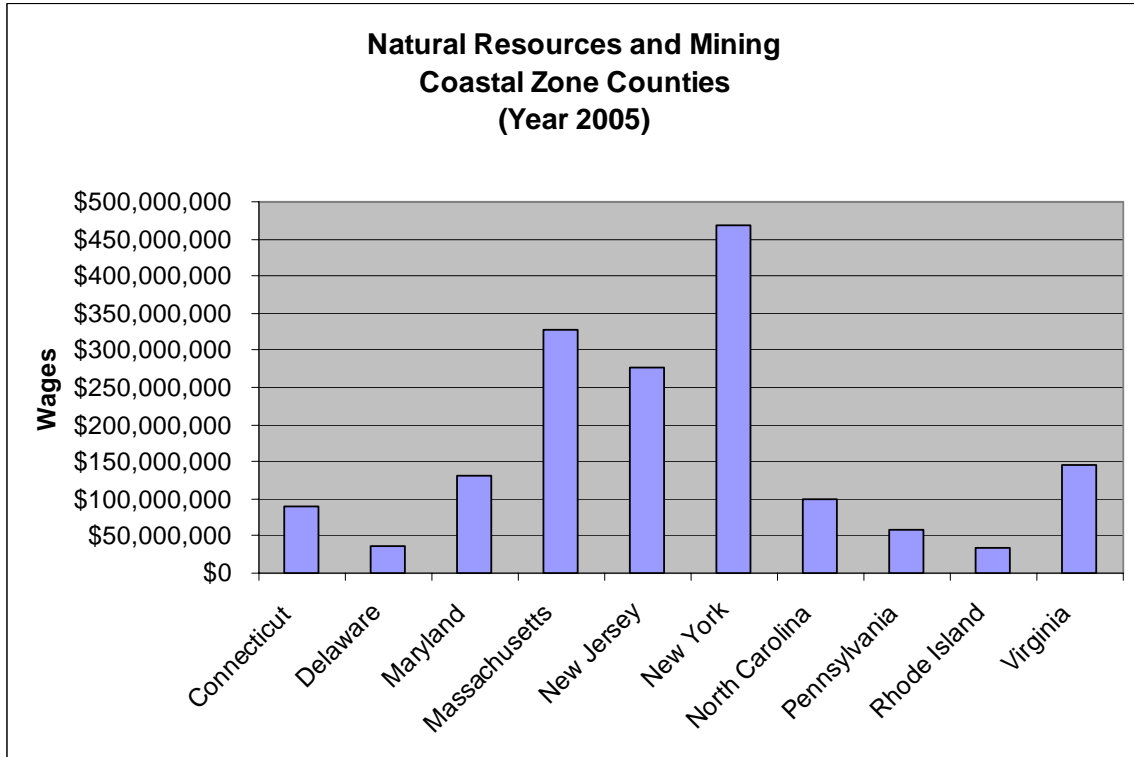
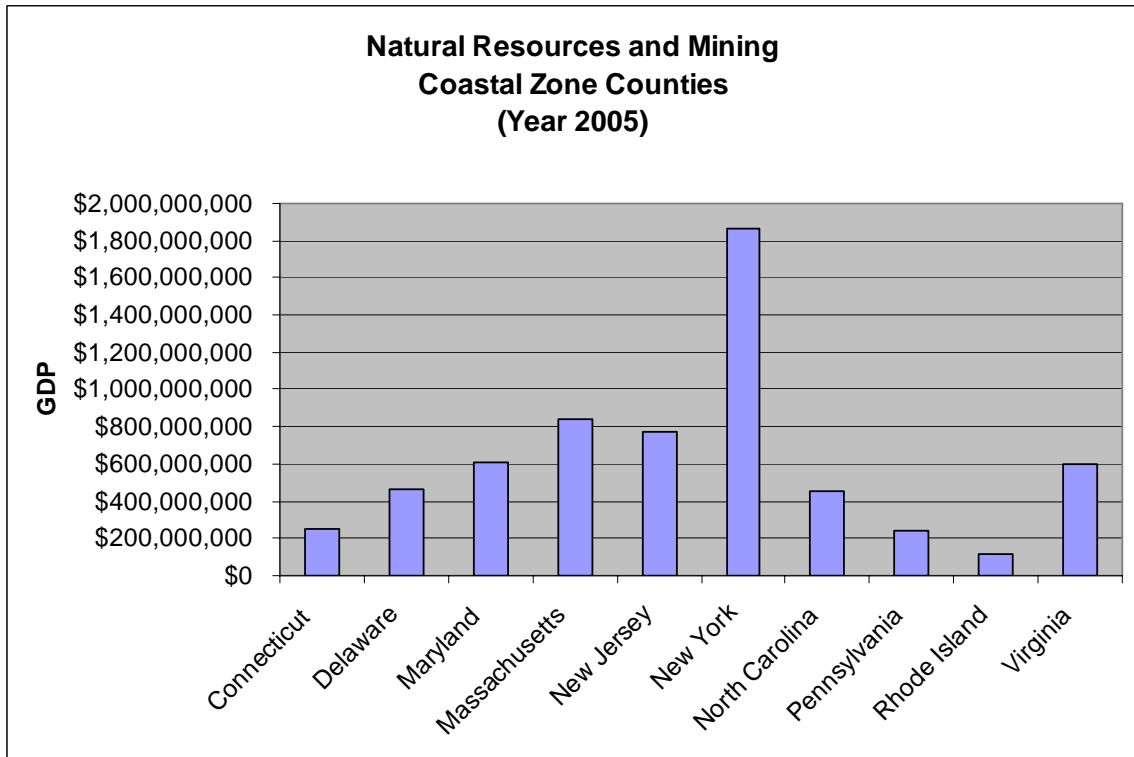


Figure 2.31 State GDP for Natural Resources and Mining Sector in the Coastal Zone Counties of the MARCOOS Region



Other Services

Table 2.11 Coastal Zone Counties Data for Other Services Sector in the MARCOOS Region

**Other Services
Coastal Zone Counties
(Year 2005)**

State	Establishments	Employment	Wages	GDP
Connecticut	8,448	34,625	\$934,712,586	\$2,385,208,000
Delaware	2,175	12,869	\$320,205,588	\$953,000,000
Maryland	8,995	53,298	\$1,512,009,075	\$3,664,432,166
Massachusetts	22,095	89,560	\$2,445,439,928	\$5,340,142,411
New Jersey	19,736	104,884	\$3,223,567,940	\$7,587,417,980
New York	53,564	270,060	\$8,244,135,465	\$18,378,153,058
North Carolina	1,831	9,062	\$179,307,103	\$570,961,882
Pennsylvania	8,079	45,323	\$1,270,922,302	\$3,439,241,082
Rhode Island	3,263	18,086	\$434,350,843	\$958,000,000
Virginia	16,205	89,379	\$3,005,104,741	\$6,713,849,224

Figure 2.32 Number of Establishments Conducting Other Services Activities in the Coastal Zone Counties of the MARCOOS Region

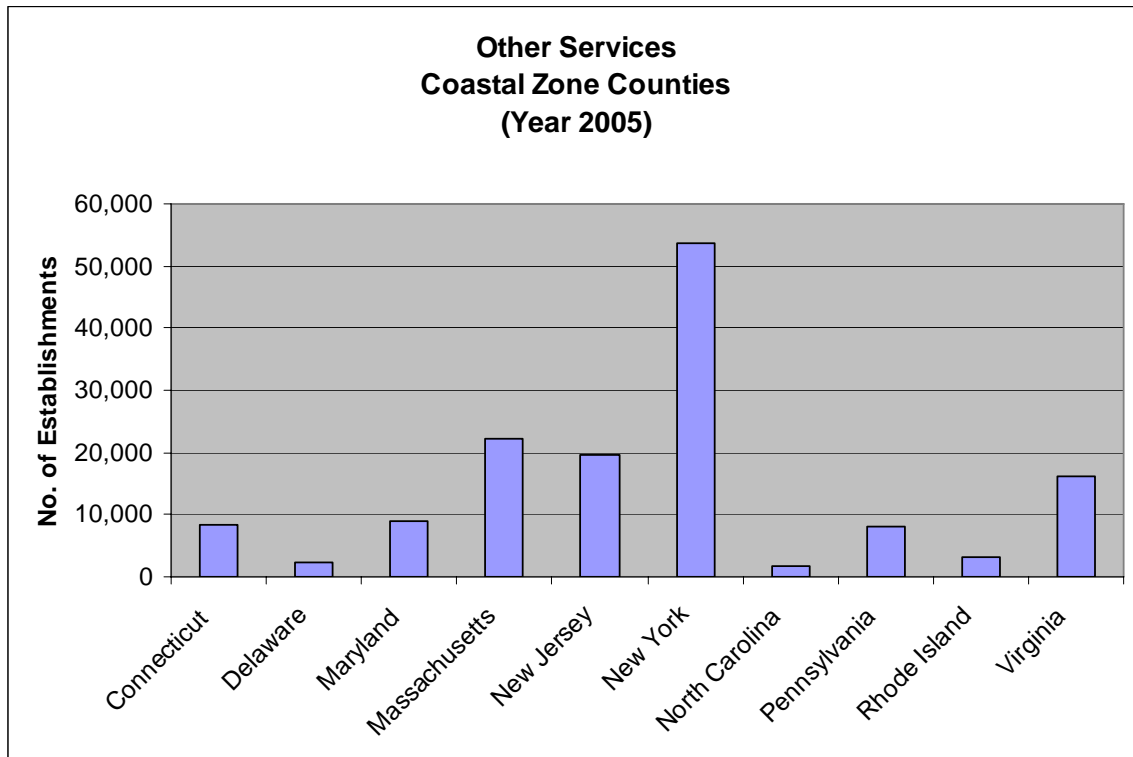


Figure 2.33 Number of Other Services Sector Related Jobs in the Coastal Zone Counties of the MARCOOS Region

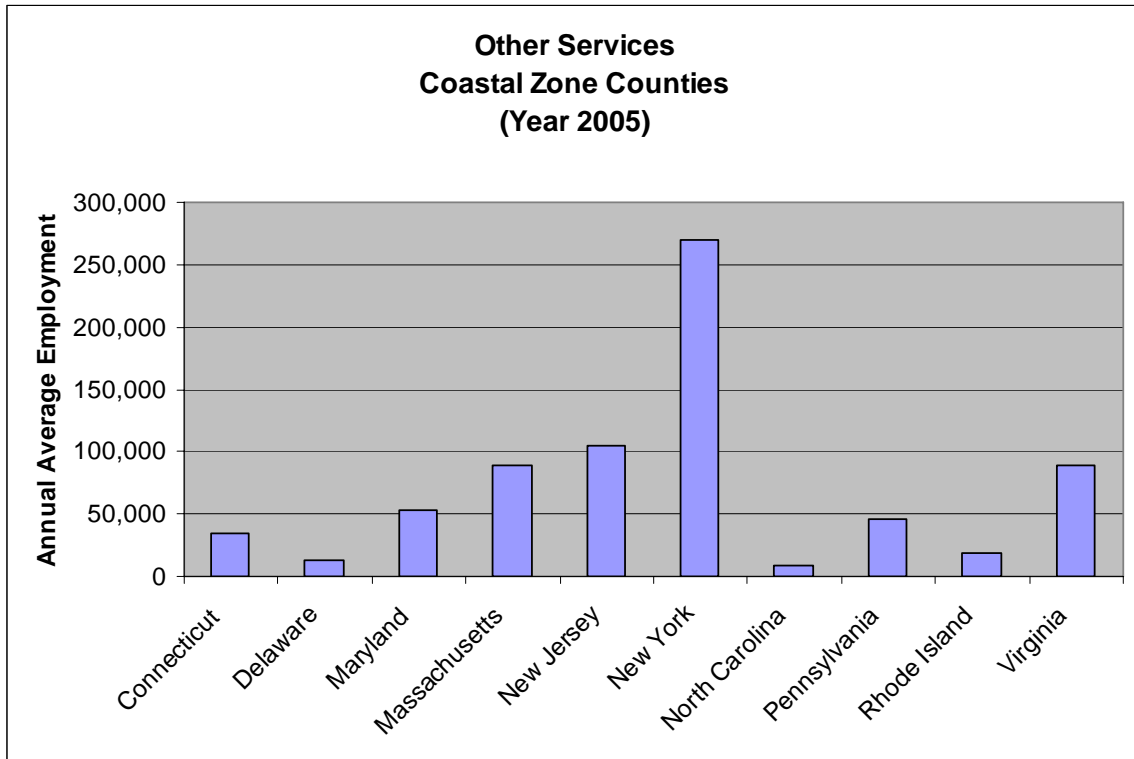


Figure 2.34 Wages Reported in Other Services Sector in the Coastal Zone Counties of the MARCOOS Region

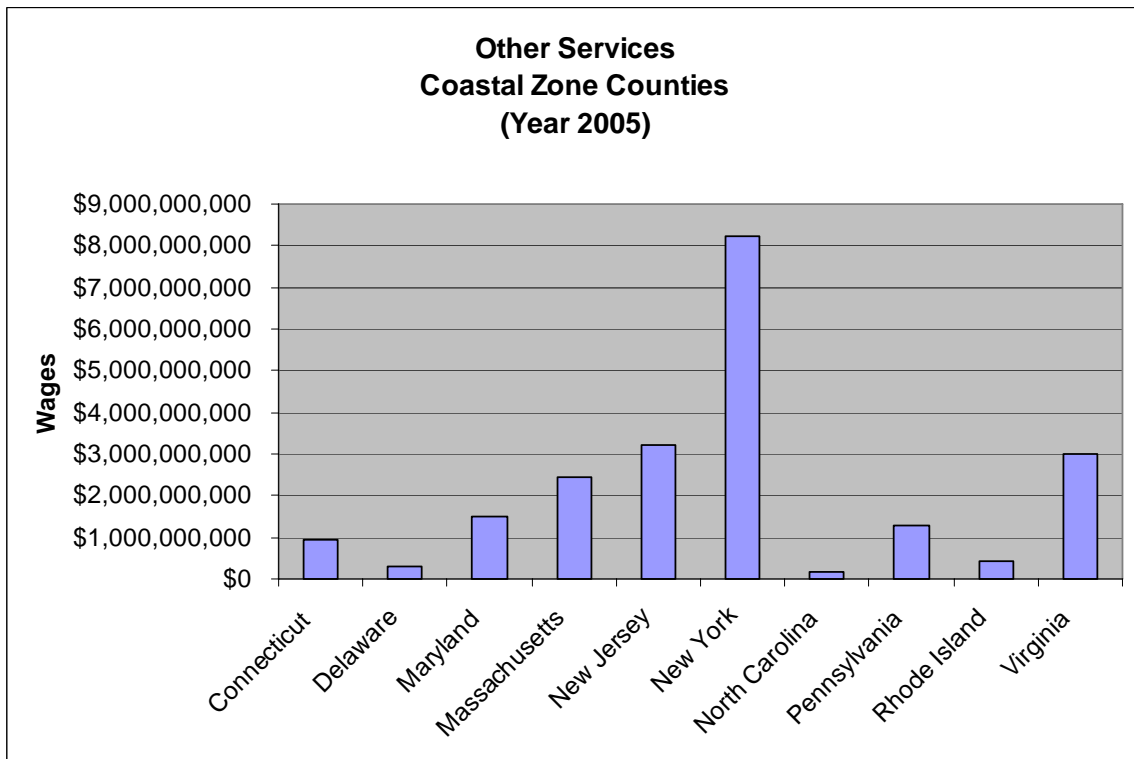
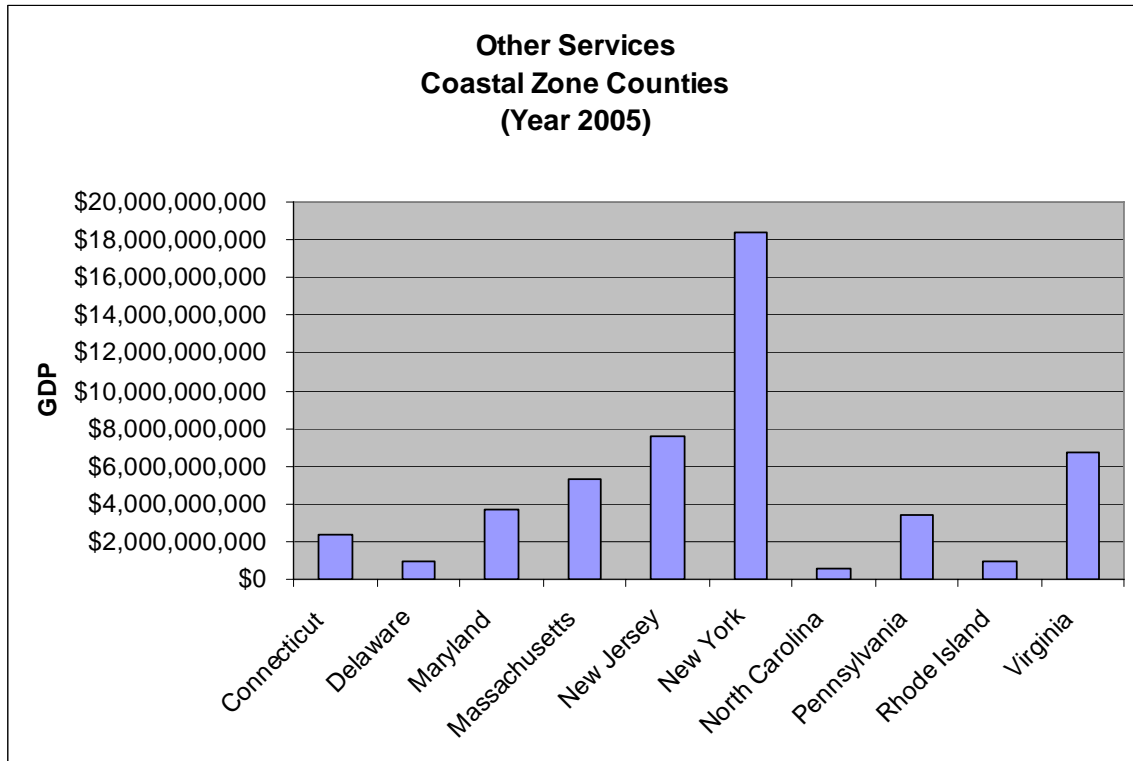


Figure 2.35 State GDP for Other Services Sector in the Coastal Zone Counties of the MARCOOS Region



Professional and Business Services

Table 2.12 Coastal Zone Counties Data for Professional and Business Services Sector in the MARCOOS Region

**Professional and Business Services
Coastal Zone Counties
(Year 2005)**

State	Establishments	Employment	Wages	GDP
Connecticut	11,803	122,749	\$8,557,080,137	\$18,134,255,856
Delaware	8,655	61,001	\$3,327,243,889	\$6,969,999,999
Maryland	16,548	214,182	\$10,609,761,186	\$17,906,452,019
Massachusetts	30,680	389,660	\$26,824,355,771	\$45,643,338,348
New Jersey	37,217	485,204	\$29,094,163,678	\$49,747,962,603
New York	72,457	942,237	\$64,301,368,698	\$126,262,221,176
North Carolina	3,223	28,163	\$905,424,890	\$1,614,514,715
Pennsylvania	11,062	150,756	\$8,500,485,134	\$15,237,343,513
Rhode Island	5,671	52,493	\$2,437,296,808	\$4,225,000,001
Virginia	28,778	483,669	\$31,232,117,245	\$50,048,696,768

Figure 2.36 Number of Establishments Conducting Professional and Business Services Activities in the Coastal Zone Counties of the MARCOOS Region

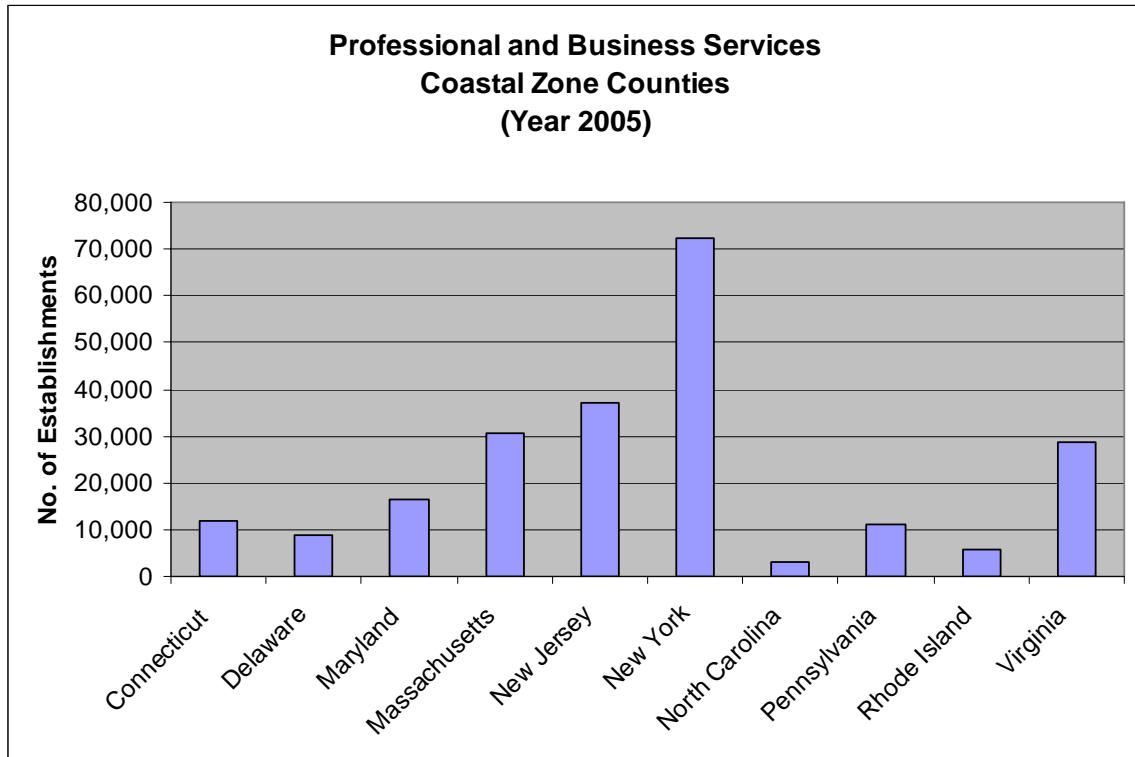


Figure 2.37 Number of Professional and Business Services Sector Related Jobs in the Coastal Zone Counties of the MARCOOS Region

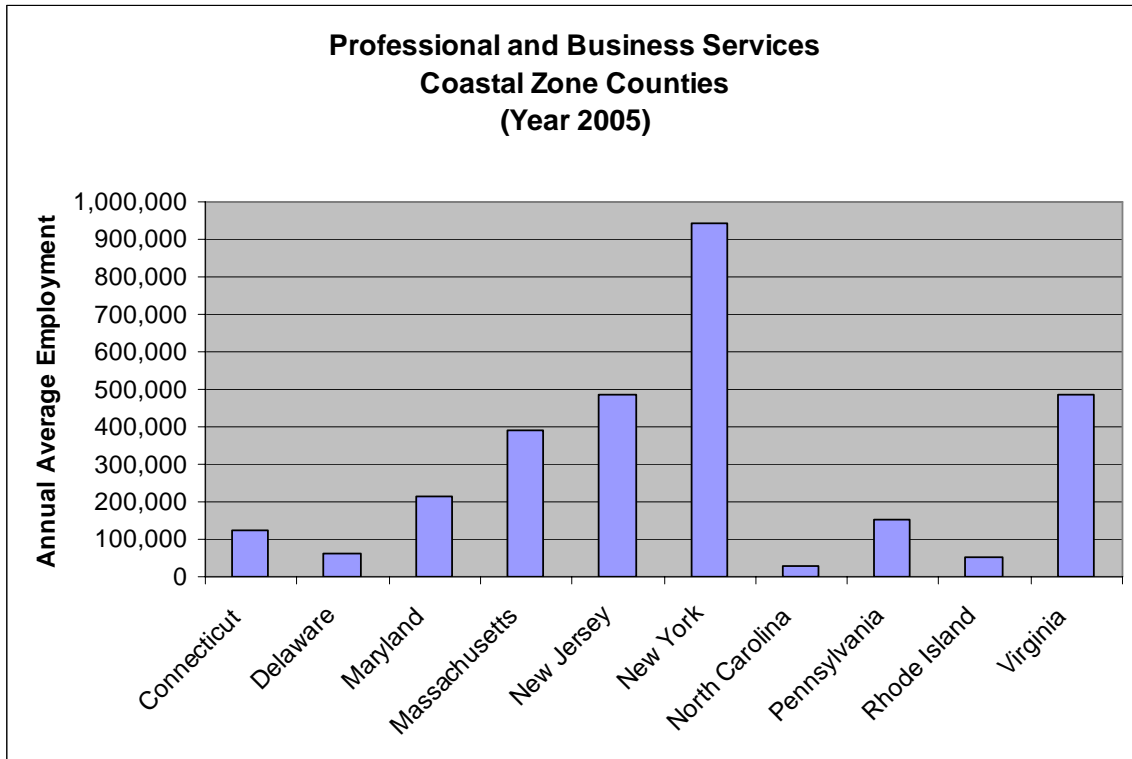


Figure 2.38 Wages Reported in Professional and Business Services Sector in the Coastal Zone Counties of the MARCOOS Region

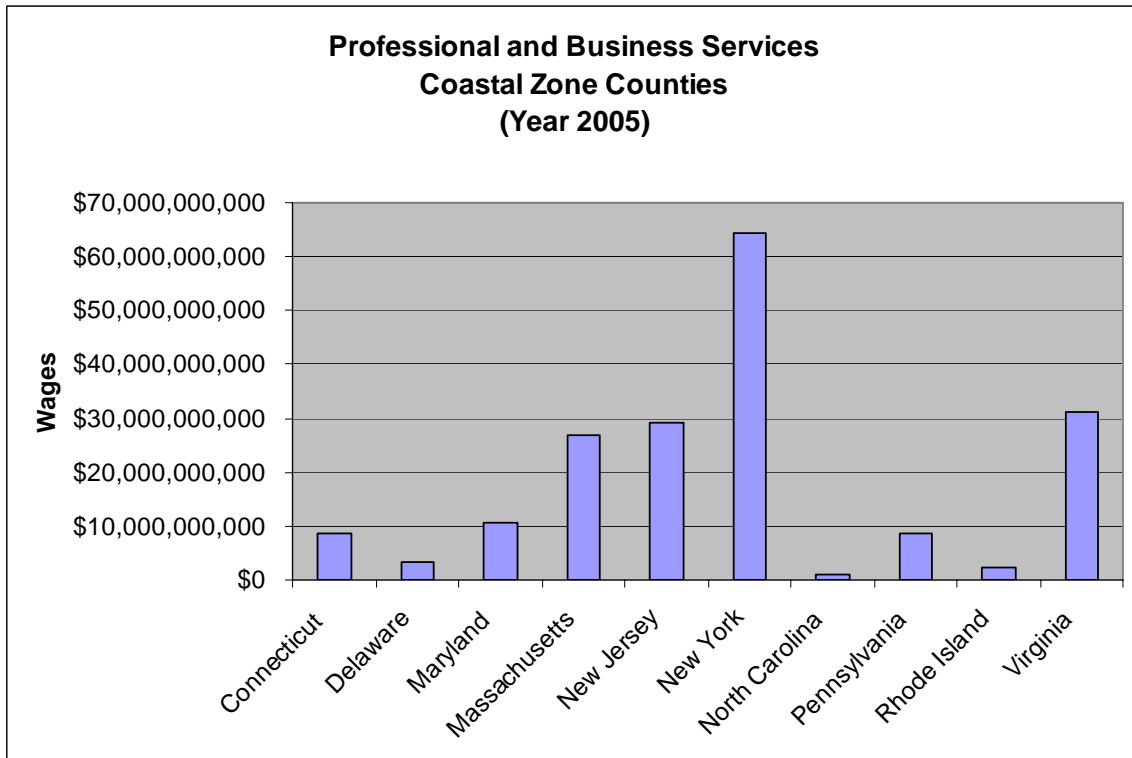
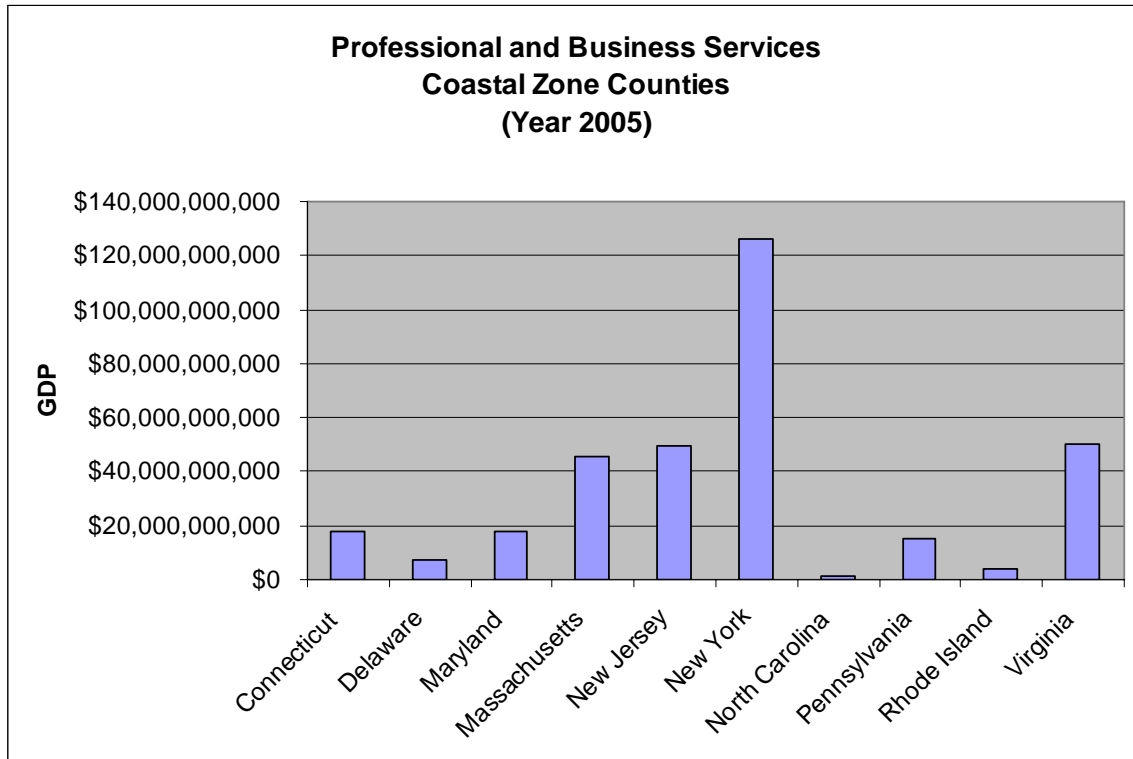


Figure 2.39 State GDP for Professional and Business Services Sector in the Coastal Zone Counties of the MARCOOS Region



Public Administration

Table 2.13 Coastal Zone Counties Data for Public Administration Sector in the MARCOOS Region

State	Establishments	Employment	Wages	GDP
Connecticut	1,028	27,222	\$1,621,354,542	\$8,875,776,983
Delaware	192	16,845	\$796,212,034	\$4,713,000,000
Maryland	738	131,446	\$7,642,247,668	\$27,202,429,570
Massachusetts	2,083	104,203	\$5,616,952,961	\$23,360,317,839
New Jersey	1,674	201,053	\$10,880,080,295	\$40,284,347,105
New York	2,178	414,813	\$22,196,905,923	\$88,475,692,092
North Carolina	556	26,324	\$1,049,808,744	\$6,449,966,192
Pennsylvania	439	68,795	\$3,541,537,204	\$15,513,150,938
Rhode Island	381	23,036	\$1,309,056,603	\$5,462,999,999
Virginia	1,683	157,021	\$10,043,681,423	\$51,497,320,021

Figure 2.40 Number of Establishments Conducting Public Administration Activities in the Coastal Zone Counties of the MARCOOS Region

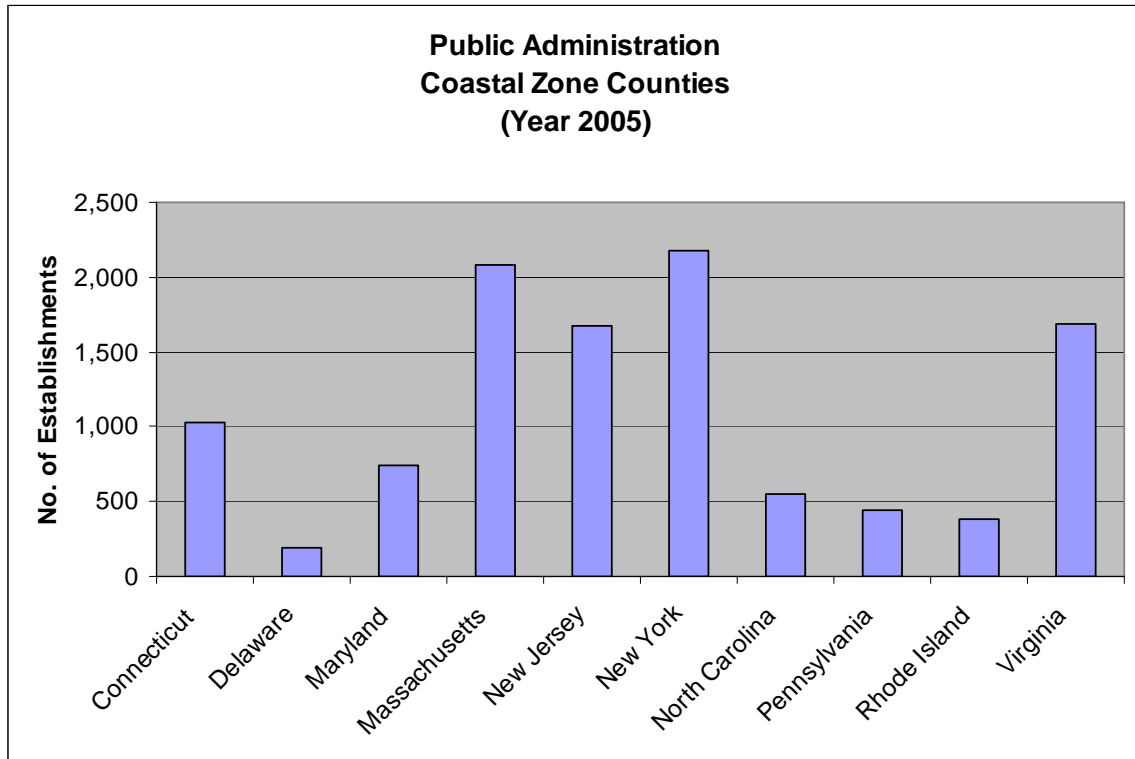


Figure 2.41 Number of Public Administration Related Jobs in the Coastal Zone Counties of the MARCOOS Region

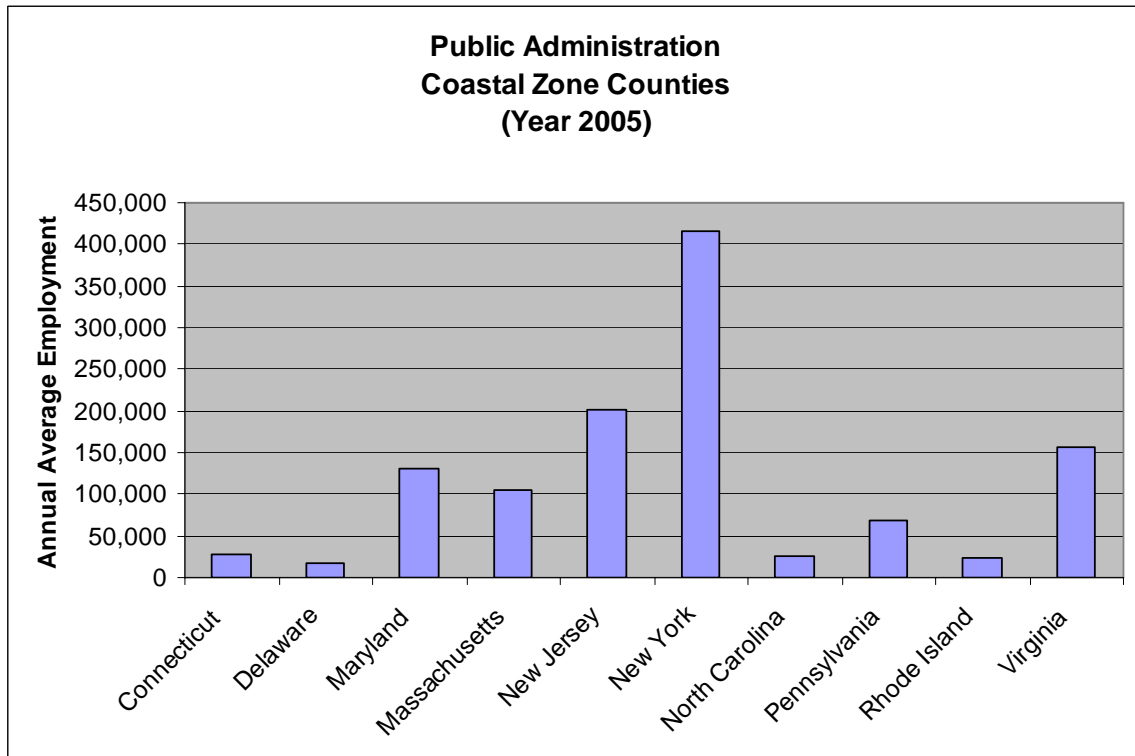


Figure 2.42 Wages Reported in Public Administration Sector in the Coastal Zone Counties of the MARCOOS Region

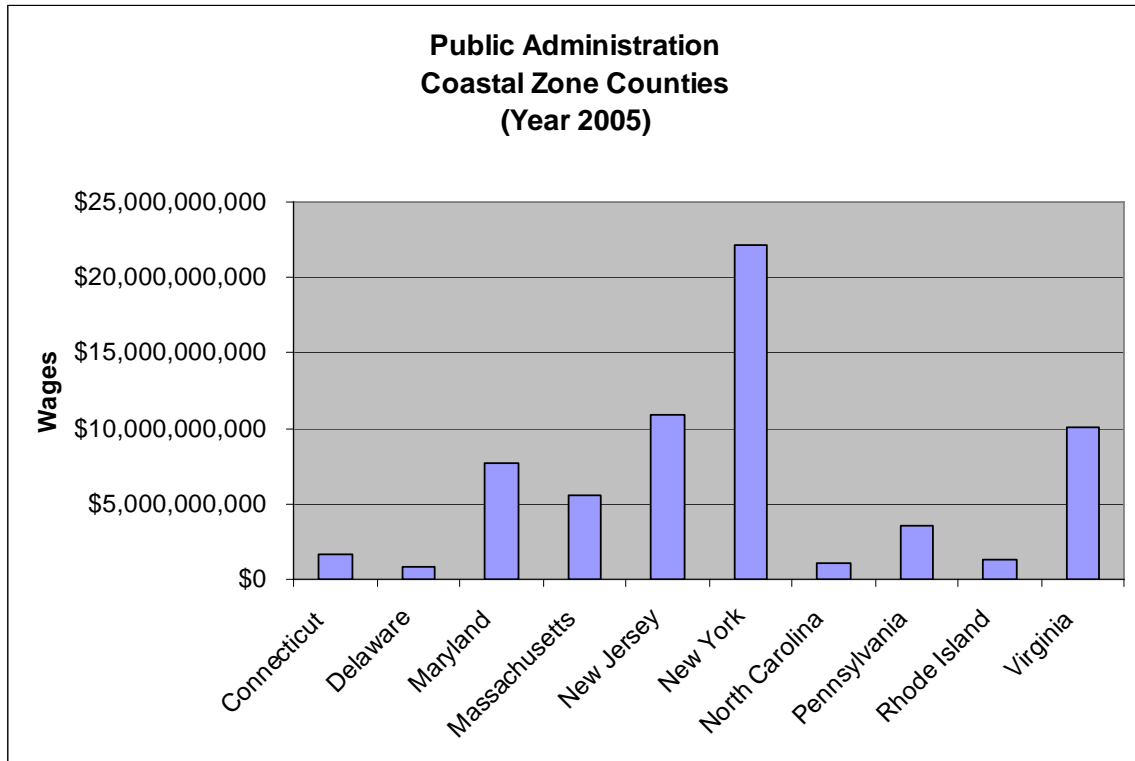
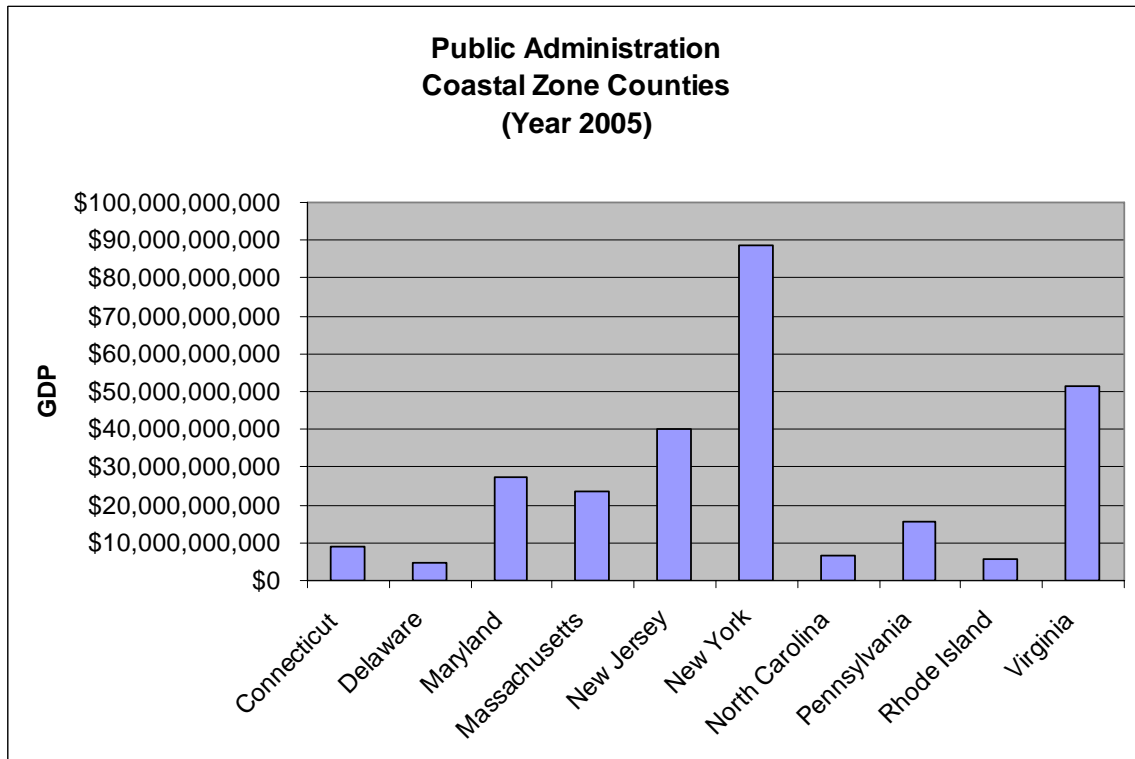


Figure 2.43 State GDP for Public Administration Sector in the Coastal Zone Counties of the MARCOOS Region



Trade, Transportation, and Utilities

Table 2.14 Coastal Zone Counties Data for Trade, Transportation, and Utilities Sector in the MARCOOS Region

**Trade, Transportation, and Utilities
Coastal Zone Counties
(Year 2005)**

State	Establishments	Employment	Wages	GDP
Connecticut	13,926	184,885	\$7,735,527,785	\$18,135,989,156
Delaware	6,249	80,435	\$2,768,996,542	\$6,063,000,000
Maryland	20,114	314,835	\$10,991,965,669	\$26,155,112,589
Massachusetts	31,666	449,777	\$18,086,831,050	\$36,949,960,341
New Jersey	49,582	799,253	\$33,003,331,585	\$74,695,459,618
New York	101,145	1,284,690	\$51,624,051,108	\$119,839,514,188
North Carolina	5,971	69,920	\$1,876,524,174	\$4,469,830,554
Pennsylvania	15,233	229,773	\$8,029,009,832	\$19,057,171,168
Rhode Island	7,021	80,940	\$2,621,747,831	\$6,457,000,000
Virginia	25,587	435,945	\$15,249,838,092	\$35,020,103,281

Figure 2.44 Number of Establishments Conducting Trade, Transportation, and Utilities Activities in the Coastal Zone Counties of the MARCOOS Region

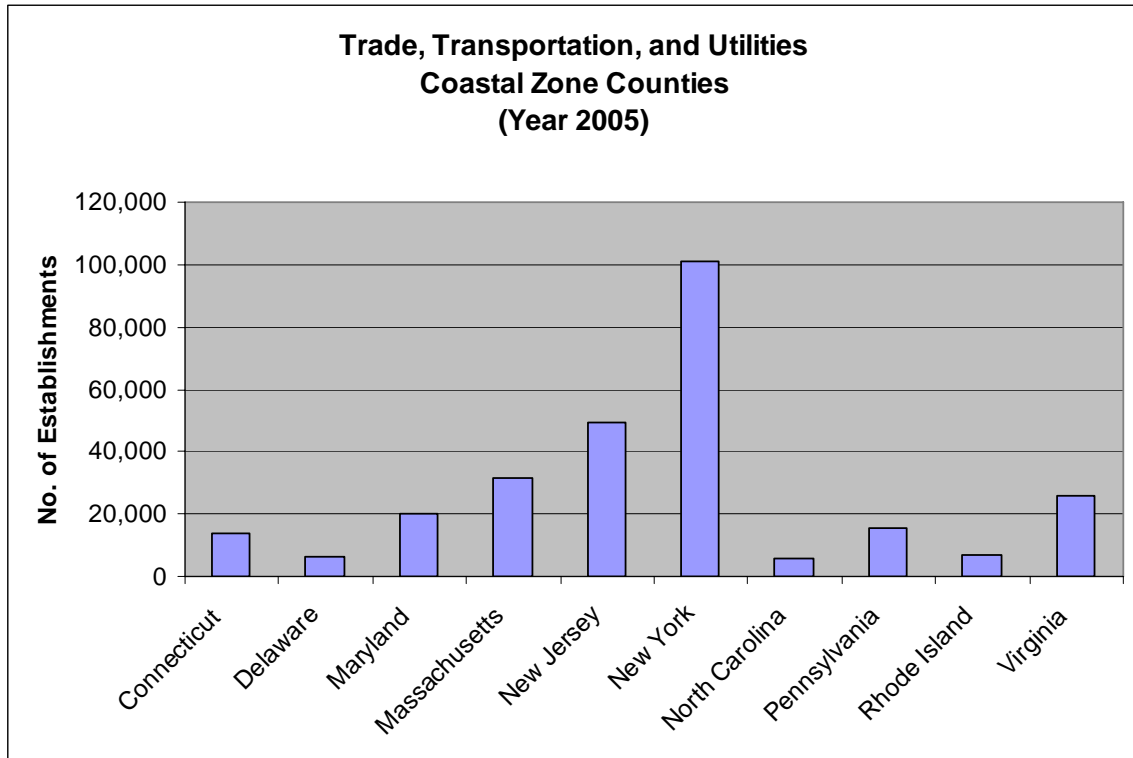


Figure 2.45 Number of Trade, Transportation, and Utilities Related Jobs in the Coastal Zone Counties of the MARCOOS Region

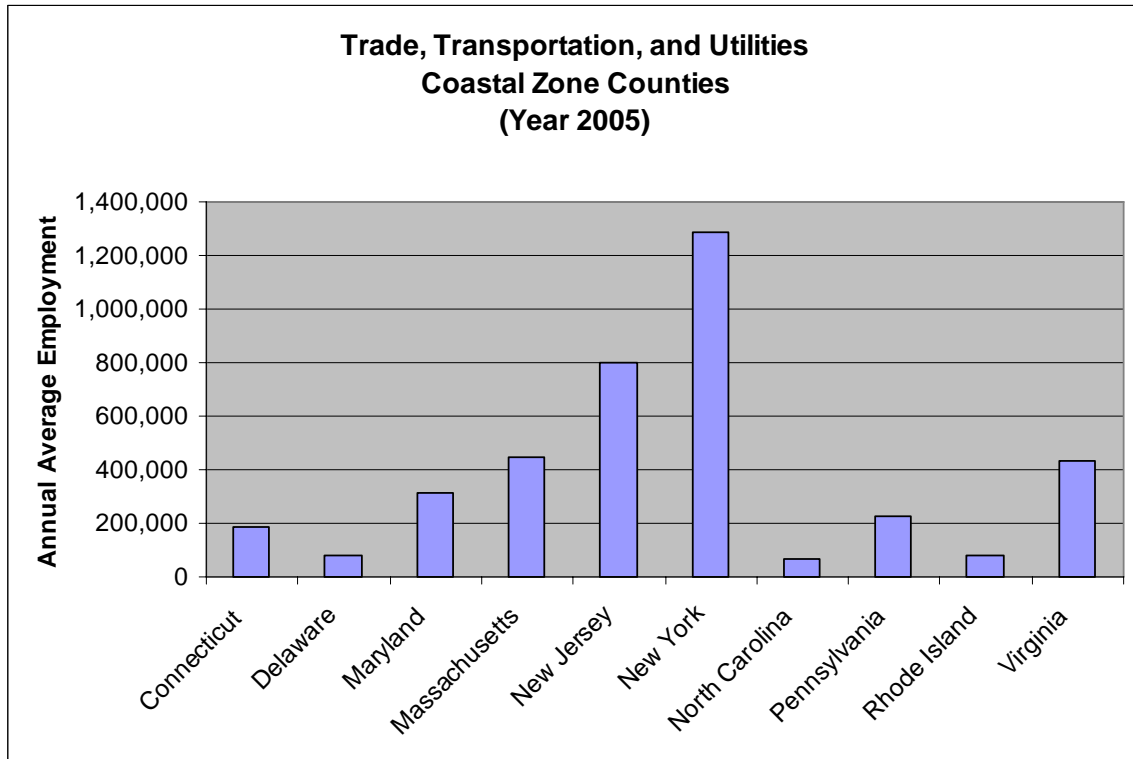


Figure 2.46 Wages Reported in Trade, Transportation and Utilities Sector in the Coastal Zone Counties of the MARCOOS Region

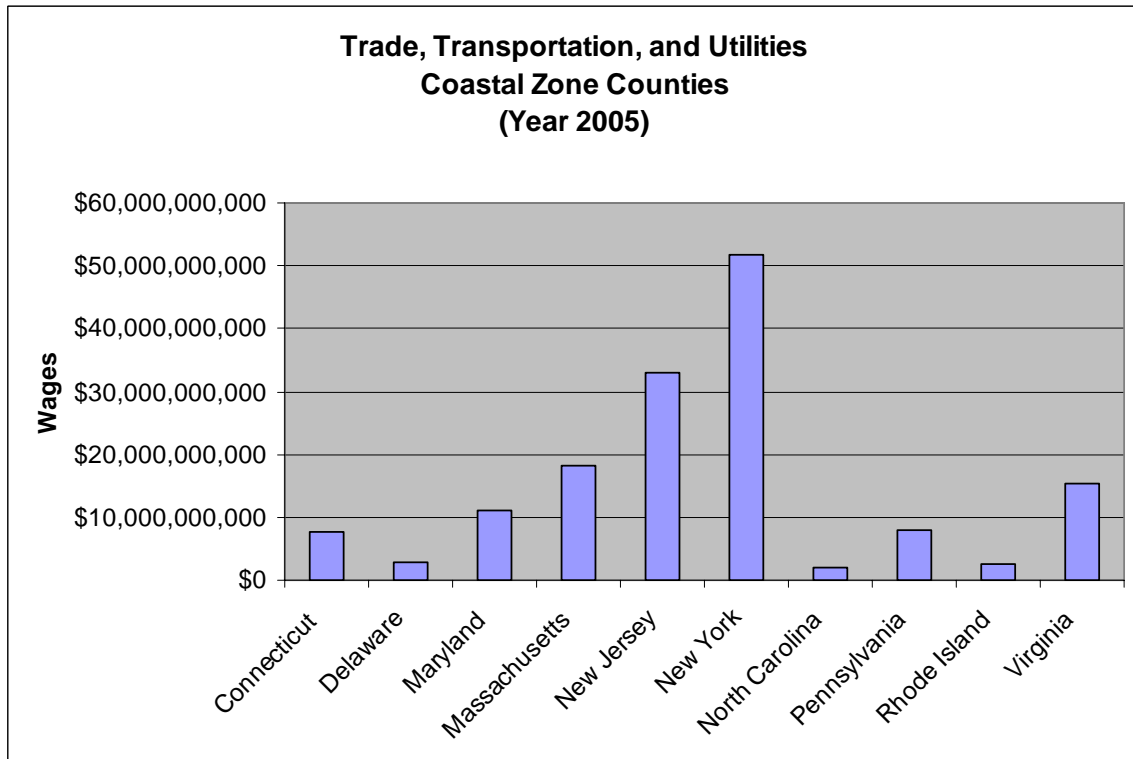


Figure 2.47 State GDP for Trade, Transportation, and Utilities Sector in the Coastal Zone Counties of the MARCOOS Region

