

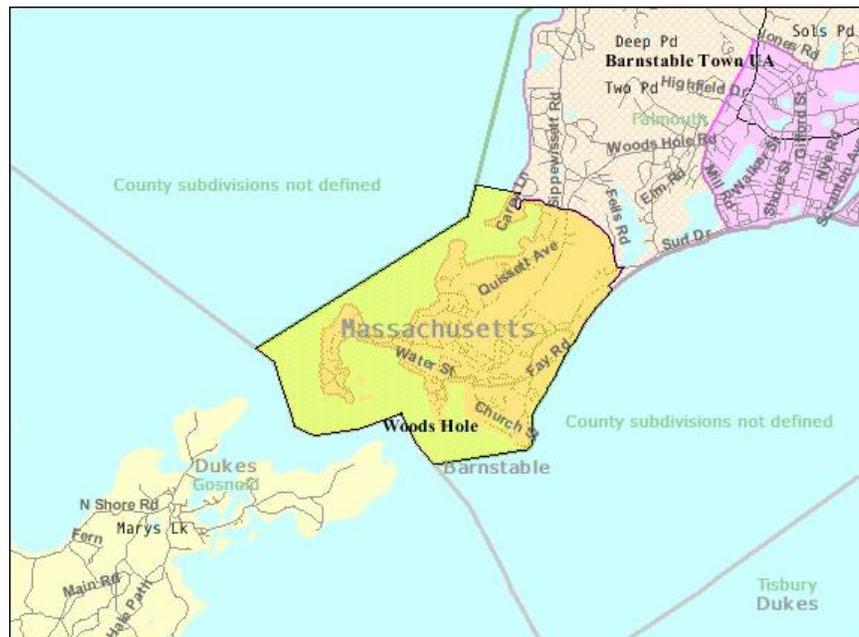
# WOODS HOLE, MA<sup>1</sup>

## Community Profile<sup>2</sup>

### PEOPLE AND PLACES

#### Regional orientation

Woods Hole (41.53° N, 70.67° W) is a village in the Town of Falmouth (Barnstable County) located in Barnstable County in the state of Massachusetts. The village lies on the southwestern portion of the ‘arm’ of Cape Cod, with Buzzards Bay to the west, Vineyard Sound to the south, and Nantucket Sound to the east. The town is located 60 miles southeast of Boston and 230 miles northeast of New York City (USGS 2008).



Map 1. Location of Woods Hole, MA (US Census Bureau 2000).

#### Historical/Background

Woods Hole was first settled around 1676, seventeen years after the settlement of the Town of Falmouth. Fishing, hunting, and sheep breeding were the principal occupations of the early settlers. In later years, a grist mill was built and salt was made by solar evaporation of sea water in pans built along the banks of Little Harbor (near the present day Coast Guard station). From the early to mid-1800’s whaling brought prosperity to Woods Hole. After the decline of whaling, the Pacific Guano Works near Penzance Point became the significant economic activity for the village. Guano was hauled by 33 large sailing ships from a remote Pacific Island, mixed

<sup>1</sup> These community profiles have been created to serve as port descriptions in Environmental Impact Statements (EISs) for fisheries management actions. They also provide baseline information from which to begin research for Social Impact Assessments (SIAs). Further, they provide information relevant to general community impacts for National Standard 8 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and information on minorities and low income populations for Executive Order (E.O.) 12898 on Environmental Justice.

<sup>2</sup> For purposes of citation please use the following template: “Community Profile of *Town, ST*. Prepared under the auspices of the National Marine Fisheries Service, Northeast Fisheries Science Center. For further information contact [Lisa.L.Colburn@noaa.gov](mailto:Lisa.L.Colburn@noaa.gov).”

with organic constituents from menhaden, pogy and other local fish, and turned into fertilizer at the Woods Hole plant. With the eventual bankruptcy of Pacific Guano Works, and the arrival of Spencer Baird in 1871, Woods Hole began a new era as a scientific research center. Being centrally located in relation to principal fishing grounds and having good dock facilities and water of sufficient depth for sea going vessels, Woods Hole was a suitable base for visiting the offshore grounds and became the site of the Commission of Fish and Fisheries (now the National Marine Fisheries Service) and the current Woods Hole Oceanographic Institute (NOAA Publications 2004).

### Demographics<sup>3</sup>

According to Census 2000 data (US Census Bureau 2000a), Woods Hole had a total population of 925, up 9.7% from the reported population of 843 in 1990 (US Census Bureau 1990). Of this 2000 total, 48.6% were males and 51.4% were females. The median age was 48.1 years and 84.5% of the population was 21 years or older while 30.2% was 62 or older.

The age structure in Woods Hole (see Figure 1) was mostly consistent for adult age categories from 30 to 79 years old. The trend may be explained by the presence of the scientific institutions, employing adults with advanced degrees, which are generally individuals older than thirty. The number of females between the ages of 20 to 29 is significantly greater than the number of males however the number of males is larger for ages 0 to 19. It is important to bear in mind the small overall population size, so a significant difference is only thirteen or fourteen individuals.

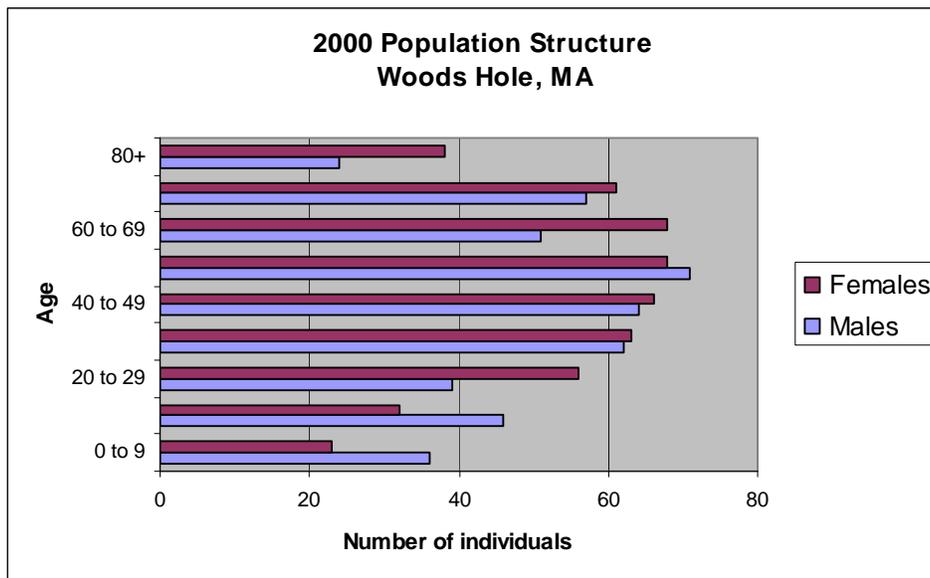


Figure 1. Woods Hole's population structure by sex in 2000 (US Census Bureau 2000)

The majority of the population was white (95.9%), with 1.6% of residents black or African American, 1.8% Asian, 0.5% Native American, and none Pacific Islander or Hawaiian (see Figure 2). Only 1.0% of the population identified themselves as Hispanic/Latino (see Figure

<sup>3</sup> While mid-term estimates are available for some larger communities, data from the 2000 Census are the only data universally available for the communities being profiled in the Northeast. Thus for cross-comparability we have used 2000 data even though these data may have changed significantly since 2000 for at least some communities.

3). Residents linked their backgrounds to a number of different ancestries including: English (18.2%), Irish (16.5%), German (16.0%), Swedish (8.0%), and Italian (7.0%). With regard to region of birth, 36.9% were born in Massachusetts, 48.7% were born in a different state and 13.6% were born outside of the U.S. (including 7.4% who were not United States citizens).

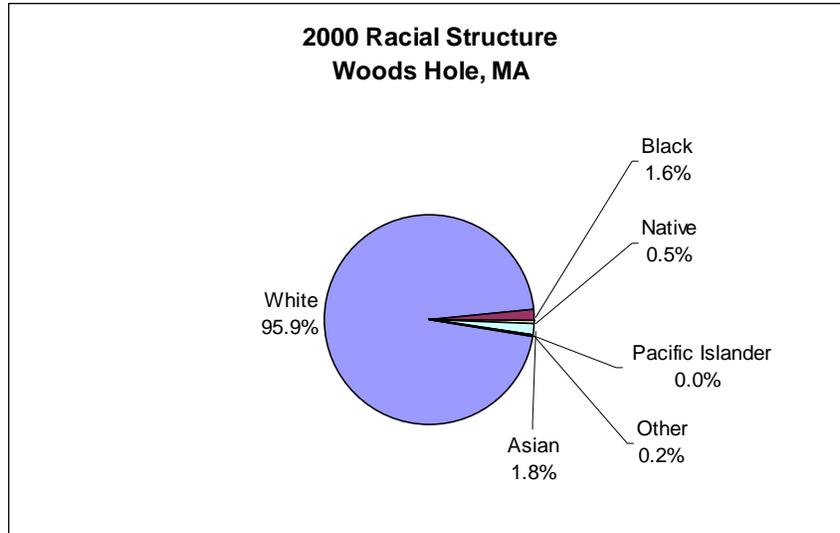


Figure 2. Racial Structure in 2000 (US Census Bureau 2000)

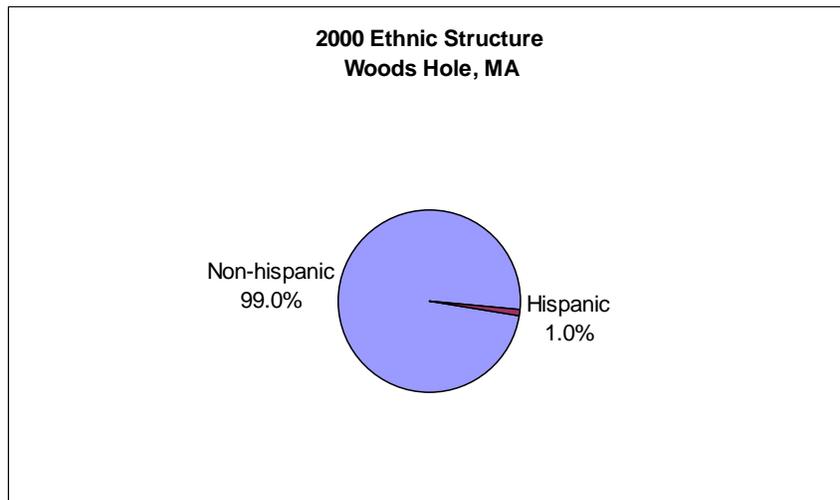


Figure 3. Ethnic Structure in 2000 (US Census Bureau 2000)

For 84.6% of the population, only English was spoken in the home, leaving 15.4% in homes where a language other than English was spoken, and including 1.9% of the population who spoke English less than 'very well' according to the 2000 Census.

Of the population 25 years and over, 96.9% were high school graduates or higher and 64.0% had a bachelor's degree or higher. Again of the population 25 years and over, 1.9% did not reach ninth grade, 1.2% attended some high school but did not graduate, 11.6% completed high school, 17.6% had some college with no degree, 3.7% received an associate's degree, 20.9% earned a bachelor's degree, and 43.2% received either a graduate or professional degree.

Although religion percentages are not available through the U.S. Census, according to the Association of Religion Data Archives (ARDA) in 2000, the religion with the highest number of congregations and adherents in Barnstable County was Catholic with 29 congregations and 63,729 adherents. Other prominent congregations in the county were: Episcopal Church (11 with 7,093 adherents), United Church of Christ (17 with 6,141) and United Methodist Church (15 with 4,241 adherents). The total number of adherents to any religion was down 20.7% from 1990 (ARDA 2000).

### **Issues/Processes**

In the summer and fall of 2004, a great white shark became stranded in a shallow lagoon via the Naushon Island inlet in Woods Hole. The shark was corralled out of the lagoon into the open water of Vineyard Sound through a coordinated effort between Chatham fishermen and local scientists. A satellite tracking tag was placed on the shark, but fell off soon after it was freed (Associated Press 2004).

Like other Cape towns, Woods Hole was affected by the unusually large red tide in the summer of 2005. New England's worst red tide outbreak in decades devastated the shellfishing industry and many local shellfish beds were closed to fishing. Red tides are caused by algal blooms of plankton that are not harmful to the shellfish that consume them, but can have deadly effects on humans who consume contaminated shellfish. Although the 'blooms' of these organisms are common further north in the region, it is uncommon for them to have such a large impact on Cape Cod (Mahoney and Ranalli 2005). In 2005, the National Oceanic and Atmospheric Administration provided \$540,000 to Woods Hole Oceanographic Institution to support continuing harmful algal bloom research (Sherman 2005).

### **Cultural attributes**

Woods Hole is a blend of summer tourist destination, access point to the near-by islands of Martha's Vineyard and Nantucket, and a renowned science research Mecca. The scientific community includes: the [Marine Biological Laboratory](#), the [Woods Hole Research Center](#), the [Sea Education Association](#), the [US Geological Survey](#), and the [Woods Hole Oceanographic Institution](#) (WHOI). WHOI is the largest independent oceanographic research organization in the world, home of the Alvin research submersible, and several research vessels.

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service houses the [Northeast Fisheries Science Center](#) (NEFSC) on Water Street in Woods Hole. The NEFSC maintains a small aquarium which is the oldest aquarium in the country. Every year in February, the NEFSC helps to organize events for African American History Month. Events include guest speakers, discussions, and music with a 'Harambee', a traditional Kenyan feast, on the last festival day (Dawicki 2008).

The [Woods Hole Coastal and Marine Geology Team](#) is one of three marine teams that conduct research within the US Geological Survey Coastal and Marine Geology Program. The team is located on the WHOI's Quissett Campus. The [Penikese Island School](#) is a unique program for troubled teenage boys located on Penikese Island 12 miles southwest of Woods Hole. Penikese is also a state bird sanctuary and the nesting site of rare birds. Every summer, the [Woods Hole Film Festival](#) brings a week of independent films, events, and workshops to the village.

## INFRASTRUCTURE

### Current Economy

According to the U.S. Census 2000<sup>4</sup>, 61.4% (475 individuals) of the total population 16 years of age and over were in the labor force (see Figure 4), of which 2.5% were unemployed, none were in the Armed Forces, and 59.0% were employed.

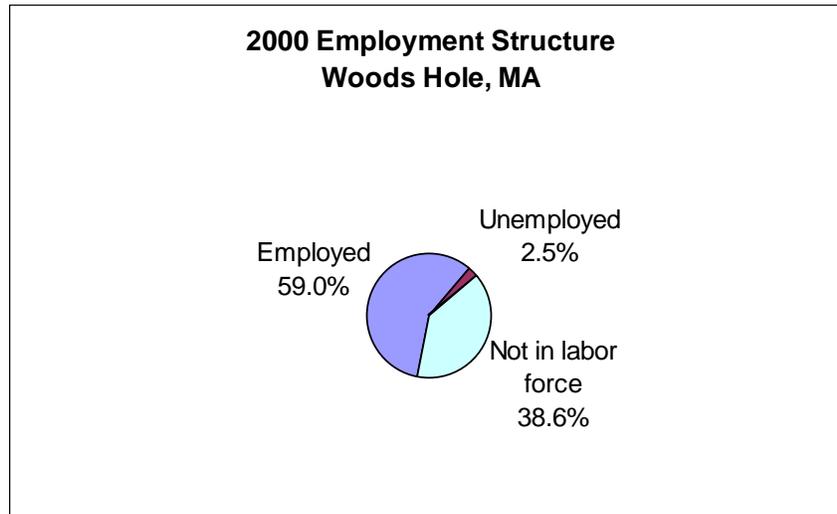


Figure 4. Employment Structure in 2000 (US Census Bureau 2000)

The largest employers in Woods Hole are the Woods Hole Oceanographic Institute, the Steamship Authority, and Marine Biological Laboratories (Falmouth Chamber of Commerce nd).

According to Census 2000 data, jobs in the census grouping which includes agriculture, forestry, fishing and hunting, and mining accounted for 18 positions or 3.9% of all jobs. Self employed workers, a category where fishermen might be found, accounted for 98 positions or 21.5% of jobs. Educational, health and social services (32.2%), professional, scientific, management, administrative, and waste management services (30.0%), construction (12.7%), and retail trade (8.6%) were the primary industries.

Median household income in Woods Hole was \$47,604 (up 29.8% from \$36,667 in 1990 (US Census Bureau 1990)) and per capita income was \$30,752. For full-time year round workers, males made approximately 0.28% more per year than females.

The average family in Woods Hole consisted of 2.58 persons. With respect to poverty, no families (unchanged from 1990 (US Census Bureau 1990)) and 5.3% of individuals earn below the official U.S. Census poverty threshold. This threshold is \$8,794 for individuals and ranges from \$11,239 through \$35,060 for families, depending on number of persons (2-9) (US Census Bureau 2000). In 2000, 6.5% of all families (of any size) earned less than \$35,000 per year.

In 2000, Woods Hole had a total of 942 housing units of which 48.7% were occupied and 91.7% were detached one unit homes. Almost 40% (38.0%) of these homes were built before 1940. Mobile homes, boats, RVs or vans accounted for none of the housing units; 81.4% of detached units have between 2 and 9 rooms. In 2000, the median cost for a home in this area

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<sup>4</sup> Again, Census data from 2000 are used because they are universally available and offer cross-comparability among communities. Some statistics, particularly median home price, are likely to have changed significantly since 2000.

was \$355,300. Of vacant housing units, 40.2% were used for seasonal, recreational, or occasional use. Of occupied units 38.6% were renter occupied.

## **Government**

The Town of Falmouth has a Representative Town Meeting form of government, consisting of 243 elected members and three at-large members. Each year nine members are elected in each of the town's nine precincts (Woods Hole is in precinct 1) for three-year overlapping terms. The three at-large members consist of the Town Moderator and the Town's two State Representatives to the Massachusetts General Court. Eight of the Town's elected members are from Woods Hole (Town of Falmouth 2007).

### *Fishery involvement in government*

The Falmouth Harbormaster and Shellfish Warden are responsible for both Falmouth and Woods Hole. The Northeast Fisheries Science Center is responsible for providing scientific recommendations to the regional New England Fisheries Management Council on commercial fisheries and marine resource issues.

## **Institutional**

### *Fishing associations*

The Massachusetts Fisherman's Partnership focuses on issues for fishermen in different ports in Massachusetts. The Partnership responded to the need of health care for fishermen and their families by developing the Fishing Partnership Health Insurance Plan with federal and state aid. This plan has been in place since 1997 and reduces the amount of money that fishermen's families have to pay to be covered by health insurance (Hall-Arber et al 2001).

### *Fishing assistance centers*

Information on fishing assistance centers in Woods Hole is unavailable through secondary data collection.

### *Other fishing related institutions*

The largest fishing-related institution in Woods Hole is the [Northeast Fisheries Science Center](#). The vision statement of the science center is to "conduct ecosystem-based research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources, and to generate social and economic opportunities and benefits from their use." The science center also works cooperatively with commercial fishermen on tagging projects, sea sampling, and monitoring.

## **Physical**

Woods Hole is located approximately 20 miles from New Bedford; 43 miles from Providence, RI; 62 miles from Boston; and 230 miles from New York City. Falmouth Hospital is 4 miles away in the town of Falmouth. There are three public airports near Woods Hole: Falmouth Airpark (10 miles); Otis Air Force Base (14 miles); and Katama Airpark in Edgartown, Martha's Vineyard (47 miles) (MapQuest nd).

The [Cape Cod Regional Transit Authority](#) operates its WHOOSH Trolley between Woods Hole and Falmouth from June to September for one dollar single fare. [Peter Pan Bus](#)

[Lines](#) operates from the ferry terminal in Woods Hole with regular, year-round service to Boston's Logan Airport and other regional destinations.

Woods Hole Marine offers boating services as well as mooring inspections, engine parts, boat storage and more. <http://woodsholemarine.com> Eel Pond has moorings and limited docking space, mostly for private boats, although a few commercial vessels enter the Pond. Eel Pond is accessible from Woods Hole Harbor (Vineyard Sound) by going under the Eel Pond Bridge. The bridge is raised on a semi-regular schedule and bridge tenders can also be contacted via VHF Channel 13. The Town Pier, located adjacent to the National Marine Fisheries Service on Water Street, is the place where Woods Hole's commercial vessels dock and unload. The U.S. Coast Guard Group Woods Hole is located in town and can be contacted via VHF Channel 16. Additionally, the Martha's Vineyard/Nantucket Ferry [Steamship Authority](#) also operates from Woods Hole, making regular, year-round return trips to both islands.

## INVOLVEMENT IN NORTHEAST FISHERIES<sup>5</sup>

### Commercial

There is only one commercial pier in Woods Hole, located adjacent to the Northeast Fisheries Science Center on Water Street. The pier is small, accommodating around a dozen vessels, but on average fewer than this number are at the dock. Vessels unload at the pier and sell their catch to regional distributors. There are no processing plants in Woods Hole. Woods Hole is a year round fishing port, with vessels primarily engaged in trawling and pot fishing.

The NOAA Ships ALBATROSS IV and DELAWARE II are home-ported in Woods Hole and conduct year-round research/fishing activities throughout New England. The information collected on fish distribution and stock sizes are used to make scientific recommendations for future fisheries management decisions.

The "other" species grouping was the most valuable landed species grouping in Woods Hole on average from 1997-2006, followed by the summer flounder, scup, and black sea bass and squid, mackerel, and butterfish groupings (see Table 1). Total landings in Woods Hole were at their highest in 2001, declining in subsequent years. The number of home ported vessels in Woods Hole, was relatively variable from 1997-2006, varying from a low of 6 to a high of 11 during this time period (see Table 2). The number of vessels with owners living in Woods Hole was lower and declined in the same period, from 4 in 2000 down to zero in 2005 and one in 2006. This may be an indication of the high cost of housing in Woods Hole.

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<sup>5</sup> In reviewing the commercial landings data several factors need to be kept in mind. 1) While both federal and state landings are included, some states provide more detailed data to NMFS than others. For example, shellfish may not be included or data may be reported only by county and not by port. 2) Some communities did not have individual port codes until more recently. Before individual port codes were assigned, landings from those ports were coded at the county level or as an aggregate of two geographically close small ports. Where landings were coded at the county level they cannot be sorted to individual ports for those earlier years, e.g., prior to 2000. 3) Where aggregated codes were used, those aggregate codes may still exist and be in use alongside the new individual codes. Here the landings which are still assigned to the aggregate port code cannot be sorted into the individual ports, so port level data are only those which used the individual port code. 4) Even when individual port codes exist, especially for small ports, landings may be coded at the county level. Here again it is impossible to disaggregate these to a port level, making the port level landings incomplete. 5) In all these cases, the per port data in this profile may under report the total level of landings to the port, though all landings are accounted for in the overall NMFS database.

## Landings by Species

Table 1. Rank Value of Landings for Federally Managed Groups

Species	Rank Value of Average Landings from 1997-2006
Other	1
Summer Flounder, Scup, Black Sea Bass	2
Squid, Mackerel, Butterfish	3
Scallop	4
Largemouth Groundfish <sup>6</sup>	5
Surf Clams, Ocean Quahog	6
Monkfish	7
Lobster	8
Bluefish	9
Skate	10
Dogfish	11
Tilefish	12
Smallmouth Groundfish <sup>7</sup>	13

(Note: Only rank value is provided because value information is confidential in ports with fewer than three vessels or fewer than three dealers, or where one dealer predominates in a particular species and would therefore be identifiable.)

## Vessels by Year<sup>8</sup>

Table 2. Federal Vessel Permits Between 1997-2006

Year	# Vessels (home ported)	# vessels (owner's city)
1997	9	4
1998	6	4
1999	6	4
2000	8	4
2001	11	3
2002	9	3
2003	10	1
2004	10	1
2005	7	0
2006	7	1

(Note: # Vessels home ported = No. of permitted vessels with location as homeport, # Vessels (owner's city) = No. of permitted vessels with location as owner residence<sup>9</sup>)

<sup>6</sup> Largemouth groundfish: cod, winter flounder, yellowtail flounder, American plaice, sand-dab flounder, haddock, white hake, redfish, and pollock

<sup>7</sup> Smallmouth multi-species: red hake, ocean pout, mixed hake, black whiting, silver hake (whiting)

<sup>8</sup> Numbers of vessels by owner's city and homeport are as reported by the permit holder on permit application forms. These may not correspond to the port where a vessel lands or even spends the majority of its time when docked.

<sup>9</sup> The Owner-City from the permit files is technically the address at which the owner receives mail concerning their permitted vessels, which could reflect the actual location of residence, the mailing address as distinct from residence, owner business location, or the address at which a subsidiary receives mail about the permits.

## Recreational

[Woods Hole Marine](#) is the only recreational fishing supply store and service center in the village of Woods Hole. Individuals with their own vessels can launch at the town pier ramp. In the summer, Woods Hole is brimming with sport fishing enthusiasts, and many people come from throughout the region to participate in the annual July [Monster Shark Fishing Tournament](#) on Martha's Vineyard. Recreational anglers in private and chartered vessels travel miles offshore to catch bluefin, yellowfin, albacore, and bigeye tunas, blue, mako, and thresher sharks, and blue and white marlin. Since 1987, Massachusetts Division of Marine Fisheries biologists have used the efforts of tournament fishermen to learn about the size composition, basic biology, and relative abundance of big game fishes off New England. Each year there are between eight and eleven fishing tournaments in Massachusetts, most of which take place on Cape Cod (State of Massachusetts 2004).

## Subsistence

Information on subsistence activity in Woods Hole is either unavailable through secondary data collection or the practice does not exist.

## FUTURE

As with most Cape towns, the price of housing continues to rise in Woods Hole. It is also difficult to find affordable, year-round rentals and many students and researchers are forced to live outside of Woods Hole and Falmouth.

NOAA has a new fishery survey vessel, the *Henry B. Bigelow*, but is unable to dock the vessel in Woods Hole due to insufficient water depth. After much debate and consideration, it was decided that the vessel should be docked in Newport, Rhode Island (arrival in February, 2007) (Fraday 2007).

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