

9.0 Description of the Resource and the Affected Environment

A full description of the affected environment was prepared for the Environmental Assessment (EA) that accompanied Amendment 11 to the Northeast Multispecies Fishery Management Plan, Amendment 9 to the Atlantic Sea Scallop Fishery Management Plan, Amendment 1 to the Monkfish FMP, Amendment 1 to the Atlantic Salmon FMP and Sections of the Atlantic Herring FMP (NEFMC 1998a) (heretofore referred to as the “Omnibus EFH Amendment”). This Amendment also contained essential fish habitat (EFH) designations for all groundfish species managed by the New England Fishery Management Council (NEFMC). Amendment 9 to the Northeast Multispecies FMP (NEFMC 1998b) added halibut to the list of managed groundfish stocks; information for this species was updated in the accompanying Environmental Assessment (EA).

The description of the affected environment is presented to provide sufficient background information on the various resources and entities likely to be affected by the actions proposed or under consideration in the SEIS. While there has been little change in the biological or physical components of the environment since the implementation of the Omnibus EFH Amendment, other than changes in stock status that are summarized in Section 9.2.1.1, several reports have since been published which add to our understanding of the physical and biological environment of this region. Although this section deals with the *affected* environment, it does not present the effects of the proposed management program.

9.1 Physical Environment

This section contains a description of the physical environment of the Northeast multispecies fishery, including oceanographic and physical habitat conditions in the Gulf of Maine – Georges Bank region and the area south of New England. Some of the information presented in this section was originally included in the EA for the Omnibus EFH Amendment (NEFMC 1998a).

9.1.1 Physical Characteristics of Regional Systems

The Northeast Shelf Ecosystem (Figure 220) has been described as including the area from the Gulf of Maine south to North Carolina, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman et al. 1996). The continental slope of this region includes the area east of the shelf, out to a depth of 2000 m. A number of distinct sub-systems comprise the region, including the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. Occasionally another subsystem, Southern New England, is described; however, we incorporated the distinctive features of this region into the descriptions of Georges Bank and the Mid-Atlantic Bight.

The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and strong currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is fairly homogenous, with exceptions at the shelf break, some of the canyons, the Hudson Shelf Valley and in areas of glacially rafted hard bottom. Pertinent aspects of the physical characteristics of each of these systems are described in sections that follow. This review is based on several summary reviews (Abernathy 1989, Backus 1987, Beardsley et al. 1996, Brooks 1996, Cook 1988, Dorsey 1998, Kelley 1998, Wiebe et al. 1987, Mountain 1994, NEFMC 1998, Schmitz et al. 1987, Sherman et al. 1996, Steimle et al. 1999b, Stumpf and Biggs 1988, Townsend 1992, Tucholke 1987). Literature citations are not included for generally accepted concepts; however, new research and specific results of research findings are cited.