



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
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Introduction

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The ongoing changes on Earth have shaped our environment along the coast. The configuration of the east coast of the United States is a direct consequence of the result of the opening of the Atlantic Ocean by plate tectonic forces. The accumulation of sediments along the continental margin, as the oceanic crustal depth gradually increased due to lithospheric cooling, provided the beginnings of the continental shelf as we see it today. The shaping by ocean currents transforms this margin on a continuing basis. The continental glaciations of the past 2.5 million years further shaped the continental shelf. In particular the formation of Long Island in the north and the submergence of old river valleys south of Long Island did much to produce the geography of the coastal ocean of the eastern United States today.

Long Island Sound started out as a glacial lake made by the terminal moraine composing Long Island and the till-covered basement rock of Connecticut. It was transformed into an estuary by the breach at the Race in the eastern part of the water body. The rising level of the oceans as the result of the end of the latest ice age caused the body of water to change from a lake to an arm of the sea. The opening at the western part of the water body made it into a Sound since now access to the open ocean could be had through either end of the water body. The Sound remains an estuary because the water at the western end is diluted by the Hudson River around New York City and the mixing occurs between a less saline water flow into a more saline basin.

The natural origins of Long Island Sound are further transformed by the activities of humans living there. Thus, although naturally driven global change sets the scenery of the Sound, humans have modified it.

As Long Island Sound is easily accessible to New Haven residents, it is a natural area for the study of global change, humans and the coastal ocean, the subject of this seminar. Most of the curricula described in the following pages depend heavily on using the Sound as a laboratory. Each of the curriculum pieces follows the concept often enunciated by the Environmental Protection Agency that we should “think globally, act locally.”

The curricula were developed for a number of types of educational settings, ranging from the average elementary school classroom to special educational situations. Attempts were made by the teachers to meet special needs wherever encountered.

The diverse approaches of the individual curricula should provide an entry into teaching important environmental issues to others beyond the realm of the Long Island Sound.

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