

## ***F. Environmental Challenges***

There are a number of environmental problems faced by Mashpee residents, most of which relate to water quality issues. The most critical public health concern in recent decades was groundwater contamination generated on the Massachusetts Military Reservation, which affected private and public water supply wells in the four upper Cape towns which surround the Reservation. The Reservation is one of the largest EPA-listed Superfund sites in the nation. An additional source of groundwater contamination was the Town's landfill on Ashers Path, identified by the Department of Environmental Protection as a hazardous waste site. Another such site was a gas station on Route 151 south of John's Pond. Most recently, the former Augat manufacturing plant was identified as the source of a chemical contamination plume extending through the Willowbend development to Shoestring Bay. These sites have all been cleaned and restored, or are in the process of being cleaned, and public water has been brought in to service any affected homes.

While such contamination plumes do not impact upon open space planning issues to any great degree, there is a much more widespread groundwater problem which is directly related to the level of land development which has occurred in Mashpee in recent decades. The thousands of septic systems which have accompanied our new residents and their homes and businesses have led to a significant increase in the levels of nutrients, particularly nitrogen, in our groundwater, a potential public health problem, and in our surface water bodies, which have begun to suffer mightily from its impacts. Excessive nitrogen in our estuarine water bodies has led to over-nutrication of algae, causing algal blooms. During prolonged cloudy periods, the algae die, absorbing oxygen from the water column as they decompose and leading to fish kills resulting from anoxic conditions. The live and dead algal materials have also piled up to depths of three feet or more at the bottom of Waquoit Bay and portions of other coastal water bodies. This has resulted in a major change in aquatic vegetation, with once-dominant eel grass now almost totally eliminated through smothering by algae.

This change in the bottom of our bays has apparently had its most devastating effect on a once-thriving scallop fishery. Whereas thousands of bushels of scallops had been harvested in Mashpee as recently as the mid-80's, only a few bushels have been found in recent years.

Because this problem is directly related to land development, preservation of open space in the watersheds of the most critically impacted water bodies provides one clear approach to minimizing additional damage. The Mashpee River, Shoestring Bay and Waquoit Bay are our most severely impacted water bodies and, as a result, their watersheds have been a primary focus of land preservation efforts.