



**Buzzards Bay Project**  
*National Estuary Program*

Brenda Eckstrom, Chairman  
Wareham Board of Selectmen  
54 Marion Rd  
Wareham, MA 02571

October 5, 2007

Via: hand delivery & email

Re: Report on the performance of nitrogen removal innovative septic systems on Cape Cod

Ms. Eckstrom:

The Barnstable County Department of Health and Environment has issued an important report evaluating the performance of 557 nitrogen-removal onsite septic systems installed on Cape Cod, based on data collected between 1999 and 2007 (attached, and also posted at: <http://www.buzzardsbay.org/etimain.htm>). The Board of Selectmen may wish to review this report because it relates to your nitrogen-loading bylaw on the Fall Town Meeting warrant.

An important finding of the report was that for systems tested at least four times, only 69% of single-family systems and 60% of multifamily systems had median concentrations that met the state standard of 19 parts per million (ppm) for nitrogen removal systems. Performance was somewhat better for systems that were monitored for longer periods of time. Different technologies often have markedly different performance. For example, one new test system showed a remarkably low median discharge concentration of 2.7 ppm.

The study did not evaluate the data set to answer important questions such as whether or not more recently installed systems were performing better than older systems, or whether the performance of individual systems improves or declines over time.

One important conclusion of the report is that "Towns that contemplate the wide-scale use of I/A systems to address nutrient issues should understand that the oversight of operation and maintenance of I/A systems is an essential part of ensuring a level of success. Quite simply, I/A systems that are not regularly inspected and occasionally monitored will not achieve treatment objectives."

Sincerely,

Joseph E. Costa, PhD  
Executive Director

cc Board of Health, Planning Board

2870 Cranberry Highway, East Wareham, Massachusetts 02538 (508) 291-3625 Facsimile (508) 291-3628 [www.buzzardsbay.org](http://www.buzzardsbay.org)

