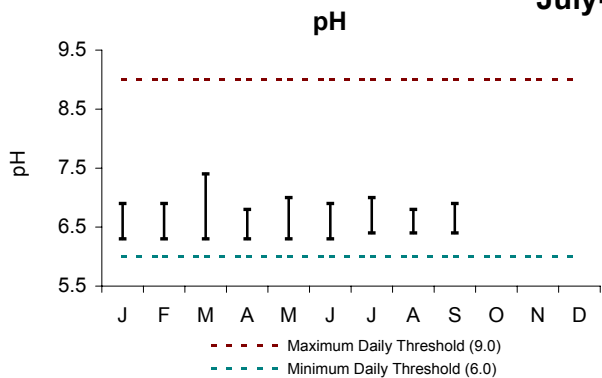
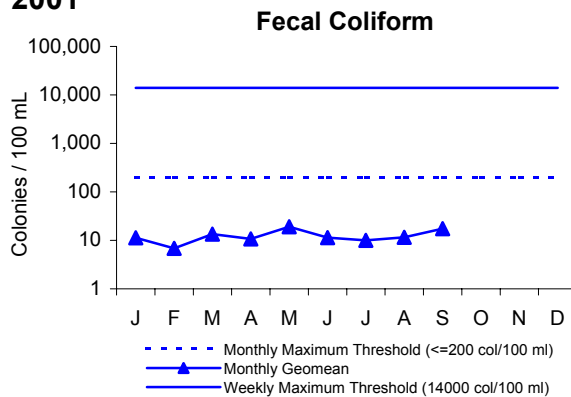


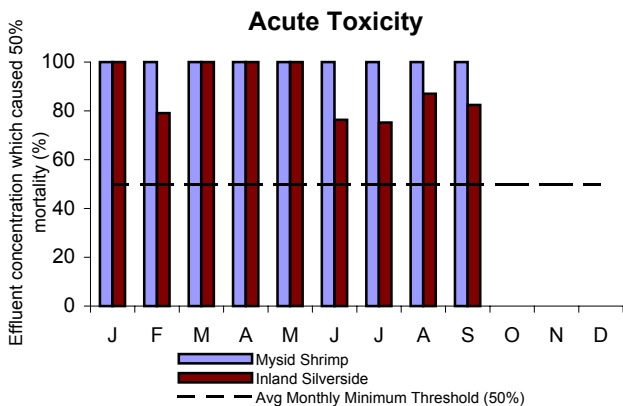
Massachusetts Water Resources Authority Contingency Plan Report on Effluent Monitoring July-September 2001



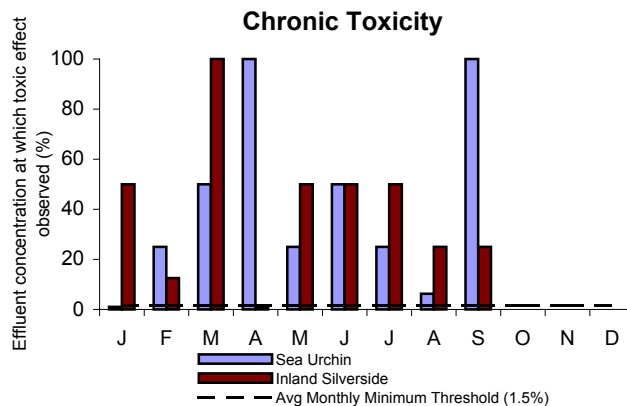
pH is a measure of the alkalinity or acidity of the effluent. Small fluctuations in pH do not have an adverse effect on marine environments, because seawater is well buffered. Secondary treatment technology at Deer Island tends to produce effluent at the low end of the range. All pH measurements were within the threshold range for the quarter.



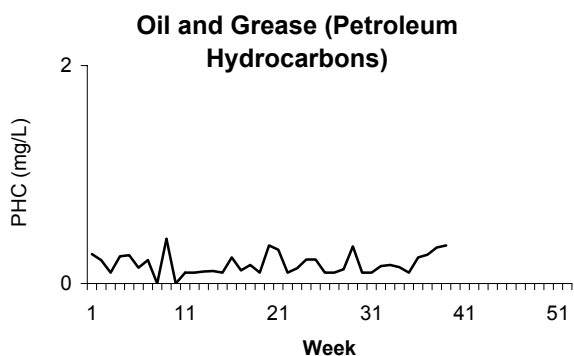
Fecal Coliform is an indicator of the presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating disease-causing microorganisms. The Contingency Plan requires that the monthly geometric mean not exceed 14000 col/100ml. The monitoring results for the quarter were well below the threshold value.



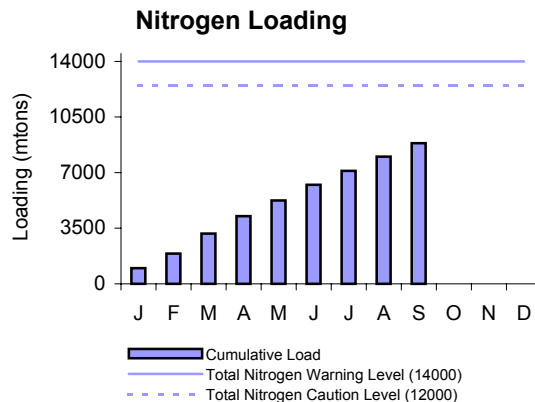
The acute toxicity test simulates the short-term toxic effects of chemicals in sewage effluent on marine animals. The test measures the concentration (percent) of effluent that kills half the test organisms within four days. The higher the concentration of effluent required, the less toxic the effluent. For permit compliance, the effluent concentration that causes mortality to mysid shrimp and inland silverside must be at least 50%. The threshold limits were met for the quarter.



Typically, effects of chronic exposures differ from those of acute exposures. Because of this, chronic toxicity responses are not necessarily related to acute toxicity. The chronic toxicity test simulates the long-term toxic effects of chemicals in sewage effluent on marine animals. To meet permit limits, at least 1.5% effluent must show no observed effect on the growth and reproduction of the test species. The sea urchin and inland silverside results did not meet the minimum threshold limit in January and April, respectively.



The graph depicts PHC readings well below the Contingency Plan Threshold warning level of 15 mg/L per week. A reason for such low levels is that PHCs are less dense than water and therefore tend to float and adhere to floating materials (scum). Scum collection mechanisms in place at the primary and secondary clarifiers at DITP remove these materials.



Total nitrogen is not regulated under the permit, but the Contingency Plan requires it to be closely monitored because of its potential effects on Massachusetts Bay. Total nitrogen includes total kjeldahl nitrogen, nitrates, and nitrites. The quarterly total nitrogen levels have been well below the threshold limits.