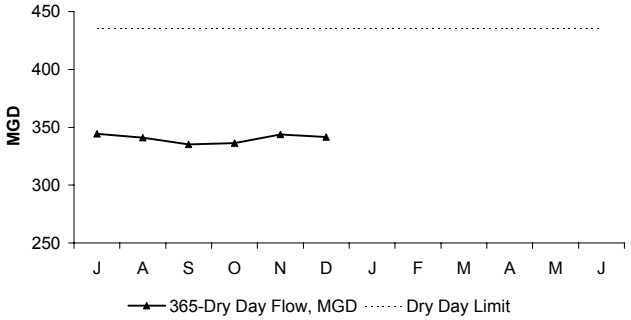
Massachusetts Water Resources Authority
Deer Island Treatment Plant Performance
December 2005

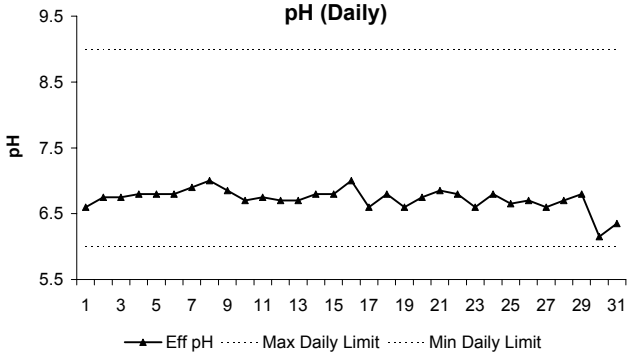
Dry Day Flow



December's Dry Day Flow is the average of all dry day flows for the period from 1/1/2005 to 12/31/2005.

Dry Day Flow is calculated by averaging influent flows over the previous 365 days during dry weather.

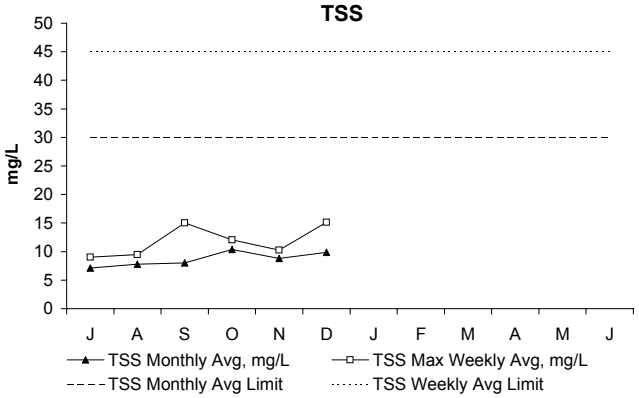
pH (Daily)



In December, all pH measurements were typical for the season and within permit limits.

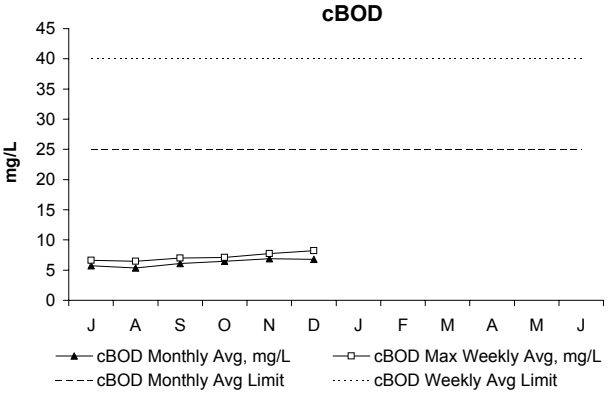
pH is a measure of the acidity or basicity of the effluent. Small fluctuations in pH do not have an adverse effect on marine environments. Because pure oxygen is used in the activated sludge reactors, the effluent pH tends to be at the lower range.

TSS



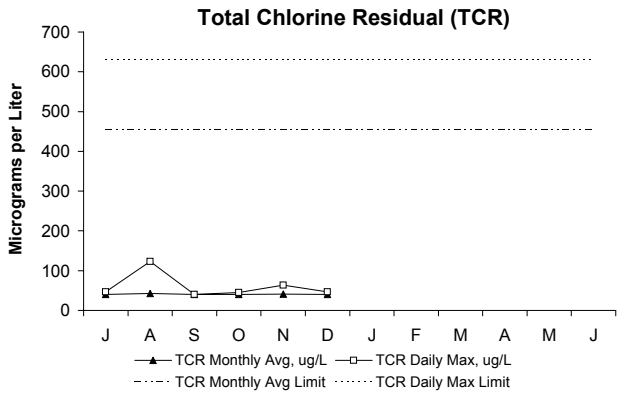
In December, both the weekly and monthly concentrations of TSS were below permit limits. TSS, or Total Suspended Solids in the effluent, is a measure of the amount of solids that remain suspended after treatment.

cBOD



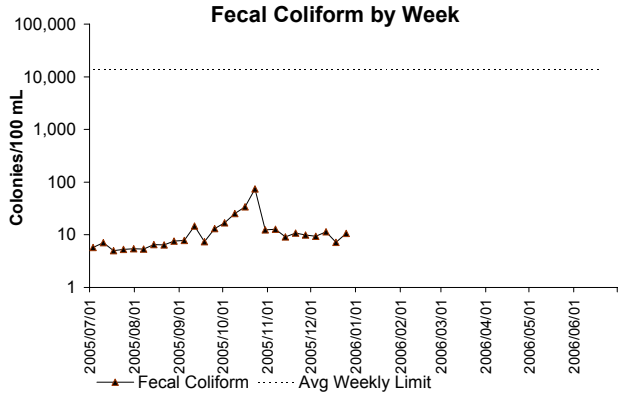
In December, both the weekly and monthly concentrations of cBOD were well below permit limits. cBOD, or Carbonaceous Biochemical Oxygen Demand, is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment.

Total Chlorine Residual (TCR)



In December, both the maximum daily and monthly concentrations of TCR were below permit limits. TCR, or Total Chlorine Residual in the effluent, is a measure of the amount of chlorine that remains after the disinfection/dechlorination process. If the chlorine residual in the effluent is too high, it may threaten marine organisms.

Fecal Coliform by Week



In December, all permit conditions were met. Fecal Coliform is an indicator of the presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. There are four conditions in the permit that must be met: daily geomean; weekly geomean; 10% of all samples; and greater than three consecutive samples not to exceed 14,000 col/100mL.