Nutrient overload occurs in both fresh and salt water bodies. The effects of nitrogen are widely known, but those of phosphorus (P) are evolving in salt water. This research is a culmination of sampling and literary analysis that determines the effects of phosphorus on our coastal waters.

The two overarching goals of the project are:

**Goal one** is to determine the P levels in the estuaries surrounding the Cape and compare to the known hypoxic zones.

**Goal two** is to determine applicability of lake phosphorus remediation techniques to the estuaries.

The levels were read in mg/L and the five areas and values ranging from unreadable to 0.015 for P and 0.13 for N with none of the P samples exceeding 0.1 mg/L which is the limit for contents in a healthy lake.

The hypothesis was not validated due to overwhelmingly low results of P in the sampling locations. The results concluded that the P levels were low enough to not be problematic in comparison to detrimental N levels. The levels were read in mg/L and the five areas and values ranging from unreadable to 0.015 for P and 0.13 for N.

The reduction of hypoxia zones in connection to eutrophication is important as this phenomenon ruins the environment, economy, and human health. Cape Cod’s contribution of N to the coastal waterbodies is through the abundance of septic systems leaching into the groundwater, whereas the results for P point towards a reduction due to, already in place, techniques for agricultural practices aimed at reducing N.