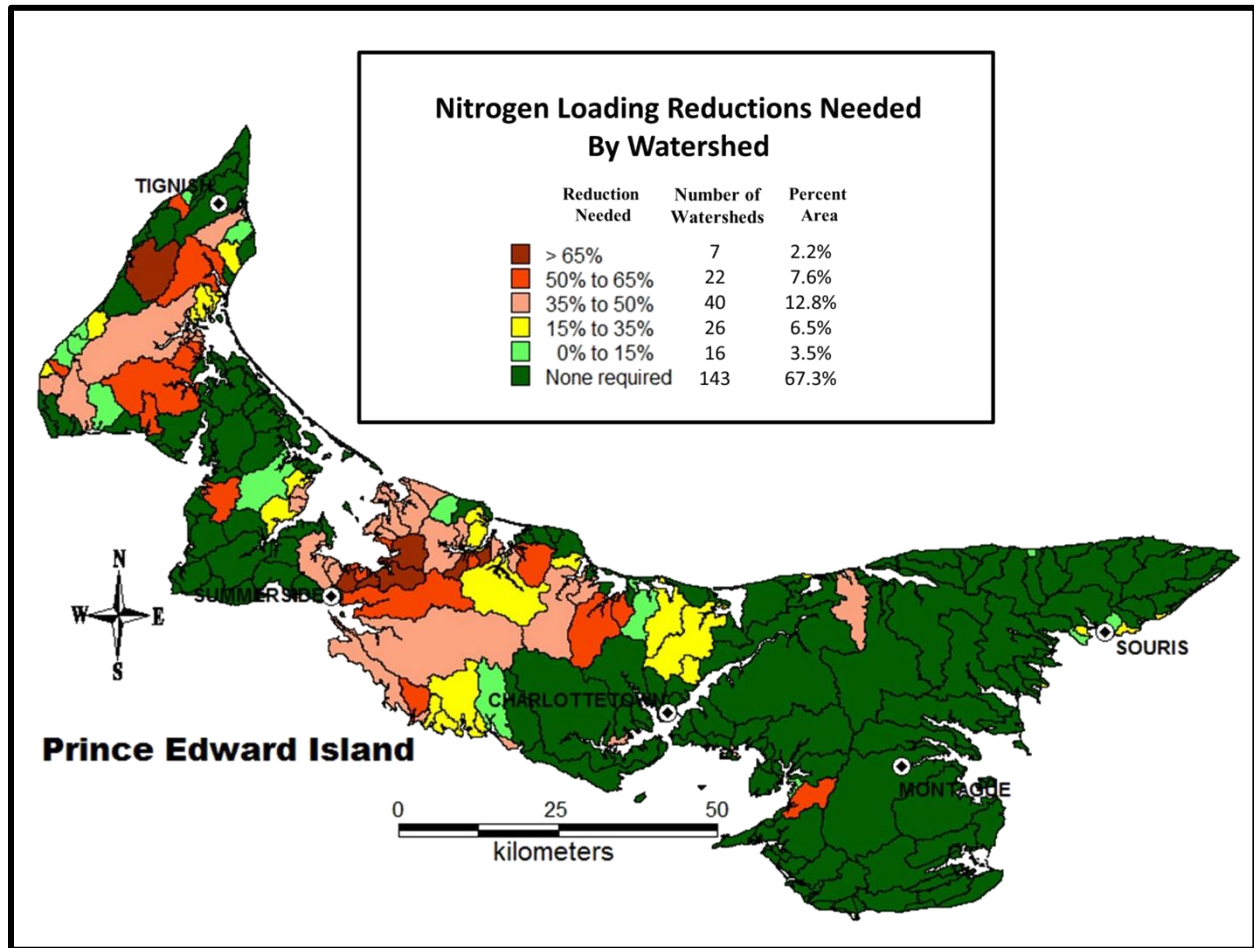


## Nitrogen Loading Reduction Needed for Prince Edward Island

In Prince Edward Island, issues such as high nitrates in drinking water and anoxic events in estuaries are directly related to nitrogen levels. For watersheds with these issues, lowering nitrogen loading is the best and only permanent solution.

The Department of Communities, Land and Environment has calculated the reductions in nitrogen loading needed in all Island watersheds to achieve the goals of eliminating or greatly reducing anoxia in estuaries and maintaining a low number of wells with high nitrate. These reduction values were calculated using peer reviewed methods which predict watershed nitrogen loads based on land use (Jiang et al. 2015) and water quality based on the presence of anoxic events or the likelihood of high nitrates occurring in wells in a watershed being >10% (Bugden et al. 2014).

The map below shows that although much of the Island (67%) requires no change in nitrogen loading many watersheds need a significant reduction. Over 29% of the Island requires large reductions in loading.



## References

Bugden, G., Y. Jiang, M.R. van den Heuvel, H. Vandermeulen, K.T.B MacQuarrie, C.J. Crane and B.G. Raymond. 2014. Nitrogen loading criteria for estuaries in Prince Edward Island. Canadian Technical Report of Fisheries and Aquatic Sciences. # 3066.

Jiang, J., P. Nishimura, M.R. van den Heuvel, K.T.B. MacQuarrie, C.S. Crane, Z. Xing, B.G. Raymond, and B.L Thompson. 2015. Modeling land-based nitrogen loads from groundwater dominated agricultural watersheds to estuaries to inform nutrient reduction planning. *Journal of Hydrology*. 529. 213-220.