

Calculation Steps for Total Nitrogen (TN) and Total Phosphorus (TP) Loading in the Indian River Lagoon Basin Management Action Plans April 2011

The calculations for the Pollutant Load Screening Model (PLSM) are as follows for each polygon:

1. Determine the appropriate event mean concentration (EMC) value for TN and TP. Examine GRID_CODE (Column I), which contains either a 1 or a 0. When GRID_CODE contains a 0, the polygon is “treated,” and the EMC values are calculated:
 - a. $EMC\ TN\ (Column\ J) = 0.7 * TN_MG_L\ (Column\ G).$
 - b. $EMC\ TP\ (Column\ K) = 0.5 * TP_MG_L\ (Column\ H).$
 - c. Otherwise, the $EMC\ TN = TN_MG_L$, and the $EMC\ TP = TP_MG_L$.
2. Calculate the annual runoff :
 - a. Multiply the $AVG_ANNUAL\ (rainfall,\ inches)\ (Column\ F) * C\ (Annual\ runoff\ coefficient,\ unitless)\ (Column\ E) * ACRES\ (polygon\ area\ in\ acres)\ (Column\ C).$
 - b. Convert the result to cubic meters per year.
 - c. Round the annual runoff (cubic meters per year) to the nearest integer.
3. Calculate the TN load:
 - a. Multiply the appropriate EMC TN (see step 1.a, mg/L) times the annual runoff (rounded, cubic meters per year) to get the TN load.
 - b. Convert the loads to pounds per year.
 - c. Round the loads to the nearest integer.
4. Calculate the TP load:
 - a. Multiply the appropriate EMC TP (see step 1.b, mg/L) times the annual runoff (rounded, cubic meters per year) to get the TP load.
 - b. Convert the loads to pounds per year.
 - c. Round the loads to the nearest 0.1 pounds.
5. Sum the loads across polygons.