

St. Lucie River and Estuary Basin Management Action Plan (BMAP)

Entity Starting Load, Allocation, and Required Reduction Calculations

The following steps were taken to calculate the required total nitrogen (TN) and total phosphorus (TP) load reductions for each stakeholder within the St. Lucie BMAP:

1. The area and associated TN and TP loads for each responsible stakeholder were determined from the watershed (WaSh) model following sequential GIS clipping steps:
 - 1) Water management areas clipped first, then...
 - 2) Roads
 - 3) Water control district canals and rights-of-way (ROWs)
 - 4) Natural lands
 - 5) Agricultural lands
 - 6) Community development districts (CDDs)
 - 7) Cities
 - 8) Remaining land split by county boundaries

The TN and TP loads by basin were determined for stakeholders that are located within more than one basin.

2. The average TN and TP concentrations for each basin for the period of 2007 through 2016 were calculated using model output.
3. The basin TN and TP concentrations were compared to the TMDL target concentrations for the St. Lucie Estuary of 0.72 mg/L of TN and 0.081 mg/L of TP to determine the percent reductions by basin to achieve the TMDL.
4. The TN and TP percent reductions for each basin were applied to each stakeholder's load within each basin.
5. Total TN and TP required reductions for each stakeholder were calculated by adding up the required reductions in each basin.
6. Stakeholders with very low TN and TP loading, less than 0.1 % of both the TN and TP loading from allocated entities in the watershed, were identified and were given a low priority for implementing reductions.

This allocation approach is similar to the approach used to determine the allocations in the 2013 BMAP, except that the percent reductions were applied to the stakeholders' starting loads instead of a load per acre.

The goal is to achieve 75% of the TN reductions and 65% of the TP reductions by the 10-year milestone in 2023, and to achieve full reductions by 2028.

