**62-302.532 Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criterion.**

(1) Estuary-specific numeric interpretations of the narrative nutrient criterion in paragraph 62-302.530(47)(b), F.A.C., are in the table below. The concentration-based estuary interpretations are open water, area-wide averages. The interpretations expressed as load per million cubic meters of freshwater inflow are the total load of that nutrient to the estuary divided by the total volume of freshwater inflow to that estuary.

| Estuary | Total Phosphorus | Total Nitrogen | Chlorophyll *a* |
|---|---|---|---|
| (a) Clearwater Harbor/St. Joseph Sound | Annual geometric mean values not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. St.Joseph Sound | 0.05 mg/L | 0.66 mg/L | 3.1 µg/L |
| 2. Clearwater North | 0.05 mg/L | 0.61 mg/L | 5.4 µg/L |
| 3. Clearwater South | 0.06 mg/L | 0.58 mg/L | 7.6 µg/L |
| (b) Tampa Bay | Annual totals for nutrients and annual arithmetic means for chlorophyll a, not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Old Tampa Bay | 0.23 tons/million cubic meters of water | 1.08 tons/million cubic meters of water | 9.3 µg/L |
| 2. Hillsborough Bay | 1.28 tons/million cubic meters of water | 1.62 tons/million cubic meters of water | 15.0 µg/L |
| 3. Middle Tampa Bay | 0.24 tons/million cubic meters of water | 1.24 tons/million cubic meters of water | 8.5 µg/L |
| 4. Lower Tampa Bay | 0.14 tons/million cubic meters of water | 0.97 tons/million cubic meters of water | 5.1 µg/L |
| 5. Boca Ciega North | 0.18 tons/million cubic meters of water | 1.54 tons/million cubic meters of water | 8.3 µg/L |
| 6. Boca Ciega South | 0.06 tons/million cubic meters of water | 0.97 tons/million cubic meters of water | 6.3 µg/L |
| 7. Terra Ceia Bay | 0.14 tons/million cubic meters of water | 1.10 tons/million cubic meters of water | 8.7 µg/L |
| 8. Manatee River Estuary | 0.37 tons/million cubic meters of water | 1.80 tons/million cubic meters of water | 8.8 µg/L |
| (c) Sarasota Bay | Annual geometric mean values for nutrients and annual arithmetic means for chlorophyll a, not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Palma Sola Bay | 0.26 mg/L | 0.93 mg/L | 11.8 µg/L |
| 2. Sarasota Bay | 0.19 mg/L | See paragraph 62-302.532(3)(i), F.A.C. | 6.1 µg/L |
| 3. Roberts Bay | 0.23 mg/L | 0.54 mg/L | 11.0 µg/L |
| 4. Little Sarasota Bay | 0.21 mg/L | 0.60 mg/L | 10.4 µg/L |
| 5. Blackburn Bay | 0.21 mg/L | 0.43 mg/L | 8.2 µg/L |

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| (d) Charlotte Harbor/Estero Bay | Annual arithmetic mean values for nutrients and annual arithmetic means for chlorophyll a, not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Dona and Roberts Bay | 0.18 mg/L | 0.42 mg/L | 4.9 µg/L |
| 2. Upper Lemon Bay | 0.26 mg/L | 0.56 mg/L | 8.9 µg/L |
| 3. Lower Lemon Bay | 0.17 mg/L | 0.62 mg/L | 6.1 µg/L |
| 4. Charlotte Harbor Proper | 0.19 mg/L | 0.67 mg/L | 6.1 µg/L |
| 5. Pine Island Sound | 0.06 mg/L | 0.57 mg/L | 6.5 µg/L |
| 6. San Carlos Bay | 0.07 mg/L | 0.56 mg/L | 3.5 µg/L |
| 7. Tidal Myakka River | 0.31 mg/L | 1.02 mg/L | 11.7 µg/L |
| 8. Matlacha Pass | 0.08 mg/L | 0.58 mg/L | 6.1 µg/L |
| 9.Estero Bay (including Tidal Imperial River) | 0.07 mg/L | 0.63 mg/L | 5.9 µg/L |
| (e) Tidal Cocohatchee River/Ten Thousand Islands | Annual geometric means that shall not be exceeded more than once in a three year period | | |
| 1. Tidal Cocohatchee River | 0.057 mg/L | 0.47 mg/L | 5.8 µg/L |
| 2. Collier Inshore | 0.032 mg/L | 0.25 mg/L | 3.1 µg/L |
| 3. Rookery Bay/Marco Island | 0.046 mg/L | 0.30 mg/L | 4.9 µg/L |
| 4. Naples Bay | 0.045 mg/L | 0.57mg/L | 4.3 µg/L |
| 5. Inner Gulf Shelf | 0.018 mg/L | 0.29 mg/L | 1.6 µg/L |
| 6. Middle Gulf Shelf | 0.016 mg/L | 0.26 mg/L | 1.4 µg/L |
| 7. Outer Gulf Shelf | 0.013 mg/L | 0.22 mg/L | 1.0 µg/L |
| 8. Blackwater River | 0.053 mg/L | 0.41 mg/L | 4.1 µg/L |
| 9. Coastal Transition Zone | 0.034 mg/L | 0.61 mg/L | 3.9 µg/L |
| 10. Gulf Islands | 0.038 mg/L | 0.44 mg/L | 3.4 µg/L |
| 11. Inner Waterway | 0.033 mg/L | 0.69 mg/L | 5.2 µg/L |
| 12. Mangrove Rivers | 0.021 mg/L | 0.71 mg/L | 3.7 µg/L |
| 13. Ponce de Leon | 0.024 mg/L | 0.52 mg/L | 3.0 µg/L |
| 14. Shark River Mouth | 0.022 mg/L | 0.75 mg/L | 2.2 µg/L |
| 15. Whitewater Bay | 0.026 mg/L | 0.82 mg/L | 4.1 µg/L |
| (f) Florida Bay | Annual geometric means that shall not be exceeded more than once in a three year period | | |
| 1. Central Florida Bay | 0.019 mg/L | 0.99 mg/L | 2.2 µg/L |
| 2. Coastal Lakes | 0.045 mg/L | 1.29 mg/L | 9.3 µg/L |
| 3. East Central Florida Bay | 0.007 mg/L | 0.65 mg/L | 0.4 µg/L |
| 4. Northern Florida Bay | 0.010 mg/L | 0.68 mg/L | 0.8 µg/L |
| 5. Southern Florida Bay | 0.009 mg/L | 0.64 mg/L | 0.8 µg/L |
| 6. Western Florida Bay | 0.015 mg/L | 0.37 mg/L | 1.4 µg/L |
| (g) Florida Keys | Annual geometric means that shall not be exceeded more than once in a three year period | | |
| 1. Back Bay | 0.009 mg/L | 0.25 mg/L | 0.3 µg/L |
| 2. Backshelf | 0.011 mg/L | 0.23 mg/L | 0.7 µg/L |
| 3. Lower Keys | 0.008 mg/L | 0.21 mg/L | 0.3 µg/L |
| 4. Marquesas | 0.008 mg/L | 0.21 mg/L | 0.6 µg/L |
| 5. Middle Keys | 0.007 mg/L | 0.22 mg/L | 0.3 µg/L |
| 6. Oceanside | 0.007 mg/L | 0.17 mg/L | 0.3 µg/L |

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| 7. Upper Keys | 0.007 mg/L | 0.18 mg/L | 0.2 µg/L |
| (h) Biscayne Bay | Annual geometric means that shall not be exceeded more than once in a three year period | | |
| 1. Card Sound | 0.008 mg/L | 0.33 mg/L | 0.5 µg/L |
| 2. Manatee Bay – Barnes Sound | 0.007 mg/L | 0.58 mg/L | 0.4 µg/L |
| 3. North Central Inshore | 0.007 mg/L | 0.31 mg/L | 0.5 µg/L |
| 4. North Central Outer-Bay | 0.008 mg/L | 0.28 mg/L | 0.7 µg/L |
| 5. Northern North Bay | 0.012 mg/L | 0.30 mg/L | 1.7 µg/L |
| 6. South Central Inshore | 0.007 mg/L | 0.48 mg/L | 0.4 µg/L |
| 7. South Central Mid-Bay | 0.007 mg/L | 0.35 mg/L | 0.2 µg/L |
| 8. South Central Outer-Bay | 0.006 mg/L | 0.24 mg/L | 0.2 µg/L |
| 9. Southern North Bay | 0.010 mg/L | 0.29 mg/L | 1.1 µg/L |

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| (i) Sarasota Bay | For TN, the annual geometric mean target is calculated from monthly arithmetic mean color by region and season. Annual geometric means that shall not be exceeded more than once in a three year period. The Sarasota Bay regions are defined as north (Manatee County) and south (Sarasota County). The wet season for Sarasota Bay is defined as July through October and the dry season is defined as all other months of the year. The seasonal region targets are calculated using monthly color data and shall be calculated as follows:<br><br>$NW_i$=Ln[(13.35-(0.32*$CN_i$))/3.58]<br>$ND_i$=Ln[(10.39-(0.32*$CN_i$))/3.58]<br>$SW_i$=Ln[(8.51-(0.32*$CS_{i,}$)/3.58]<br>$SD_i$=Ln[(5.55-(0.32*$CS_i$))/3.58]<br><br>Where,<br>$NW_i$ is the TN target for $i^{th}$ month calculated for the north region during the wet season<br>$ND_i$ is the TN target for $i^{th}$ month calculated for the north region during the dry season<br>$SW_i$ is the TN target for $i^{th}$ month calculated for the south region during the wet season<br>$SD_i$ is the TN target for $i^{th}$ month calculated for the south region during the dry season<br>$CN_i$ is the arithmetic mean color during the $i^{th}$ month within the north region<br>$CS_i$ is the arithmetic mean color during the $i^{th}$ month within the south region<br><br>The annual TN target is calculated as the geometric mean of all monthly regional and season targets as follows:<br>$e^{\Sigma_i^{12}\left(\frac{NWi+NDi+SWi+SDi}{24}\right)}$<br>Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. |

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| (j) Clam Bay (Collier County) | No more than 10 percent of the individual Total Phosphorus (TP) or Total Nitrogen (TN) measurements shall exceed the respective TP Upper Limit or TN Upper Limit. | |
| | TP Upper Limit (mg/L) = $e^{(-1.06256-0.0000328465*\text{Conductivity }(\mu S))}$ | TN Upper Limit (mg/L) = 2.3601 – 0.0000268325*Conductivity (µS) |

| Estuary | Total Phosphorus | Total Nitrogen | Chlorophyll *a* |
|---|---|---|---|
| (k) Perdido Bay | For bay segments with criteria expressed as annual geometric means (AGM), the values shall not be exceeded more than once in a three year period. For all other bay segments, the criteria shall not be exceeded in more than 10 percent of the measurements. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Big Lagoon | 0.036 mg/L as AGM | 0.61 mg/L as AGM | 6.4 µg/L |
| 2. Upper Perdido Bay | 0.102 mg/L | 1.27 mg/L | 11.5 µg/L |
| 3. Central Perdido Bay | 0.103 mg/L | 0.97 mg/L | 7.5 µg/L |
| 4. Lower Perdido Bay | 0.110 mg/L | 0.78 mg/L | 6.9 µg/L |
| (l) Pensacola Bay | For bay segments with criteria expressed as annual geometric means (AGM), the values shall not be exceeded more than once in a three year period. For all other bay segments, the criteria shall not be exceeded in more than 10 percent of the measurements. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Lower Escambia Bay | 0.076 mg/L | 0.56 mg/L as AGM | 6.8 µg/L as AGM |
| 2. East Bay | 0.084 mg/L | 0.83 mg/L | 4.0 µg/L as AGM |
| 3. Upper Pensacola Bay | 0.084 mg/L | 0.77 mg/L | 6.0 µg/L as AGM |
| 4. Lower Pensacola Bay | 0.024 mg/L as AGM | 0.48 mg/L as AGM | 3.9 µg/L as AGM |
| 5. Santa Rosa Sound | 0.022 mg/L as AGM | 0.41 mg/L as AGM | 3.4 µg/L as AGM |
| 6. Blackwater Bay | 0.082 mg/L | 0.61 mg/L | 11.3 µg/L |
| (m) Choctawhatchee Bay | For bay segments with criteria expressed as annual geometric means (AGM), the values shall not be exceeded more than once in a three year period. For all other bay segments, the criteria shall not be exceeded in more than 10 percent of the measurements. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Alaqua Bayou | 0.027 mg/L as AGM | 0.41 mg/L as AGM | 4.0 µg/L as AGM |
| 2. Basin Bayou | 0.019 mg/L as AGM | 0.31 mg/L as AGM | 4.7 µg/L |
| 3. Boggy Bayou | 0.015 mg/L as AGM | 0.33 mg/L as AGM | 3.0 µg/L as AGM |
| 4. East Bay | 0.027 mg/L as AGM | 0.46 mg/L as AGM | 4.4 µg/L as AGM |
| 5. Garnier Bayou | 0.017 mg/L as AGM | 0.91 mg/L as AGM | 4.0 µg/L as AGM |
| 6. LaGrange Bayou | 0.029 mg/L as AGM | 0.58 mg/L as AGM | 5.1 µg/L as AGM |
| 7. Middle Bay | 0.020 mg/L as AGM | 0.36 mg/L as AGM | 3.1 µg/L as AGM |
| 8. Rocky Bayou | 0.016 mg/L as AGM | 0.33 mg/L as AGM | 3.1 µg/L as AGM |
| 9. West Bay | 0.049 mg/L as AGM | 0.54 mg/L as AGM | 4.1 µg/L as AGM |
| (n) St. Andrew Bay | Criteria for all bay segments are expressed as annual geometric mean values not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. East Bay | 0.016 mg/L | 0.33 mg/L | 3.9 µg/L |
| 2. North Bay | 0.014 mg/L | 0.28 mg/L | 3.1 µg/L |
| 3. St. Andrew Bay | 0.019 mg/L | 0.34 mg/L | 3.7 µg/L |
| 4. West Bay | 0.017 mg/L | 0.35 mg/L | 3.8 µg/L |

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|---|---|---|---|
| (o) St. Joseph Bay | Criteria for all bay segments are expressed as annual geometric mean values not to be exceeded more than once in a three year period. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| St. Joseph Bay | 0.021 mg/L | 0.34 mg/L | 3.8 µg/L |
| (p) Apalachicola Bay | For bay segments with criteria expressed as annual geometric means (AGM), the values shall not be exceeded more than once in a three year period. For all other bay segments, the criteria shall not be exceeded in more than 10 percent of the measurements. Nutrient and nutrient response values do not apply to tidally influenced areas that fluctuate between predominantly marine and predominantly fresh waters during typical climatic and hydrologic conditions. | | |
| 1. Apalachicola Bay | 0.063 mg/L as AGM | 0.84 mg/L as AGM | 8.4 µg/L as AGM |
| 2. St. George Sound | 0.083 mg/L | 0.92 mg/L | 6.1 µg/L as AGM |
| 3. East Bay | 0.101 mg/L | 1.12 mg/L | 9.7 µg/L as AGM |
| 4. St. Vincent Sound | 0.116 mg/L | 1.10 mg/L | 17.4 µg/L |

(2) Estuarine and marine areas for the Southwest and South Florida estuaries listed in paragraphs 62-302.532(1)(a)-(j), F.A.C., are delineated in the eight maps of the Florida Marine Nutrient Regions, dated October 19, 2011, which are incorporated by reference. Estuarine and marine areas for the Panhandle estuaries listed in paragraphs 62-302.532(1)(k)-(p), F.A.C., are delineated in the six maps of the Florida Marine Nutrient Regions, dated October 1, 2012, which are incorporated by reference. Copies of these maps may be obtained from the Department's internet site at http://www.dep.state.fl.us/water/wqssp/swq-docs.htm or by writing to the Florida Department of Environmental Protection, Standards and Assessment Section, 2600 Blair Stone Road, MS 6511, Tallahassee, FL 32399-2400.

(3) The Department shall establish by rule or final order estuary specific numeric interpretations of the narrative nutrient criteria for TN and TP for Perdido Bay, Pensacola Bay (including Escambia Bay), St. Andrews Bay, Choctawhatchee Bay, and Apalachicola Bay by June 30, 2013, subject to the provisions of Chapter 120, F.S. The Department shall establish by rule or final order the estuary specific numeric interpretation of the narrative nutrient criteria for TN and TP for the remaining estuaries by June 30, 2015, subject to the provisions of Chapter 120, F.S.

*Rulemaking Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021(11), 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History–New 7-3-12, Amended 12-20-12.*