

**Big Slough Data**  
**Manatee River Management Coordinating Council**  
**September 17, 2010**

Sarasota County has been conducting monthly water quality monitoring in the Myakka River Watershed since November, 2007. There are 2 sampling stations in Big Slough: BGS-A is located at the Clark Rd. (SR 72) crossing; BGS-B is located at the Tropicaire Blvd. crossing.

Below are brief explanations of the data that are presented in each chart.

Nutrients: Since there are no numeric nutrient water quality standards (development in progress), information is provided on range of data, median values, and comparison to typical water quality values for Florida streams (Friedemann and Hand, 1989).

1. **Total Phosphorus:** BGS-A Range 0.192 mg/L – 1.230 mg/L; Median – 0.568 mg/L.  
BGS-B Range 0.142 mg/L – 2.390 mg/L; Median – 0.389 mg/L.  
94% of the sample values fall below 0.913 mg/L; 50% fall below 0.495 mg/L.  
95% of Florida streams fall below 2.0 mg/L.  
50% of Florida streams fall below ~ 0.15 mg/L  
The phosphorus budget in Myakka Basin is dominated by background sources of phosphorus loading to naturally phosphorus-enriched soils.

2. **Orthophosphorus:** BGS-A Range 0.098 mg/L – 0.372 mg/L; Median – 0.372 mg/L.  
BGS-B Range 0.079 mg/L – 1.800 mg/L; Median – 0.278 mg/L.  
Orthophosphorus is soluble reactive phosphorus that is readily available for biological uptake. Some important sources are wastewater treatment plants, feedlot runoff, failing septic tanks, and fertilizer.

3. **Total Nitrogen:** BGS-A Range 0.456 mg/L – 2.360 mg/L; Median – 1.223 mg/L.  
BGS-B Range 0.298 mg/L – 2.250 mg/L; Median – 1.120 mg/L.  
92% of the sample values fell below 1.9 mg/L.  
80% of Florida streams fall below 1.9 mg/L.

4. **Total Ammonia Nitrogen:** BGS-A Range 0.046 mg/L – 0.958 mg/L; Median – 0.958 mg/L.  
BGS-B Range 0.044 mg/L – 0.262 mg/L; Median – 0.120 mg/L.  
92% of the sample values fell below 0.262 mg/L.

Ammonia is the most readily bioavailable form of nitrogen (along with nitrate). Some important sources are agriculture (fertilizer and livestock waste), septic tanks, industrial processes and atmospheric deposition.

5. **Chlorophyll:** BGS-A Range 0.460 mg/m<sup>3</sup> – 74.60 mg/m<sup>3</sup>; Median 2.27 mg/m<sup>3</sup>.  
BGS-B Range 0.370 mg/m<sup>3</sup> – 42.40 mg/m<sup>3</sup>; Median 2.36 mg/m<sup>3</sup>.

The WQ standard for chlorophyll in freshwater is 20 mg/m<sup>3</sup>. Only 2 of the 66 samples exceeded that value. Both exceedances are indicative of algae blooms.

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6. **pH:** All values were within acceptable ranges for pH for the entire sampling period except for BGS-B in February and April 2009 and June 2010.

7. **TSS:** BGS-A Range 0.57 mg/L – 29.2 mg/L; Median 3.40 mg/L.  
BGS-B Range 0.57 mg/L – 27.6 mg/L; Median 3.40 mg/L.  
85% of the sample values fell below 9.40 mg/L.  
Approximately 80% of Florida streams fall below 10.0 mg/L.

TSS is a measure of the particulate matter in the water column. A major source in natural waters is runoff from urban and agricultural areas.

8. **Turbidity:** BGS-A Range 0.98 mg/L – 23.0 mg/L; Median 4.80 mg/L.  
BGS-B Range 0.68 mg/L – 7.40 mg/L; Median 3.90 mg/L.

92% of the sample values fell below 10.4 mg/L.  
80% of Florida streams fall below 10.1 mg/L.

9. **Specific Conductance:** Specific conductivity can be a good indicator of industrial and municipal waste discharges. In times of drought, groundwater may be the major source of baseflow and conductivity could increase as a result.

10. **Dissolved Oxygen:** 67% of the sample values fell above the 5.0 mg/L WQ standard minimum for dissolved oxygen.