



ECOSUMMARY

A Report by the Surface Water Assessment and Monitoring Program (SWAMP)
#98-002

Baker Creek, Hillsborough County A Biorecon Assessment February 12, 1998

Purpose *Biorecon: A rapid, cost-effective screening method for identification of biological impairment.*

A Biorecon was performed on Baker Creek in order to gain further information on the biological health of the watershed. State statutes mandate that all Class III water bodies maintain a well-balanced population of fish and wildlife.

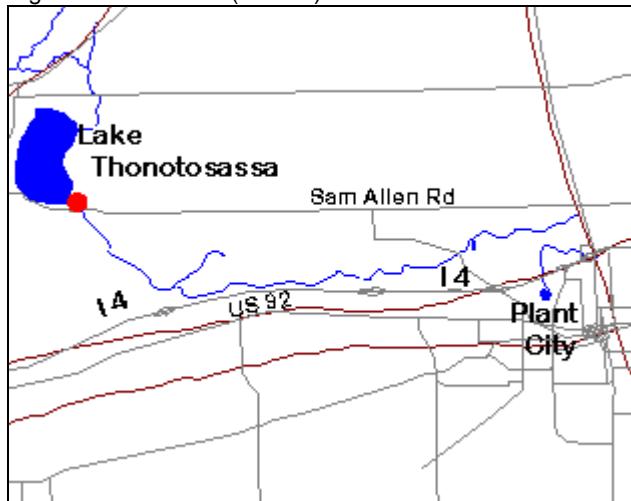
Methods

Biorecons are based on three measurements of the aquatic invertebrates present in the stream: the total number of different species (Total Taxa), the number of 'good water quality' indicator species (Florida Index) and the total number of Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) species present. A stream scoring above the threshold value for two or more of these measurements is considered healthy. If only one of the threshold values is reached, an impaired condition is expected.

Basin Characteristics

Baker Creek is located in western Hillsborough County, flowing from Plant City, via Pemberton Cr., west to Lake Thonotosassa. The sampling site was located upstream of boat ramp in Baker Creek Park, in Thonotosassa (Fig. 1.).

Fig. 1. Site location (red dot).

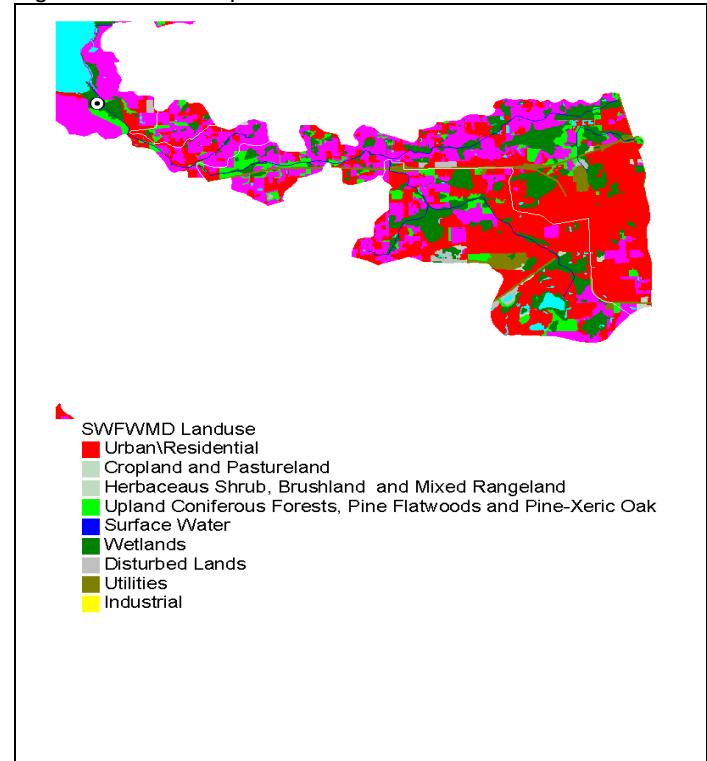


The riparian zone is limited in the immediate area, and the streambed appears to have been dredged in the past. The streambed consists of fine sand and

silt, and there is very little instream habitat for macroinvertebrates.

Land use in the basin is shown in Fig. 2. The headwaters consist almost entirely of high density residential development (Plant City). Further downstream, agriculture (crops and pastureland) becomes the primary landuse.

Fig. 2. Landuse map.



Results

The stream was slightly turbid and water velocity was 0.25 m/s. Dissolved oxygen was 6.18 mg/l. Conductivity was 193 umho/cm, pH was 6.63 SU and temperature was 17.11°C. The habitat assessment score was in the low submarginal range (Fig. 3).

This site on Baker Creek failed all three measurements of the Biorecon (Fig 4). This indicates that the stream did not support a healthy macroinvertebrate community and did not meet its designated use at the time of sampling.

Suggestions

An investigation should be conducted that would determine if water chemistry contributes to the unbalanced macroinvertebrate community in addition to habitat destruction. Accordingly, further recommendations for restoration could be made.

For more information, contact Peggy Morgan, FDEP Southwest District, 3804 Coconut Palm Dr., Tampa, FL 33619; (813) 744 - 6100

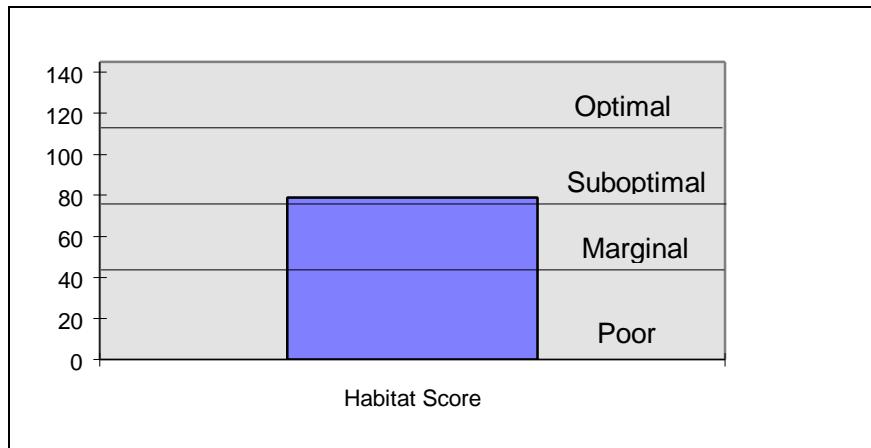


Fig. 3. Habitat Score

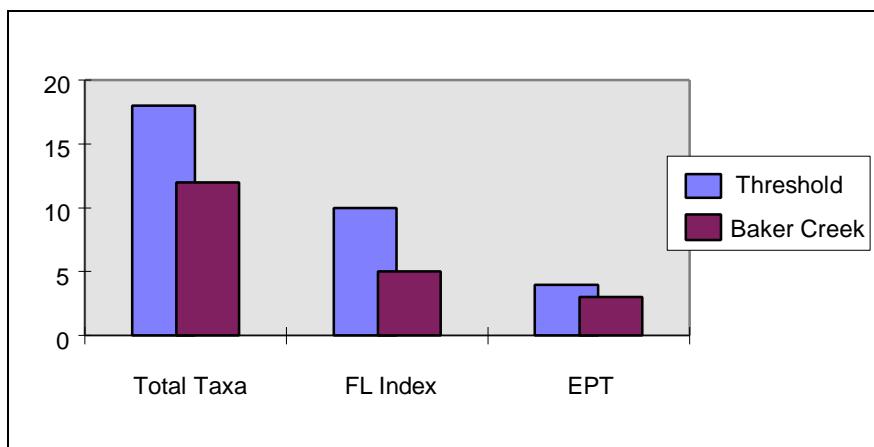


Fig. 4. Biorecon results

Assessment Rating

