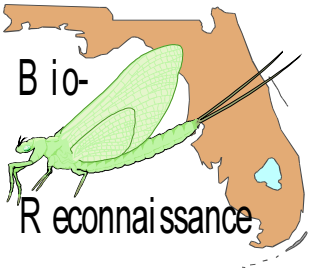
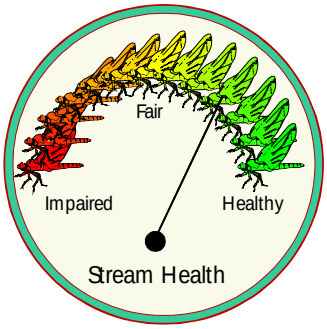


EcoSummary

BioRecon Report



Pemberton Creek, Hillsborough County
12 February 1998

BioReconnaissance (BioRecon): A rapid, cost effective screening mechanism for identification of biological impairment.

Purpose
The invertebrate fauna of Pemberton Creek had been impacted by aerial spraying of malathion during the Medfly Eradication Program in June and July, 1997. A biorecon was performed on February 12, 1998, in order to assess recovery of the biological community.

Basin Characteristics
Pemberton Creek is located in western Hillsborough County, draining Plant City. It merges with Baker Creek and continues flowing west to Lake Thonotosassa. The sampling site was located upstream of the Branch Forbes Rd. bridge in Plant

City. There is abundant instream habitat for macroinvertebrate colonization. The stream flows rapidly, and there are rock riffles in which water velocity is 1 m/s or more. The upper watershed of Pemberton Creek is extensively urbanized (Plant City). Further downstream, agriculture (crops and pastureland) becomes the primary landuse.

Results
Dissolved oxygen was 7.07 mg/l. Conductivity was 297 Tmho/cm, pH was 7.08 SU and temperature was 18.91^{0}C. The habitat assessment score was in the suboptimal range, due to the lack of riparian buffer zone.

This site on Pemberton Creek passed two of the measurements of the BioRecon. This indicates that the stream supported a fairly healthy macroinvertebrate community and met its designated use at the time of sampling. This section of stream has sufficiently recovered from the toxicity documented in July, 1997, during the Medfly Erradication Program.

Significance
Although aquatic toxicity was documented during the aerial spraying of malathion in the simmer of 1997, the affected macroinvertebrate community was able to re- colonize the stream after the spraying program had ceased.

Suggestions
It is important to continue monitoring this stream to provide background data for the ongoing management of medfly infestation that is currently threatening South Florida.

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

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