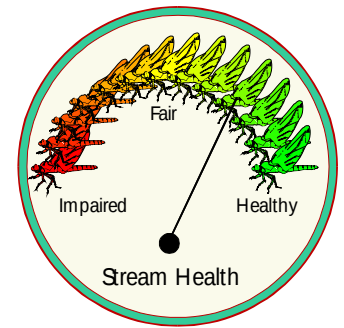


EcoSummary

BioRecon Report



Spanish Creek Above CR78 24 July 1997

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

Purpose

A BioRecon was performed at this site in order to examine the water quality in the stream, document the organisms that inhabit a potentially impacted stream in this geographical area, and because nearby residents were concerned about runoff from groves upstream. This is important because streams which are affected by human activities may have good water quality, and the biological thresholds on which BioRecon is based require further refinement.

Basin Characteristics

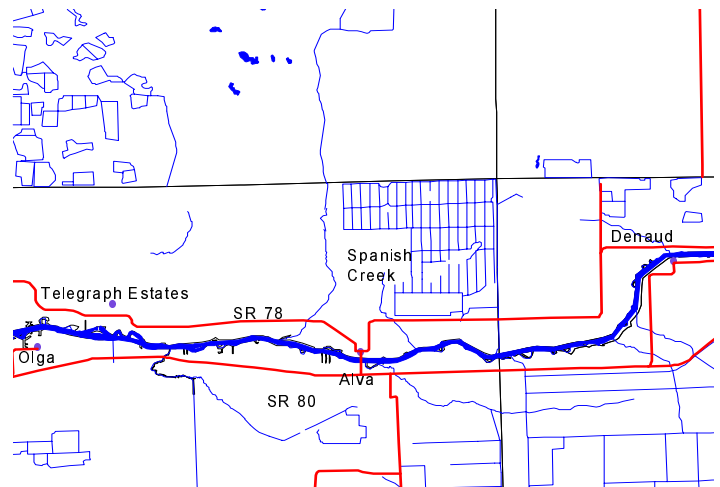
Spanish Creek's drainage basin includes citrus groves, improved pasture, some pine flatwoods, wetlands, drainage canals, and residential areas. Major land uses in the area include citrus groves and low density residential. Most of the creek has been channelized. The creek flows into the Caloosahatchee River.



Results

The BioRecon indicated that Spanish Creek has adequate water quality to support a healthy aquatic insect community. The site is located in a shallow (0.6 m) canalized area with a steep, highly altered riparian (stream bank) zone. The habitat consisted of rock and shell rubble (45%) and hydrilla (40%), with a few snags (5%) and undercut banks (5%). Flow was strong (0.5 to 0.7 m/sec). **Spanish Creek passed all three BioRecon thresholds for a healthy**

stream. There were **32** different taxa (minimum threshold = 18), a Florida Index score of **14** (threshold = 10), and **8** caddisflies or mayflies (threshold = 4). **Water chemistry indicated that dissolved oxygen was 2.7 parts per million, below the Class III standard of 5 ppm.**



Significance

These results confirm that this stream has adequate water quality, despite some potential problems. Land in the immediate drainage area is mostly citrus groves with sparse residential use. The strong flow, shallow depth, and abundant vegetation allow a healthy aquatic community to exist despite low dissolved oxygen and variations in flow caused by channelization.

Suggestions

Sample the site in the dry season to determine whether a healthy community remains during periods of low flow. Encourage good land use practices in the basin, and maintain a monitoring program to further refine BioRecon thresholds for streams and detect effects of changes in local land use.

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