



ECOSUMMARY

A SWAMP Ecosystem Management Report

DUNN CREEK AT STARRET ROAD Jacksonville, Fla.

**A BioRecon Assessment
February 13, 1996**

Purpose

A BioRecon was performed at this site in order to document the indicator organisms that normally inhabit a small stream with non-point source impacts in this geographical area. This is important because Class III standards are based upon established background levels of organism species diversity. In order to establish levels required to indicate impact, the indicator organism diversity should be established from investigations of both impacted and unimpacted areas.

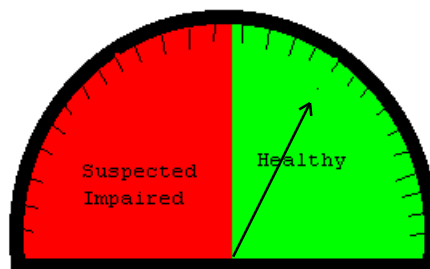


Dunn Creek downstream of Starret Road.

Basin Characteristics

Dunn Creek is a small (2nd order) tannic stream located in the northern portion of Duval Co. east of US 17. The stream has a primarily sand/silt bottom with fair habitat and fair to good flow. The drainage basin consists mainly of silviculture and naturally forested areas with a moderate number of rural residences. There is an increasing trend towards suburban development.

The stream potentially receives impact from the Pecan Park subdivision, overflow from the retention pond of a major high school, several cattle/dairy farms, rural residences, commercial areas, and forest clear-cutting north of Starret Rd. The stream banks seem to have a wide riparian buffer zone which can limit the non-point source impacts. However, this zone also contained several invasive plant species which indicate disruption to the natural system. The stream bed seems to have been



Stream Health

channelized more than 20 years ago, but the stream seems to have somewhat recovered into a more natural flow pattern. At the time of assessment, the water of the stream had retained its natural color and clarity.

Results



The BioRecon indicated that Dunn Creek is an marginally impacted tannic water stream with habitats and macroinvertebrate species that are normally found in a slightly stressed stream. The habitat consisted mainly of sand/silt (85%), but with a marginal amount (15%) of aquatic vegetation, root systems, woody debris, and leaf packs. Flow varies from almost still to about 1 foot per second. There was a good number of species (21), a high Florida Index (13) of pollution sensitive species, and a fair number of mayfly, stonefly, and caddisfly species (3).



Significance

These results confirm that this stream is marginally impacted from human activities. The few mayflies and caddisflies found at the site are those known to tolerate slight pollution stress. The Florida Index species encountered are also found in slightly stressed systems. When compared to other BioRecon results of similar

stream types, the lower results of all three metrics seem to indicate stress to the natural system at this site.

Suggestions

Maintain a monitoring program to establish BioRecon thresholds for potentially impacted streams and trace the source of any non-point source impacts to the drainage basin to ensure compliance with established Best Management Practices (BMP's). These actions will help to ensure that the natural character of this area is not subjected to additional environmental stress.

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