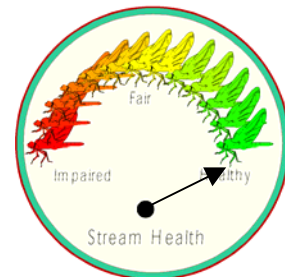




EcoSummary

BioRecon Report



DEEP CREEK at CR 315, Putnam County, 8/9/00 and 11/14/01

BioRecon: A rapid, cost-effective screening mechanism for identification of biological impairment

Purpose

Biorecons were performed at this site for several reasons. First, it is important to monitor the health of Deep Creek as a tributary of the Ocklawaha River, parts of which have been designated as Outstanding Florida Waters. In addition, sampling carried out in November 2001 was used in field testing the biorecon technique among FDEP and other government agency biologists from around the state during a quarterly Biocriteria Committee training event. Lastly, data obtained from this sampling will be used in further refinement of the biorecon and other bioassessment methodologies for the state of Florida.



CR 315, Basin Characteristics

Deep Creek is a tributary of the Ocklawaha River. Originating in the southwestern part of Putnam County near the town of Interlachen, the tannic stream flows in a southeasterly direction for approximately seven miles before meeting Sweetwater Creek at the north side of Rodman Reservoir (Lake Ocklawaha). The sampling site is a short distance upstream of the road crossing at which is located about midway along the course of the stream. The area immediately upstream of the road is a popular local "swimming hole". Deep Creek is a third-order stream. Its tributaries are second-order Gum Creek, which flows in from the north, and two small unnamed streams farther upstream in the watershed. The drainage basin of Deep Creek is 12.33 square miles in area (7891 acres), within which land use is largely natural land or pasture, with a fair amount of low-density residential development plus a sand mine in the northern part of the watershed. Whereas most of the watershed of Deep Creek is in fairly good shape, the most downstream area was strongly altered by the construction of the Rodman Reservoir beginning in the early 1960's. Water held back by the dam backed up into the lower part of the watershed, effectively erasing the natural stream channel and destroying the floodplain forest. Numerous dead trees still standing north of SR 310 near the reservoir give evidence of the effects of this alteration.

Results and Discussion

The results of the two biorecons performed at this site in 2000 and 2001 indicate that Deep Creek in the vicinity of CR 315 is in excellent biological health. On both occasions, it easily passed the thresholds for all three of the component metrics used in this type of assessment in the Florida peninsula. In fact, it easily passed the thresholds which have been established for the western Panhandle of Florida, the region of the state in which these criteria are the highest. In August 2000, 44 different macroinvertebrate species were found, including 14 from the sensitive "EPT" group (larval mayflies, stoneflies, and caddisflies). It scored a 27 on the Florida Index, a means of evaluating the macroinvertebrate community based on the presence or absence of specific indicator taxa. Caddisflies were particularly abundant here, with ten different species found. Results were even better in November 2001, with 46 taxa collected, including 20 EPT. The Florida Index score was a very high 36. Odonates, mayflies, and caddisflies were particularly diverse at Deep Creek, with 10, 6, and 13 different taxa collected within these groups, respectively. One stonefly species, *Neoperla chymene*, was also collected here. Stoneflies are quite rare in the Florida peninsula, due to a combination of both natural and anthropogenic factors.

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