Ed- Lori - Final 2002 Report
Approved 2/6/03

Annual Report 2002

Sugar Creek Advisory Board

ARTICLE 1 ANNUAL RPEPORT[1]: An annual report will be prepared by the Sugar Creek Advisory Committee to be submitted to the County Commissioners each year. This report will include but not be limited to the following:

1. Number of permits
2. Number of violations
3. Changes in land use along the riparian corridor, *i.e.*, building, tree planting, tree harvest, bank stabilization signage, *etc.*
4. Any other matter that the Advisory Board deems significant

Introduction

The Sugar Creek Ordinance was advertised and then passed by the Montgomery County Commissioners on May 14th, 2002. Letters were then sent out to all creek bank landowners listed in the Assessor's office. One is attached to the end of this document.

Also attached are local media reports on the creek, Montgomery County Departments of Health, Building and Sheriff yearly reports on creek activities and meeting minutes.

As in the first year of its operation, the Sugar Creek Advisory Board elected officers and set the agenda for the year. A primary objective of the Board's work is assessing changes that occurred along the corridor. Of particular interest in 2002 was determining the current condition of the corridor above Crawfordsville thereby establishing a baseline by which all future changes could be measured [Title IX, article 1, item 3]. The Board decided the best way to evaluate the current state of the north corridor was to "float" the creek and to record its findings. The list of reportable criteria includes:

1. Clear cut to bank, *i.e.*, no trees to bank of creek
2. Obstructions, *e.g.*, log jams, dumping
3. Drainage tiles and pipes
4. Artificial bank stabilization
5. ATV activity
6. Beaver activity
7. Visible structures within 75 feet of the creek

Participants on the May 23rd and 30th trips included employees of the County Highway Department, a reporter from the Journal Review, members of the Indiana Department of Natural Resources, members of the general public and a members of the Sugar Creek Advisory Board. Once more in an effort to create an accurate record of areas of the creek corridor deemed needing attention, GPS technology was used to locate

[1] Sugar Creek Ordinance, Title IX

and to mark on a map of the creek areas needing attention or containing items of note. A limited number of photos were taken.

Findings and Recommendations

Changes along the corridor and other information:

The single most important biological feature necessary for maintaining both the health and scenic beauty of the creek is a well-established growth of trees along the banks. These trees stabilize the bank, shade the water and serve as a buffer between the fields and the creek, lessening silting of the creek and helping to filter out chemicals applied to fields before they enter the water.

Conclusions and general observations

For the most part the banks were in good condition with deep woods protection. However there were spots where there was only one row of mature trees between the stream and either pasture or row crop land. Also observed were a few areas, some small and some rather large, of manmade riprap on the creek banks. These were primarily on the outside of turns, presumably trying to stabilize the existing bank.

A single row of trees can be a problem for a number of reasons. If the sun is allowed to shine on the water it raises its temperature killing some more sensitive species. Since there is only one row of trees if anything happens to them there is no protection from the sun. For the landowner there is then also no protection from the creek and its erosion. With only one row of trees, the wind and water forces are concentrated on them. There are no co-mingled, horizontally extending roots. With multiple trunks extending away from the stream, the roots interlock and provide more protection to erosion and wind throw. With only one row if there is a "blow out" of a tree the water forces can be concentrated and create a swirl. With a single aged row of even aged trees, as there are in a number of cases, all the trees will tend to die nearly together. This creates a loss of large and deep roots. Wind and water forces are then more concentrated on the survivors. Erosion can occur before the new, little roots get down to the depth that is needed to protect the bank.

In a few places landowners had, in years past, placed large amounts of mostly old masonry riprap on the outside of turns trying to protect the bank from erosion. The 1945 Flood Control Act limits this and other activities in riparian zones that drain more than 640 acres, one square mile. Many times landowner actions have unintended and unforeseen results that are counter productive to their desires. In some of these places erosion is starting to concentrate above and below the masonry piles. Over time these piles will form the heads of islands in the stream forcing the channel faster and farther over into the land that was trying to be protected. This could cause the landowner to take more and more drastic measures to change the water flow leading to continuing violations of the 1945 FCA.

In one spot, just down stream from where Watermelon Patch road leaves the creek bank for the last time, it appears as if a house is in jeopardy from bank erosion. About 100 feet down stream of there in a large flood, perhaps 1980, tens of feet of bank eroded during a single event flood partially undercutting the LP tank in the downstream neighbor's back yard. The entire bank in the area has been rip raped for many hundreds of yards.

One tributary, draining just north of Garfield, had been channelized by bulldozing a hundred yards up its channel from Sugar Creek, a violation of the 1945 FCA. Streams do not tend to run in straight lines unless being held to the line by bedrock or manmade features. Beyond 5 widths of a stream in a straight line something is holding the water to the line. The new, straight channel created will not stay put over time and could see much erosion in the near term due to lack of natural vegetation holding its new banks. All this adds sediment to the stream.

ATV activity in the creek has been reported to members of the Board. There are a few Indiana codes that address the issue. 35-43-1-2 is the Criminal Mischief code calling for a Class C Misdemeanor and is used in some cases, especially for non-flowing water. 14-16-1-23(13) states that crossings must be by the shortest distance possible or the vehicle must float at all times. This is what is usually used for creek ATV activity. If a vehicle has a license plate it is a felony to operate in the creek so in those cases most officers do not write citations but do verbal warnings.

Beavers have been active on spots along the creek. Their activity seems to be cyclical, at least on specific sites. This may be driven by availability of preferred food or water levels in the tributaries.

All visible structures within 75 feet of the Normal High Water were noted by GIS.

Aerial photos have now been added to the GIS from the two years' cruises. These should be studied to see how our field observations match. If possible a virtual creek tour should be created on a web site so folks can click and see much if not all of the creek and access our information.

Suggested Actions

A list of erosion problem sites needs to be developed so proactive personal contact with the landowners can occur. For other landowner problems: ATVs, beavers, trespass, vegetation rehabilitation or establishment, or anything else landowners consider problems we should be there to help reactively. Education, monies available, technical assistance, other agency contact and perhaps manpower need to be offered where necessary to improve these situations for Sugar Creek landowners and the creek itself.