Wild Warwickshire

Saxon Mill Carr Abiotic Features Survey

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M. C. Smith 4/16/2009



Saxon Mill Carr is managed for the Heber-Percy Estate by Wild Warwickshire

SAXON MILL CARR ABIOTIC FEATURES SURVEY

SUMMARY

Saxon Mill Carr is dominated in all aspects of its geology and ecology by the River Avon. The analysis indicates that the site is unpolluted. The soil is alluvial in nature and is mainly Sandy Loam with some Silty Clay Loam.

INTRODUCTION

The river Avon and its periodic flooding dictates all of Saxon Mill Carr ecology. It is important to understand the health of the river and the fertility of the surrounding soils to be able to understand the way in which the site is developing.

Methodology

GEOLOGICAL REVIEW

The use of geological maps and soil profiles allow a simple picture of the underlying strata to be established.

WATER ANALYSIS

Two separate water sample were taken from the backwater on two dates. These samples were tested using basic test kits and the two sets of data used to calculate an average.

SOIL ANALYSIS

Over the period of a single morning a series of soil samples were taken across the site. For each sample the top two inches of soil was removed before a trowel full of soil was extracted and placed in a labelled plastic bag. The exact location of the soil sample was taken using a GPS device.

The first analysis done was a rough approximation of water content. 10 grams of each soil sample was heated to constant weight over a 24 hour period. The amount of weight lost represents the amount of water retained by the sample and was expressed as a percentage.

Each sample was then tested for pH, Nitrogen, Phosphate and Potassium content.

Lastly the fabric of the soil was analysed to establish its soil type. This was done by way of a finger assessment established by C.P Burnham in 1980.

Results

GEOLOGY

The fields surrounding Saxon Mill Carr to the north where the altitude increase is composed of River Terrace Deposits whilst the main meadow and woodland are on Alluvium.

The underlying base stratum is Bromsgrove Sandstone with regions of Ashow/ Tile Hill Mudstone.

WATER

The water samples gained in the back water indicate practically zero evidence of pollutants. The waters pH is neutral and levels of Nitrogen are low. Further investigation is required to establish phosphate levels in the water course.

рН	6.5 – 7.5	
Total Alkanity	240 mg/l	
Total Nitrogen	5 mg/l	
Nitrite	>0.15 mg/l	
Iron	0 mg/l	
Copper	0 mg/l	
Total Chlorine	0-0.5 mg/l	
Free Chlorine	0 mg/l	

Figure 1Water Analysis

Soil

The soil samples were collected throughout the site. These samples cover a narrow range of pH's and appear to suggest a Sandy Loam over a Clay base in some regions.

Sample Number	рН	Soil Type	Water Content
4	7.0	Sandy Loam	16.6%
9	7.5	Silty Clay Loam	15.5%
8	6.0	Loamy Sand	4.8%
6	5.5	Sand	-
5	7.0	Sandy Clay	17.0%
7	7.5	Loamy Sand	2.6%
3	7.0	Sandy Loam	16.2%
2	7.5	Sandy Loam	8.6%
19	7.0	Sandy Loam	-

Figure 2 Soil Analysis



Figure 3 Soil pH



Figure 4 Soil Nitrogen Levels

DISCUSSION

All the analyses indicate that the site is unpolluted. The water is neutral and lacking in nitrogen contaminants. The soil likewise is fairly rich. Most of the site is Sandy Loam or Loamy Sand with some areas of Silty Clay. These areas of clay correlate with the places in which standing water remains after flooding.

Sandy soil occurs along the hedgerow it is also along this stretch that the soil is at its most acidic.



Figure 5 Potassium Levels

Soil Mineral content is particularly low. This is probably due to the leaching affect of regular flooding. Nitrogen levels grade roughly from higher concentrations in the south of the site to low levels to the northern end. An opposite pattern can be seen for Potassium. Phosphate levels are so low as to be negligible.