

Appendix 3. Carrboro Stream Sites, March 2011

Bolin Creek sites are numbered from most upstream (Site 1) to most downstream (Site 4). Site 4 was moved from Estes Drive (at the town boundary) to Village Drive in Chapel Hill. Samples from Bolin Creek and Morgan Creek were collected on March 16, 2010; tributary sites were sampled on March 22, 2010.

Bolin Creek 1. Site 1 was located upstream of the Winmore development, near the power line crossing. This site drains a largely rural and residential landscape; it is intended as a control site for the higher density residential areas further downstream. This portion of the stream may go completely dry during droughts.



Bolin Creek Site 1, March 2011.

This part of Bolin Creek averaged about 4-5 meters wide, with a substrate mainly composed of gravel and rubble. Both the substrate composition and the width, however, were highly variable. There were no significant habitat problems in this section of Bolin Creek. There were abundant growths of filamentous algae at this site, especially along the edges of pools.

Bolin Creek 2. Site 2 is located downstream of the Winmore development at SR 1777. There is private residence on one side of the stream that lacks a buffer zone. Consequently, there is significant bank erosion on one side of the stream.

Relative to Site 1, there was an increase in the amount of sand and silt (Table 1). Habitat problems included fewer riffles, bank erosion, lack of a buffer on one side and a decrease in habitat diversity. The amount of filamentous algae increased relative to site #1, with floating mats observed in some parts of the stream.



Bolin Creek Site 2, March 2010.

A beaver dam was observed slightly upstream of this site.

Bolin Creek 3. Site 3 is located near Waterside Drive. This section of Bolin Creek is very scenic, with a hiking and biking path along one side of the stream.



Bolin Creek Site 3, March 2010.

There are no significant habitat problems in this portion of the stream, although there were large amounts of brown algae and silt on all surfaces.

Bolin Creek 4. Site 4 was moved slightly downstream into Chapel Hill (Village Dr), so that data from this site could be used by both towns.



Bolin Creek Site 4, March 2011.

This portion of Bolin Creek is similar to the site on Estes Drive, having good rocky substrate. Attached filamentous algae was very abundant at the Village Drive site in March 2011.

Morgan Creek at NC 54. Morgan Creek was chosen as a reference site, although this stream had also been affected by droughts. Prior surveys by the NC Division of Water Quality generally produced a Good or Excellent bioclassification for this site.



Morgan Creek, NC 54, March 2011.

This catchment has a largely rural character, with some minor impacts from nonpoint source runoff. Habitat quality, stream width and substrate composition are similar to Bolin Creek, but with less residential land use.

UT Bolin Creek at Seawell School Rd. This very small UT was first sampled during a search for high quality streams in March 2009. The stream was completely dry in its upper reach, but groundwater inputs produced small areas of flowing water about 50 meters further downstream.



UT Bolin Creek, Seawell School Rd, March 2011.

UT Bolin Creek at Horne Hollow. This small stream was suggested for sampling, as it appears to have more permanent flow than Bolin Creek. It runs through an older residential area with large lots.



UT Bolin Creek, Hornehollow Rd, March 2011.

Jolly Branch near SR 1777 (just downstream of Bolin Creek 3). This site was accessed by walking about 100 meters downstream of SR 1777 (Homestead), crossing Bolin Creek, and going about 30 meters upstream on Jolly Branch. This small stream (1 meter wide) had good rocky habitat, but showed severe bank erosion in many places.

The surrounding area was largely forested, although there are residential areas further upstream. The aquatic life at Jolly Branch indicates that it may stop flowing (or go dry) during drought periods.



Jolly Branch, March 2011.