

Stream Fish Assemblages in an Urbanizing Watershed

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Abstract: Carter Creek is a third-order stream located in the Navasota River drainage. It runs through urban and agricultural lands along the eastern edge of Bryan and College Station, Texas, and receives secondary treated wastewater at three locations. Fish samples were taken from five different sites in fall 2007 and three different sites in spring 2008 and compared based on the metrics used for an Index of Biotic Integrity (IBI). All fish caught were by the use of straight seines and bag seines. Preliminary analysis indicates that ten species made up 95% of all fish collected across both years, and among these were five native cyprinids (blacktail shiner, red shiner, Mississippi silvery minnow, bullhead minnow, and pugnose minnow), seven invertivores (including longear sunfish and blackstripe topminnow), three omnivores, five tolerant (including Western mosquitofish and bluegill), and one intolerant species (Ribbon shiner). The IBI shows us that there is a difference in sites between areas upstream and downstream of the Waste Water Treatment Plant (WWTP) outflow. This is measured by different metrics about the groups of fish listed above. The difference cannot be pointed solely at the WWTP, but we can deduce that there is an obvious fluctuation in the stream's ecology by the drastic drop in aquatic use scores beginning with the WWTP moving downstream.

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