



5 October 2020

Sina Parks
Montgomery County SWCD
2036 E Lebanon Road
Crawfordsville, Indiana 47933

Dear Sina:

Over the past month, we conducted the macroinvertebrate community and habitat assessment. Collection occurred from September 15 to 25, 2020. It should be noted that collection occurred when streams were under drought conditions with Montgomery and Boone Counties receiving nearly 3 inches less rain than normal over August and September. As shown in the photo documentation of each site (<https://www.dropbox.com/sh/035r9136flq79on/AABZWqUEwvdpGWgamdNa-ruRa?dl=0>), available habitat within the West Fork-Sugar Creek Watershed was likely limited by these low water levels. These low water levels will be taken into account when macroinvertebrate and habitat assessments are compared with historic data. More details will be provided as we continue to dig into these data and what they mean for the West Fork-Sugar Creek Watershed.

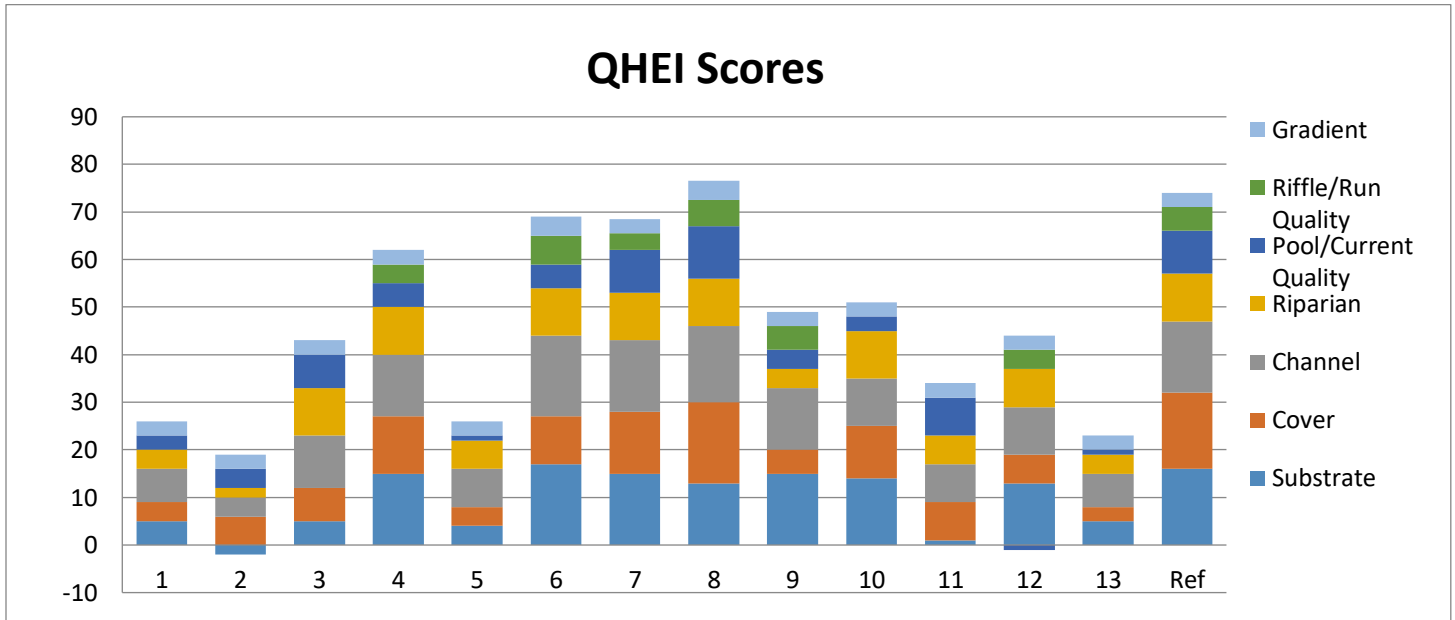
The image below details habitat assessment score. Habitat was assessed using the Qualitative Habitat Evaluation Index or QHEI. Various attributes of the stream and riparian zone habitat are scored based on the overall importance of each to the maintenance of viable, diverse, and functional aquatic faunas. The type(s) and quality of substrates; amount and quality of instream cover; channel morphology; extent and quality of riparian vegetation; pool, run, and riffle development and quality; and gradient are some of the metrics used to determine the QHEI score. The QHEI score ranges from 20 to 100. QHEI scores from hundreds of stream segments in Ohio have indicated that values greater than 60 are *generally* conducive to the existence of warmwater faunas. Scores greater than 75 typify habitat conditions that have the ability to support exceptional warmwater faunas (Ohio EPA, 1999). IDEM indicates that QHEI scores above 64 suggest the habitat is capable of supporting a balanced warmwater community; scores between 51 and 64 are only partially supportive of a stream's aquatic life use designation, while scores less than 51 are deemed non-supporting the stream's aquatic life use designation (IDEM, 2000).

Based on the Walnut Fork-Sugar Creek QHEI assessments, Sites 1, 2, 5 and 13 rate as very poor scoring less than 26 QHEI points. Site 11 rates as poor, while Sites 3, 9, 10 and 12 rate as fair. The highest rated sites – Site 4, 6 and 7 rate as good while Site 8 and the reference site rate as excellent. These sites are conducive to the existence of warmwater fauna. No sites scored higher than 75 or the level at which the Ohio EPA indicates they can support exceptional warmwater habitat. Further, sites 4, 6, 7, 8, 10 and the reference site are deemed fully supporting of the stream's aquatic life use designation.



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Over the next few months, we will continue to build the watershed inventory, complete macroinvertebrate sample sorting and identification, review the historic water quality data in more detail and compile all of our collected data.

Documentation of in-kind services: The Montgomery SWCD is reviewing water quality data and deployed the press release and survey.

Sincerely,



Sara Peel, CLM





Arion Consultants, Inc.

