

Biological and Aquatic Life Use Attainment Assessment of Roaring Brook

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prepared by

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Biological assessment Fact Sheet –Roaring Brook

Current condition and status

1. *Description of water body:*

2. *Description of biological data used to characterize impairment:*

3. *Stressor identification:* DEC has relied primarily on biological inference and assessment site habitat observations to identify the stressors that are the most likely significant contributors to the observed impairments. Assessment of the characteristics of the biological communities and physical habitat are inconclusive in regards to the identification of a single most significant stressor responsible for the impairment. It is highly probable that multiple factors related to watershed development, erosion and urban runoff resulting in alterations to the biological, chemical and physical characteristics of the stream are contributing to the impairment.

4. *Summary statement: overall “weight-of-evidence” summary of findings:*

5. *Confidence:*

- The VTDEC is confident of the evaluation of impaired condition of the aquatic biota in Roaring Brook. The fair condition of the macroinvertebrate community recorded in support the impaired listing..

6. *Recommendations:*

Biological Assessment of Centennial Brook – Results and Discussion

Recommended Biomonitoring Schedule

Additional sampling should be conducted in the upper reaches of the watershed in order to confirm the dominance of the effects of development-related stressors. Additional assessments should be conducted to further identify the presence and source of potential stressors, including the influence of physiographic factors such as wetlands and beaver activity throughout the watershed.

Table 1. Biological sampling Stations with. “M” - macroinvertebrate, “F”-fish.

Table 2. Fish metrics evaluated using the Mixed Water Index of Biotic Integrity (MWIBI) for Centennial Brook and its tributary.

MWIBI Range: 9-25 (Poor), 27-29 (Fair), 33-35 (Good), 37 (Very Good), 41-45 (Excellent).

Table 3. Macroinvertebrate community metric data from river mile 0.1 site on Centennial Brook.

Table 4. Percent composition of the major orders and functional feeding groups of the macroinvertebrate community from Centennial Brook stations.

Table 5. Physical Chemical measures and habitat observations taken at time of macroinvertebrate sampling on Centennial Brook. *Substrate and Algae assessments using pebble ct method.

Table 6. Additional chemical measures collected in 2003

