

Habitat Sampling Procedures

Introduction

Habitat is the place where stream animals such as fish and insects live in the water. Because we are studying the effects of putting more water back into the stream, it is important to know how much habitat is available for stream animals to live in, both before the water is restored and after the diversion on Lālākea Stream is removed.

We will be measuring stream habitats in 100 m increments, and depending on the amount of time that it takes we will do several of these 100 m reaches in the stream. This exercise will quantify for us the total amount of slow (pool), medium (run), and fast (riffle/cascade) habitats that are found within the stream. When we combine this with data from our random sampling of insects in the stream, we will know how much available habitat there is compared to which habitats the animals are observed in. This comparison is used to determine suitable habitat for a species. Suitable habitat is habitat in which the highest numbers of animals will be found, because it has conditions that are good for that type of animal.

Field Procedures

1. To begin, we will select a representative 100 m section of river. One group of students will measure a 100 m section of stream, going upstream. This will be done using a 100m measuring tape. The tape will be anchored at both ends and left in place during the rest of the measurements.

2. Next, once we have a 100 m stretch of stream measured, we will take another measuring tape and lay it across the stream perpendicularly and measure the width of the stream, starting at 0 m (the place where the beginning of the 100 m reach of stream starts). 11 widths will be taken across the stream in each 100 m stretch (1 width at 0 m, 1 width at 10 m.... to 100m)

3. The following measurements will be recorded at 1 m intervals across the stream (where the x's are in the drawing): Note - add an x at the stream edge

- A. Estimated depth (in 1 foot intervals)
- B. Estimated water speed (slow, medium, fast)
- C. Size of substrate (small, medium, large)
- D. Note any major features (tree branches, downed trees, large boulders, or anything else unusual or interesting.)

