

# Examining the Kalihi Stream – A Bioassessment Lesson 4

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## Objectives

The student will be able to do the following:

- Identify one native and introduced animal species
- Identify one native and introduced plant species
- Discuss sources of trash in the Kalihi Stream
- Define a riparian buffer zone
- Define a native and introduced species

## Materials

- Buckets with fish (and other animals) pulled from the stream
- Examples of native and introduced plants from the stream riparian area
- Examples of trash pulled from the stream and riparian zone
- Identification sheets (in color and laminated, preferably)
- Worksheets (one per student)

## Background

This unit moves from a general introduction to watersheds to a more targeted examination of the Kalihi Stream. This is a first chance for kids to explore and examine their stream in a structured fashion. This activity introduces the concept of a riparian zone. This activity also introduces the concepts of native and introduced species.

## Advance Preparation

This activity requires the participation of many groups. For this particular activity, High Schoolers from Farrington High School will conduct a bioassessment of the stream and will pull out some samples of animal species that they find. They will leave representative samples of fish and animals in buckets. KAUPA will provide the buckets. KAUPA will also pull a few native and introduced plants for kids to examine and students from Farrington will bring trash up from the stream to the top of the bank where the younger kids can examine it.

Fish identification cards should be printed and laminated (at least one set per class). Each student should have a copy of the worksheet.

## Procedure

1. Given time restraints, it is best to get students outside immediately and leave any lecturing for the follow-up period.
2. Two classes at a time should participate, for 45 minutes each, all on the same day.
3. The two classes should form four groups (count off).
4. The four groups should rotate among four stations (10 minutes at each station):
  - a. A fish/animal station
  - b. A plant station
  - c. A trash station

- d. The bridge over the stream to observe the riparian zone
5. After the first 45 minute period, the second set of classes should come down and rotate through the stations.
6. Students should fill out worksheets as they go through the stations.
7. IF there are enough plants to do so (100 each of native and introduced per student, or 20 of each per group), each student, or each group, should take one sample of a native plant and one sample of an introduced plant and press them for future examination.

#### Follow-up (next day)

1. Have students go over their worksheets and quantify the things they found.
  - a. They can make a graph of the number of native versus introduced fish (determine the fraction that is native versus introduced)
    - i. The teacher can lead a discussion about introduced versus native species
  - b. They can make a pressing of their plants and label the samples.
  - c. They can discuss what the riparian zone looks like
    - i. With the teacher's guidance, students can discuss what a natural system looks like and what the benefits of a natural system are (flooding, habitat, shade, pollution).
  - d. Students can quantify and graph types of trash (make graphs, determine the fraction that is of a certain type, etc.).



## Plant Station

What are some of the native plants that grow along the stream?

What are some of the introduced plants that grow along the stream?

## Trash Station

List the types of trash that were found in the stream:

_____	_____	_____
_____	_____	_____
_____	_____	_____

Where does the trash come from?

## Riparian Buffer Zone Station

What grows along the stream?

Draw the stream and the riparian zone:

