



**STREAM PATTERNS**

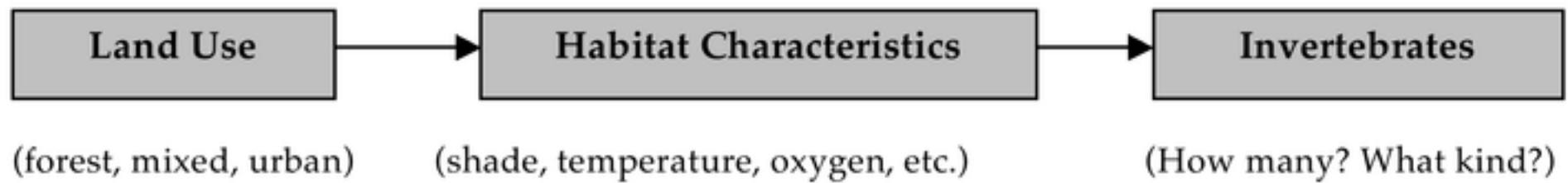
**LEARNING LOG 3**

**NAME:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

Imagine that you are a scientist studying streams in Hawai'i. Your field work takes you to some wet and wild places! And the information you gain from your work helps the state to manage our streams.

In 2004, three scientists conducted a study of nine streams on O'ahu. The purpose of their study was to describe how different land uses affect stream life. The scientists were looking for connections between land use, habitat characteristics, and the number and kinds of invertebrates (animals without backbones, including shrimp, prawns, insects, worms and snails) in the stream. What are the connections?



**Land Use**

The scientists compared streams in three types of settings: forest, mixed land-use, and urban. The mixed land use sites were areas with homes and farms.



**Habitat**

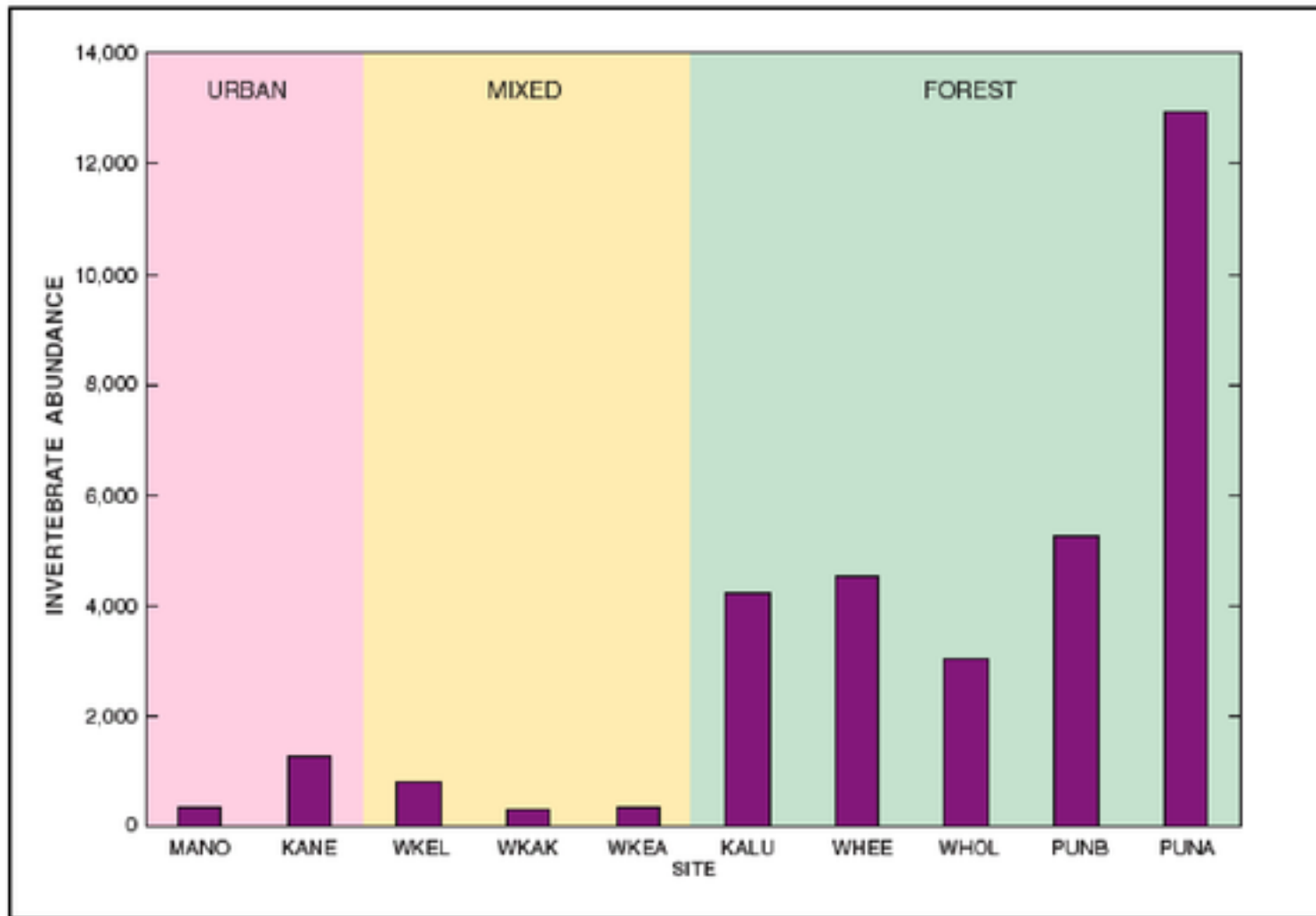
How do you think the stream habitats in two of these settings were different? Make a check in the column for the land use you predict would have the following:

<b>Habitat Characteristics</b>	<b>Urban</b>	<b>Forest</b>
Most shade		
Highest water temperature		
Most dissolved oxygen		
Fastest stream flow		
Most large boulders		
Clearest water		



**Invertebrates**



Review the bar graph about abundance (total number of invertebrates) from the scientists' data. The sites are abbreviated names for nine streams on O'ahu, including Kane (Kāne'ohe), Whee (Waihe'e) and Puna (Punalu'u).



(Source: Brasher et al., 2004)

We will take a field trip to compare a forested stream site with an urban stream site. Based on the scientists' data, predict the setting where you think you will find the following:

Make a check in the column to match your prediction.

Stream Invertebrates	Urban 	Forest 
	Highest abundance (total number of individuals)	
Most native species		
Highest number of species (diversity)		