

LESSON 4: THREATS TO WATERSHEDS

CONCEPTS:

Systems & Systems Models
Watershed

NGSS:

3-LS2 – Ecosystems & Interactions
4-LS1.D - Biodiversity & Humans
4-ESS3 – Earth & Human Activity
5-LS1 – Structure & Processes
5-LS2 – Ecosystems

CONCEPTS:

Systems & Systems Models
Watershed

DURATION:

50 minutes

SUMMARY

Students will choose an invasive species in Hawai'i using the Hawai'i Invasive Species Council website. They will find out how the species was introduced. Students will deduce what harm it causes (health, environment, economy, quality of life), what layer/s in the forests it invades, how it impacts the watershed, and what are possible solutions to solve the problem.

OBJECTIVES

Students will learn and evaluate the problem of a specific invasive species using the knowledge gained in Lessons 1, 2, & 3. They will understand the impacts of invasive species.

MATERIALS

- Pencils
- "Invasive Pest" Activity Sheet
- Access to the Hawai'i Invasive Species Council website:
 - <http://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/>

ACTIVITY

Review the "Threats" Power Point. Have students work individually or in pairs to complete the activity sheet (20-30 minutes). Have students present their information to the class (if time allows).

Expanded Activity (additional 40 minutes):

Have students work on an art project; make an invasive species poster, a Public Service Announcement, and present their pest to the class.

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Choose an invasive species to research and answer the following questions:

Visit <http://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/>

Invasive Species Common Name:

Invasive Species Scientific Name:

Where is your invasive species from?

When did it arrive in Hawai'i?

Is it found on all Hawaiian Islands?

Circle the harm it causes.

Health

Environment

Economy

Quality of Life

What any of layers in the forest it might invade.

Emergent

Canopy

Subcanopy

Ground Cover

What kinds of problems does it cause?

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Emergent: These are the tallest trees in the forest slow down heavy raindrops and pull moistures from passing clouds.

Canopy: This layer catches most of the raindrops and water flows down the branches, to its trunk and to the ground.

Subcanopy: This layer absorbs tree drips from the layers above. It also covers the layer below to slow evapotranspiration.

Ground Cover: Mosses and ferns form a spongy layer that holds water and covers the soil so it doesn't wash away into streams an oceans. This is the darkest part of the forest. The less sun's energy means less evaporation and evapotranspiration.

