

City of Gresham
Columbia Slough Regional Stormwater Treatment Facility
Exploring Alternatives (*target grades 9 – 12 but can be used for other grades*)

Scenario

You work for a city in England that wants to learn more about alternative methods for treating stormwater. Your group will have to present information about various aspects of this site to a high-level Commission.

Part I: How the site works

The layout of the site

Using the map diagram, locate the 3 places where stormwater enters the site: from the west via the creek; and from the east via two underground pipes. The site was designed to have water flow through a series of pools before it drains into the Columbia Slough.

Question 1: What happens to the flow of water as it moves through the site? Why is this an important step in cleaning the water?

Question 2: You already know the site cleans stormwater. Using the diagram for reference, name 2 different methods used to filter pollutants at this site. *Hint: one method is on the west side of the site; another method is found throughout the site.*

- 1.
- 2.

What's in the water?

Question 3: Name 2 different pieces of litter you see at this site

- 1.
- 2.

Question 4: What types of pollution might these 2 items add to water?

- 1.
- 2.

Question 5: Name 2 types of naturally occurring pollutants that can be found at this site

- 1.
- 2.

Question 6: What are some things you or your family do every day that might pollute storm water?

Pavement: Another design feature that helps treat stormwater

While most pavement and sidewalk surfaces are nonporous, this site uses porous pavement.

Question 7: Why would the designers of this site chose porous pavement?

Question 8: Name one advantage of porous pavement for treating stormwater

Question 7: Name 2 different examples of porous pavement you found at this site

1.

2.

Part II: Restoration by bringing back native species

An added feature to this site is that it was also designed to benefit native wildlife. The site used to be covered with invasive plants – mainly Himalayan blackberry. Part of the restoration process was to remove the invasives and replant using native species. As a result, the native plants attract and support a wide variety of native wildlife.

You decide that the restoration is an important added use of the site, so you gather information about the fauna that use this site.

List 2 examples of wildlife spoor you found at this site.

Spoor is anything that is a sign of an animal such as nests, poo, tracks, feathers, or fur. In addition to species that live in the water, on the land and in the trees, don't forget those that live underground.

- 1.
- 2.

Food chain

Give 2 examples of the food chain, using at least one species of wildlife you observed at this site. For each chain, start with the smallest organism first, and name as many links as possible as to get to the predator at the top of the food chain.

- 1.
- 2.

Using the Native Plant guide, compile a list of some of the flora species you find on this site.

Try to identify plants growing at all levels (i.e., close to the ground, wetland-specific, flowering non-woody, shrubs, trees.) Use the map diagram to help locate some species.

- 1.
- 2.
- 3.
- 4.