

<b>THEME:</b>	<b>Creek Habitat and Salmon Enhancement</b>
<b>SCOPE &amp; SEQUENCE UNIT:</b>	<b>Riparian Zone</b>
<b>OBJECTIVE:</b>	<b>A creek needs a good riparian</b>
<b>ACTIVITY 1.:</b>	<b>Investigate the riparian zone</b>

Notes:	Outside, travelling to creek and walking along a length of it (hopefully with some natural and disturbed riparian to see the contrast)
Teacher Prep.:	A field guide or plant person familiar with common stream side plants.
Time:	30 minutes, (20 minutes exploring riparian, 10 minutes follow-up dialogue), plus travel time

#### **Skills:**

- ♦ Critical and creative thinking
- ♦ Ecological literacy

#### **Objectives:**

- ♦ To understand what a natural and healthy riparian zone looks like and how it functions
- ♦ To understand what a disturbed riparian zone looks like
- ♦ To understand the interconnection between the creek, riparian and uplands systems

#### **Background Information:**

Riparian zones are significant in ecology, environmental management, and civil engineering because of their role in soil conservation, their habitat biodiversity and the influence they have on the fauna and aquatic ecosystems. Vegetation in the riparian zone is strongly influenced by the presence of water. The plants are often hydrophilic, meaning they favour wet areas. Trees and shrubs in the riparian zone can offer shade to the water, moderating the water temperature. Insects and vegetation from the same trees and shrubs offer food to the water fauna when they fall or drop into the water. Plant roots serve to hold the creek bank firm, reducing erosion during floodwaters and subsequent sedimentation in the river. A vegetated riparian zone can serve as a buffer between the uplands and the adjacent water body. For example, riparian areas can buffer runoff, holding back some of the runoff materials or absorbing them into the soil. The buffer zone is important for good water quality by preventing sediment, nitrogen, phosphorus, pesticide and other pollutants in run-off from reaching the stream. The riparian zone can serve as a corridor for wildlife to travel and a habitat to many. A natural and healthy riparian area is evidence of wise land use management.

### **Vocabulary:**

**Riparian Zone:** the area along the banks of a natural water course, such as a river or creek. The riparian area includes the substrate (ground), vegetation and fauna. Riparian also represents a specific ecosystem or biome.

**Hydrophilic:** water loving

### **Materials:**

Clipboards, pencil, eraser

Riparian Zone student pages

Spare pencils, pencil sharpener

Plant field guide for some of the more common plants

### **Introductory Discussion:**

All systems on Earth are interconnected. The creek system is interconnected with the uplands system and the interface between these two systems, is another system, called the riparian zone. The riparian zone is a name given to the area of plants and fauna along the stream bank. It can be a very narrow margin or extend back for many metres. Well managed riparian zones provide clean water, stable streams and good wildlife habitat. How do you think this is achieved? How can we identify a healthy riparian zone? Let's go find out.

### **Reflection Discussion:**

Come together by the creek in a circle to exchange and discuss findings. What was a major difference between natural and disturbed riparian areas? Was most of the riparian natural? What are some common riparian plants? What are the benefits of a natural, undisturbed riparian zone? (complete the student page) For those areas disturbed, what could be done to improve or rehabilitate the zone?

### **Student Page:**

Riparian Zone Observations

The Riparian Zone

### **Resources – Gulf Islands Specific:**

[Gulf Island Creeks, by Briony Penn](#)

### **Taking it Further:**

Investigate the Web of Life in the riparian habitat.

Investigate Life Cycles for bugs (invertebrates) in the riparian zone (think about aquatic larvae emerging from the water for their adult life flying, i.e. mayflies, dragonflies).

Investigate the interface and energy transfer between uplands and creek flora and fauna.

Name: \_\_\_\_\_

Date: \_\_\_\_\_  
(mm/dd/yyyy)

## **RIPARIAN ZONE OBSERVATIONS**

**Natural**

**Evidence of Disturbance by Humans:**

Trees:

Plants:

Animals/insects/birds:

Other:

Name: \_\_\_\_\_

Date: \_\_\_\_\_  
(mm/dd/yyyy)

## **The Riparian Zone:**

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**Benefits of a Natural, Undisturbed Riparian Zone:**  
(use bullets, list as many benefits as you can think of)