



# FORESTS AND FINNS

## FIELD ACTIVITY

### **OUTCOMES:**

1. Reinforce concepts learned during in-class lesson.
2. Create awareness and understanding of the importance of riparian zones for all forest wildlife.
3. Instill sense of stewardship for forest streams and salmon habitat.

**GRADE LEVEL:** 5th-8th

**TIME:** 3 hours

**LOCATION:** Tiger Mountain State Forest, High Point parking area.

### **MATERIALS:**

#### **ITEMS PROVIDED BY GREENWAY TRUST:**

- 4 backpacks with the following contents:

#### **STREAM BUGS**

4 clipboards, each with a:  
Macroinvertebrate Picture Key,  
worksheet packet, plastic sheet, and  
zip lock bag with 20 yellow bug cards

1 padded envelope with 4 stream bug  
samples (Aquatic fly, Dragonfly,  
Stonefly, Worm/leech)

Pencils

Tiger Mt. Tradition Plateau map

Western Forests book

#### **STREAM SHAPE**

4 clipboards, each with a worksheet  
packet and plastic sheet

Pencils

Tiger Mt. Tradition Plateau map

Western Forests book

### **STREAMSIDE PLANTS**

**4 clipboards, each with a worksheet packet and plastic sheet**

**Laminated Riparian Plant i.d. cards**

**Two 50-ft. lengths of string**

**Pencils**

**Tiger Mt. Tradition Plateau map**

**Western Forests book**

### **WATER QUALITY**

**4 clipboards, each with a worksheet packet and plastic sheet**

**1 Dissolved Oxygen Test Kit with: Directions card, 1 pair rubber gloves, 1 small test tube, DO TesTabs**

**1 Nitrate/Phosphate Test Kit with: Directions card, 1 pair rubber gloves, two 10ml test tubes, Nitrate TesTabs, Phos TesTabs**

**1 pH Test Kit with: Directions card, 1 pair rubber gloves, 10ml test tube, pH Wide Range TesTabs, 1 color chart card**

**1 Water Temperature Test Kit with: Directions card, 1 pair rubber gloves, water sample canister, 1 high range thermometer and 1 low range thermometer**

**Pencils**

**Tiger Mt. Tradition Plateau map**

**Western Forests book**

**PROCEDURE:** *[Adapt questions and language up or down depending on grade level.]*

## **1 WELCOME ON BUS**

Meet group in parking lot and board bus. Welcome students and parents to Tiger Mountain and tell them to bring: warm clothes, raingear, drinks and food. Explain that we will be out on the trail for 2.5 to 3 hours and they will need all the items just mentioned. They will have a chance to eat snacks and lunch on the trail. This is the last chance to use bathrooms until we return to the bus. After gathering their gear and using the bathroom we will all meet in the Interpretive Shelter.

## **2 INTRODUCTION IN INTERPRETIVE SHELTER**

Give overview of day: 1) interpretive walk about how lake and stream habitat are important to the forest and 2) stream survey. Explain logistics of field trip. Discuss "Trail Etiquette": Ask students if they know some of the "do's" and "don'ts" of hiking on forest trails (make sure the following are included: stay on the trail and within sight of your chaperone; respect plants by not stepping on or trampling anything; respect animals by not disturbing them; respect each other by not throwing anything or hitting each other; be safe by not running on trails; respect others and wildlife by not littering).

Have students and chaperones get into their four groups, and pass out backpacks to each of the four groups. Explain that we won't be using these materials until we do the stream survey, but point out the trail map in the front pocket. Ask everyone to stay in their groups as we start the interpretive walk.

### 3 INTERPRETIVE WALK

**Stop 1: 1st lake view pull-out.** Ask students if they know what "riparian habitat" means. Define. Ask them to name the four parts to a salmon forest stream habitat that they learned in class, and to explain why they're important. Ask them to think about what salmon need as they walk to the other end of Tradition Lake, and whether or not this lake could meet a salmon's needs.

**Stop 2: 2nd lake view pull-out.** Ask question above again. Discuss: lake would not be a good place for salmon to lay eggs (no gravel beds with cold fast-moving water flowing over), but good place to swim into after they get big enough to find food, hide from predators, grow bigger. There are no salmon in Tradition Lake because there is no outlet stream below the lake the salmon can swim up to spawn above lake. Ask what other forest animals may live in lake or depend on lake for some part of their habitat?

**Stop 3: Around the Lake Trail head.** Ask group to get into single file. Ask each student to pick one animal to be while we walk on the forest trail. If you are a predator or a prey animal, would you want to be very noisy or very quiet in the forest? Ask them to be absolutely silent as they walk for the next five minutes, so they can experience the forest from the point of view of the animals. Ask them to pay special attention to what they hear, smell, feel, and see in the forest.

**Stop 4: 1st animal track sand box.** Ask if students know what sand box is for. Explain that animals make trails to the forest they follow, just like we do. Where do you think they are going when they cross our trail at this point? (the lake) Ask students to share what they heard, smelled, felt, and saw along the trail.

**Stop 5: Bench along Trail.** Ask students if they know what trees are around us and help them identify Douglas-fir and Western redcedar. Explain that different trees and plants dominate the "upland" forest (define) and wetland forests in riparian areas. Ask if

these trees are "evergreen" or "deciduous" (define terms if necessary). Ask them to pay close attention to how the trees change as we walk from here to the stream we will survey.

Walk to Tradition Creek. Give students five to ten-minute snack break at creek.

### 4 STREAM SURVEY

Ask students how plants/trees look different around the stream than in the upland forest. Ask students if they think it is still important to survey stream habitat health even though they know there are no salmon here? (Yes, all forest life depends on healthy streams.) Explain that each of the four groups will survey one part of forest stream habitat, just like we did in class.

Explain how to use the survey materials in the backpacks: Each backpack has four clipboards with worksheet packets on them. Divide your survey group into four teams of two-three students each, and give each team a clipboard. Follow the directions in the worksheet packets. The directions will tell you how set up your survey activities, collect and record data (information), and fill out the worksheets. All the materials you will need are in your backpacks.

Stress the importance of not damaging the creek or creek-side vegetation during their work.

Show each group where they should work: Streamside Plants at bench in pull out, Stream Bugs on ground in pull out, Stream Shape on bridge, Water Quality at bench along trail before the bridge. Give groups 20-30 minutes to complete surveys and worksheets. Ask each group to pick a group speaker who can explain to the class what their group surveyed and what their habitat quality rating is. The Greenway Trust Educator should stay with the Water Quality group to supervise; the teacher should rove and assist all groups. If there are questions, have a group representative come to you at the Water Quality station.

## 5 WRAP UP

When all groups are finished, gather everyone together and ask them to sit down in the pull-out. (If it's raining, return to the Interpretive Shelter.) Ask a member of each group to report to the class what habitat piece they surveyed, how they completed their survey, and what they determined the stream habitat health to be. Then have class make an overall decision about the condition of this stream's health.

Ask them to think of activities going on at or near the stream that may be degrading it (e.g. people and their dogs trampling plants along the stream banks and going in the stream, fertilizers and pesticides draining into the

stream from nearby homes and farms, etc.). Ask if there is anything they or others could do to help restore this stream and/or prevent it from degrading further (e.g. plant more trees, keep dogs on leashes, don't allow people to go into the stream, talk to local landowners about not using chemicals on their land that could seep into stream water, etc.). Reinforce the connection between the health of riparian habitat and the health of the whole forest/watershed ecosystem. Encourage them to get involved in stream restoration projects in their neighborhoods. Briefly explain what the Mountains to Sound Greenway is.

Walk back to interpretive shelter for lunch.