NSF-Funded GK-12 Project

# Loads of Work

sustainability science for sustainable schools

NSF-Funded GK-12 Project





Lesson developed by Amalia Handler Sustainable Schools Fellow, 2014-2015



# Part 1

What is this photograph depicting?

What are some interesting features of the photograph?

What type of ecosystem is shown in this photograph?



Part 2

## What features of the riparian zone make it different from the surrounding environment?

# Why do the differences listed above occur?



## **Activity Roles:**

NSF-Funded GK-12 Project

#### Plants

- 1. Your objective is to collect "load" from the water players.
- 2. You must pick one place to stand and remain rooted there. You cannot move your feet, but you can bend and lean and reach with your arms.
- 3. Collect as much "load" as you can from water players and from the ground. Remember that you are rooted to one spot and cannot move around.

### Soil

- 1. Your objective is to collect "load" from the water players.
- 2. Because "soil" is everywhere, you are free to walk or run all around the riparian area.
- 3. Collect as much "load" as you can from water players and from the ground. Hold as much load as you can.

#### Water

- 1. Your objective is to carry your bag through the riparian area without losing any of your "load."
- 2. If a "load" falls on the ground, you must leave it there.
- 3. If you are tagged by "soil" or "plant," you must give a "load" to that player.



NSF-Funded GK-12 Project

Activity Follow-Up Questions: Pick <u>one</u> of the following scenarios with you partner and describe how the ability of the riparian zone to hold a water's load will be affected. Consider whether the amount of load held by the riparian zone will increase or decrease and why.

- A. A storm causes a big flood with 10 times more water flowing through the riparian zone.
- B. A fire burns the vegetation in the riparian zone.
- C. A developer cuts all the vegetation and builds a new waterfront apartment building.
- D. Cattle grazing along the river trample the riparian vegetation.
- E. A waste water treatment plant begins discharging waste water to the riparian zone.
- F. Drought causes the river to run dry.

