

# Let's Play Doctor!



**Key Groups:**  
Families,  
School groups,  
(ages 8-11)

**Subject:**  
Watershed  
Management

**Duration:** 1  
hour

**Abilities:**  
problem-  
solving,  
analyzing,  
discussing

**Materials:**  
notepaper,  
clipboard,  
doctor clothes  
or instruments  
(optional)

**Vocabulary:**  
watershed,  
recreational  
use,  
development,  
carrying  
capacity,  
sediment,  
ecology,  
ecologist,  
wildlife  
biologist,  
riparian,  
compromise,  
ATV

## Background:

A watershed is an area of land which empties its water into a certain river or lake. We all live in a watershed no matter where we live. Every one of us depends on water to survive. Our decisions regarding the land affect both the quality and quantity of water in our area. Healthy watersheds are crucial for a healthy environment and economy. If we manage watersheds

correctly, we can ensure both of these.

Water is used in many different ways. We use it for drinking/living, irrigation, industry, boating, fishing, and swimming. Many times we are unaware of just how much water we use. We are not the only ones who use it either. All animals require water and others use it for shelter as well. It is imperative we learn to

take care of our watersheds, so they in turn will take care of us. Pollution (litter, grease, oil, pesticides, herbicides, and pet waste etc.) which flows into storm drains will eventually enter streams. Pollution keeps both animals and people from fully benefiting from the water.

Aquatic nuisance species (ANS) also pose a threat to watersheds. What are ANS's? They are species which endanger native species populations, species diversity, stability of aquatic environments, and commercial or recreational use for people.

Other threats to a watershed include heavy recreation. Heavy recreation includes such activities as motorcycles and ATV's disturbing riparian environments (riparian is the immediate area around a stream). These activities cause an increase of sediment in the water. An increase of sediment can harm the gills of aquatic animals by making it harder for them to breathe, as well as cause other negative effects. Ask the children what other negative effects that increased sediment might cause.

Increased development next to the forest challenges us to keep a balance between housing and habitats. Logging creates another challenge

when fallen timber and excess sediment from roads created by logging trucks clog waterways. Finally, ski resorts take water from various natural water sources to use in their snow-making machines.

These examples demonstrate how much we and other species depend on water every day. There is a limited amount of water, so we always need to be mindful and proactive to insure there is enough to go around.

### **Method:**

Kids will learn about watershed management through a "doctor checkup" activity, where a problem about water conservation will be presented to them and they will have the chance to come up with a solution or "prescribe medication" for the "patient."

Divide the kids up into small groups and distribute the necessary materials to them, explaining they are going to play doctors to a sick area of land which empties water into a river or lake. They will be given the patient's symptoms and have to decide what medication the patient needs or how they will solve the problem.

After they have seen the patient for the first problem, the patient will come back to them with a new sickness they will have to cure. They can move around to stations to treat as many sicknesses as time allows.

Sicknesses:

1. Heavy recreation use:

Motorcycles and ATV's are disturbing the plants and soil, causing the stream to become choked (too many plants and sediments cut off the natural water flow). Ask the kids how they will protect the soil and plants while still allowing motorcycle and ATV users to still have fun. Prescription or solution ideas: keep motorcycles and ATV's on designated trails; have more forest rangers patrolling areas of high use, etc.

2. Increased development: A lot of buildings are being added to the area near the forest: More and more people are asking to use water. More people mean less water to go around. Ask kids how will they split up the available water to people, animals, and plants? Keep in mind they only have a limited amount of water. Prescription

or solution ideas: they can drill wells, prioritize- create mandatory water use restrictions, etc.

3. Carrying capacity: Too many plants and animals are living in the area. There is not enough water for everyone to get the amount of water they need. Ask kids how will they decrease the number of species living in an area? Prescription or solution ideas: create hunting permits (based on wildlife biologist studies insuring correct amount of permits are issued), relocating animals, etc.

4. People need to use trees to build their homes, make paper, have firewood, create tools, and many other needs. Fallen trees add more soil to the water and stops normal stream flow. Ask kids how will they decide how many trees to cut down? Prescription or solution ideas: Stress that each watershed is different and would need different prescription.

5. Ski resorts use natural water sources to make snow for their ski resorts. Ask the kids how they will decide how much water the ski resorts can use Prescription or solution ideas:

Perform state/government guidelines studies that keep a minimum stream flow to maintain health of the water for the animal residence and human residence's drinking water as well as well as allowing enough for visitors.

### **Assessment:**

-Kids should be observed in making *compromises* regarding the different watershed issues.

-Stress that each watershed is *unique* and would need a different prescription.

-Stress that there are government and state rules that need to be followed and applied to different watersheds when trying to reach a solution. Rules are not always perfect though and sometimes should be changed.

### **Further Learning:**

-Kids can go on a hike to look and try and identify how the water is being used or abused and what compromises should be made to make it better for everyone, including animals.

### **Works Cited**

(2012). In M. T. Stewart, *Wasatch Water Legacy* (pp. 14-16).

Utah Division of Wildlife Resources. (2012, August 30). *Aquatic invasive species*. Retrieved June 28, 2013, from Utah Division of Wildlife Resources:

<http://wildlife.utah.gov/habitat/ans/>