

# Stormwater

Increasing Water Quality  
Decreasing Water Quantity



## NATURES REVENGE

Nature has the best experience in knowing what to do with rain water. However, we have made it progressively more difficult for nature to manage rain water.

Nature is constantly working to maintain or to restore its natural balance. It starts with trees and broad-leaf plants catching some rain water immediately, managing rainwater from the start. Then, heavy vegetation slows the flow of rain water across the land and helps keep the surface of the ground loose, allowing more water to seep into the ground. Native plant roots can grow as deep as 12-15 feet, giving the plants the ability to aggressively capture rain water and store it in and around their roots.

What have we done to interfere with what nature already does so well?

1. We have greatly reduced vegetation. The fewer the trees and other broad-leaf plants available to capture rain water, the more that goes to a stream.
2. We have taken away too much temporary surface water storage. If enough surface water storage is eliminated, more water is forced into the stream than nature made the stream to carry.
3. We have filled too many portions of the stream's floodplain. This further reduces the stream's ability to carry water. Instead, the stream needs more floodplain, not less, to adequately process the increased amount of water.
4. We have turned too many streams into ditches thinking that we were giving the streams the ability to carry more water.

To a human, this would appear to make sense - deepen, widen, and straighten the stream and build the banks higher giving the stream the ability to hold more water. Nature, on the other hand, does not like this. It no longer has the capability to use its floodplain. Because we haven't allowed the streams to have what they need, they are forced to take revenge. This results in injuries, deaths, damages to homes, roads, and bridges. The stream will erode the bank until it has lowered the land along the stream to gain access to the floodplain. At the same time, the stream is looking for a new floodplain to deposit what the stream removed from the banks. When the floodplain is not available, it is forced to carry the soil particles downstream, choking the stream with mud and debris, often depositing the debris on roads and in homes. After a storm passes, a stream also deposits sediment and debris in its own channel. When the next storm occurs, some of the debris and sediment deposited by a previous storm catches more debris and sediment. In this way, the stream is building a "ladder" to raise the bed of the stream closer to its floodplain. Thus, the stream is working to lower its floodplain and to raise its stream bed, eventually bringing them together.

## KIDS CORNER!

### DID YOU KNOW?

- There is the same amount of water on Earth as there was when the Earth was formed.
- The water from your faucet could contain molecules that dinosaurs drank!
- Water is the only substance found on Earth that naturally comes in three forms: solid, liquid, and gas.
- A resident of America will use about 100 gallons of water a day, a resident of Europe will use 50 gallons a day, and a resident of sub-Saharan Africa will only use 2.5 gallons a day!

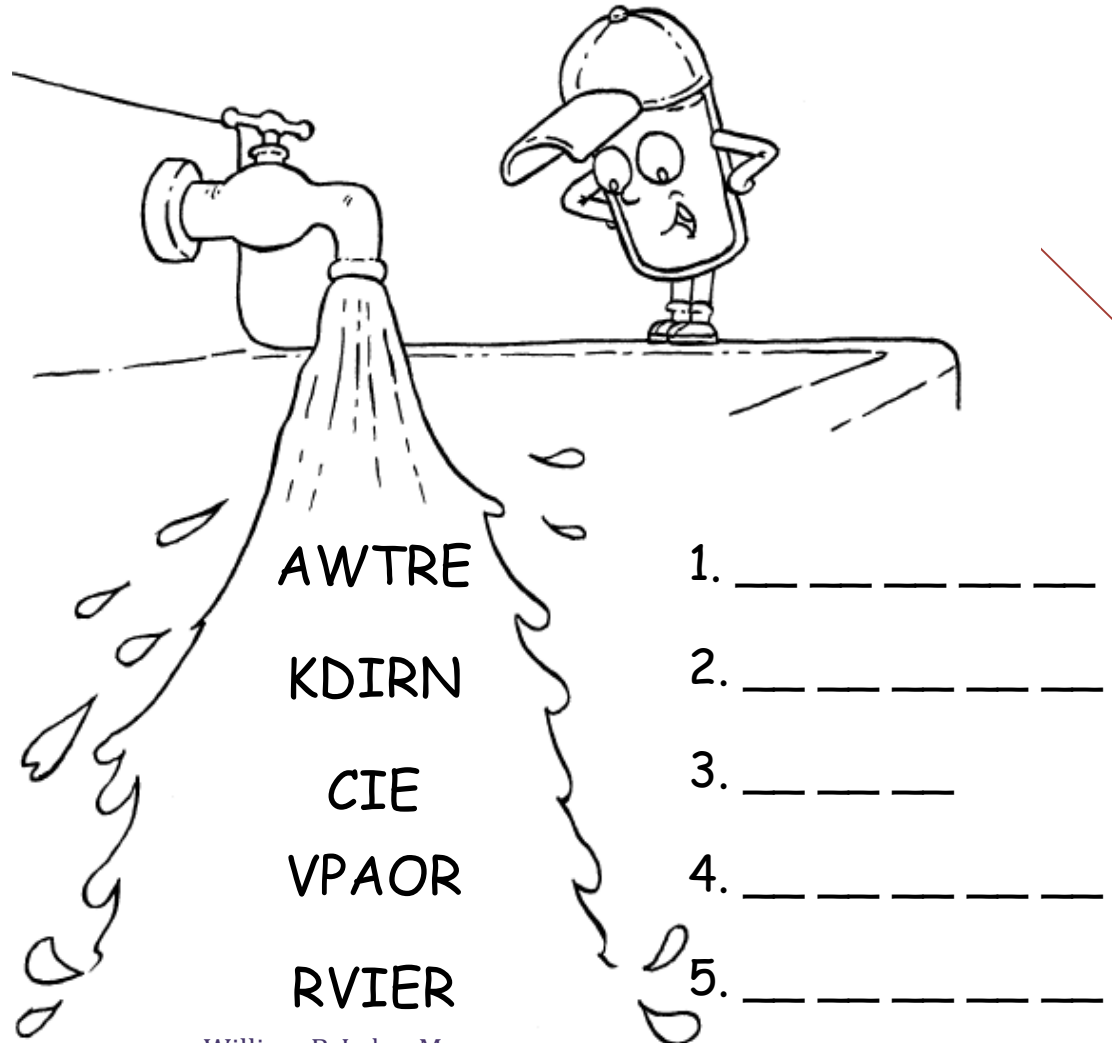
## Aquatic Critter Scoop

### Materials:

- Can opener
- A clean coffee or juice can
- Waterproof tape
- Clear plastic wrap
- A large and strong rubber band
- Scissors

1. Ask a parent to help carefully remove both ends of the can and cover sharp edges with tape.
2. Place plastic wrap around one end of the can, leaving about one inch extra around the edge.
3. Put a rubber band around the can and plastic to keep the plastic wrap tight.
4. Cut excess plastic wrap away and put tape over the rubber band and plastic wrap.
5. Take your critter scope for a test run in a sink. Look through the open end and place the closed end (the one with the plastic on it) in the water.
6. Now you are able to visit the wet and wiggly world of a stream.

### UNSCRAMBLE THE LETTERS



William B. Judge, Mayor