



## STATE OF THE BAY:

# Reducing Sediment in Our Streams

### DIVE DEEPER:

#### □ Get Involved

CBF Citizen Guide to Sediment and Erosion Control\*

\*This resource is higher level and may not be appropriate for our target middle school audience.

[cbf.org/document-library/cbf-guides-fact-sheets/Citizens-Guide-to-Erosion-and-Sediment-Control2497.pdf](http://cbf.org/document-library/cbf-guides-fact-sheets/Citizens-Guide-to-Erosion-and-Sediment-Control2497.pdf)

#### □ Learn More

Chesapeake Bay Program Sediment Information  
[chesapeakebay.net/issues/sediment](http://chesapeakebay.net/issues/sediment)



Watch the [video](#) that goes with this investigation.

[cbf.org/news-media/multimedia/video/cbf-education-videos/sediment-in-streams.html](http://cbf.org/news-media/multimedia/video/cbf-education-videos/sediment-in-streams.html)

### Investigative Questions

1. How does human impact lead to sediment pollution in our local freshwater streams?
2. What are some common sources of sediment pollution?
3. In what ways can we reduce the amount of sediment in our freshwater streams?

### What's the Deal with Sediment Pollution?

Often when we think of pollution in our waterways, our minds picture piles of trash washing up on shore or large factories dumping toxic waste into rivers. While these are issues that affect our water, there are other sources of pollution that harm water such as sediment.

### So what is sediment?

Sediment is made up of tiny particles of dirt, sand, and clay that are suspended in the water. Naturally, some of these particles end up in our waterways due to erosion. Erosion is the wearing away of land surface by wind or water. Erosion occurs naturally but it is often intensified by human land-use practices. When too much sediment erodes into waterways, issues arise.

Here are the two main issues with excess sediment in our waterways:

#### ISSUE #1

#### **Sediment Blocks Sunlight from Reaching Submerged Aquatic Vegetation**

When too much sediment enters a stream or other body of water, the sediment mixes in and causes the water to turn a murky brown. When the water clouds, sunlight can no longer penetrate through the water to reach submerged aquatic vegetation like grasses. If plants cannot grow, then there is less habitat and food for aquatic animals like fish. In addition, the aquatic plants cannot photosynthesize and will not produce oxygen animals need.

#### ISSUE #2

#### **Sediment Buries Plants and Animals Living on the Bottom**

When sediment enters a body of water, it will turn the water dark and murky. Over time, the particles of dirt will settle to the bottom of the waterway. Although some sediment settling to the bottom is perfectly fine, too much sediment can bury and kill the things living on the bottom. This includes clams, oysters, muscles, and aquatic grasses. These living things have important roles to the ecosystem of the water, and they are unable to move to avoid getting covered.

## Sources of Sediment

Because sediment can cause such serious issues to the health of our water, we need to investigate the sources of sediment to determine how to reduce this pollution. As we know, sediment does naturally erode into water, and this can most commonly be seen on stream banks. Due to human activities, we are seeing increased human-made sources of sediment.

Here are some of the sources of focus:



### CONSTRUCTION ZONES

When new buildings are constructed, the land is cleared and exposes dirt that can easily runoff during rainstorms.



### AGRICULTURAL LAND

Land is often cleared of big trees to grow crops and/or raise animals. Also, if cows can freely enter a stream, the large animals can destroy plants on the banks over time.



### DEFORESTATION

Large areas of trees are removed for the creation of various materials like paper and for the construction of buildings. When trees are removed, soil is left exposed.



### IMPERMEABLE SURFACES

In areas where water cannot penetrate—like roads and roofs—water runs off quickly instead of permeating into the ground slowly, making it easier for land to erode.



## **Investigate Sediment Pollution Further**

To further understand sediment pollution, read the questions below and write or draw your responses in the question box. Before answering these questions, imagine that there is a stream that has formed and now runs through the middle of your yard or neighborhood. Consider what the stream would look like and what sorts of things might impact it. When answering the questions, you may use any resources to help you.

4. What do you think your neighborhood stream would look like? Be as descriptive as possible.

5. What would be some sources of sediment for the stream in your neighborhood?

6. How would sediment affect the health of your neighborhood stream?

7. What would be some things you could do to help improve the health of your stream?

## Educating Your Community about Sediment

Now that you have more knowledge about sediment pollution, it is your turn to educate others about it. For this activity, you will create a comic strip to help others understand the issue with sediment pollution. Remember, comic strips are read left to right just like a book, and they are made up of mostly images with little script. Your comic strip should have at least three squares, but you can add more squares as you see fit. You may create your comic strip by hand or digitally.



CHESAPEAKE BAY  
FOUNDATION  
*Saving a National Treasure*

# INVESTIGATION

**LEARN OUTSIDE | LEARN AT HOME | [CBF.ORG/LEARNATHOME](https://www.cbf.org/learnathome)**