

What is a Watershed?

Essential Question: What is a Watershed?

Objective: At the end of the lesson, students will be able to explain the relationship between a river and a watershed in a Quickwrite.

Standard(s):

LAFS.6.RI.1.1

Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

LAFS.6.W.2.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Materials:

- Copy of student page: **What is a Watershed**
- 3 pieces of loose leaf notebook paper
- Pen or Pencil
- A copy of the quick write response question

Setup/Prep time: 10-15 minutes

Lesson Duration: 50 minutes/one class period.

Directions:

1. Teachers will complete a shared, whole-group reading activity with students. Teachers will monitor student comprehension of the article by stopping at various points of the article and asking questions in reference to the article (30 minutes for reading, questioning and discussing the article).
2. Teachers will give students a copy of the quick write question page with enough space provided to respond to the question. This should take about 10-15 minutes after the shared reading activity is completed.

Quick Write Question:

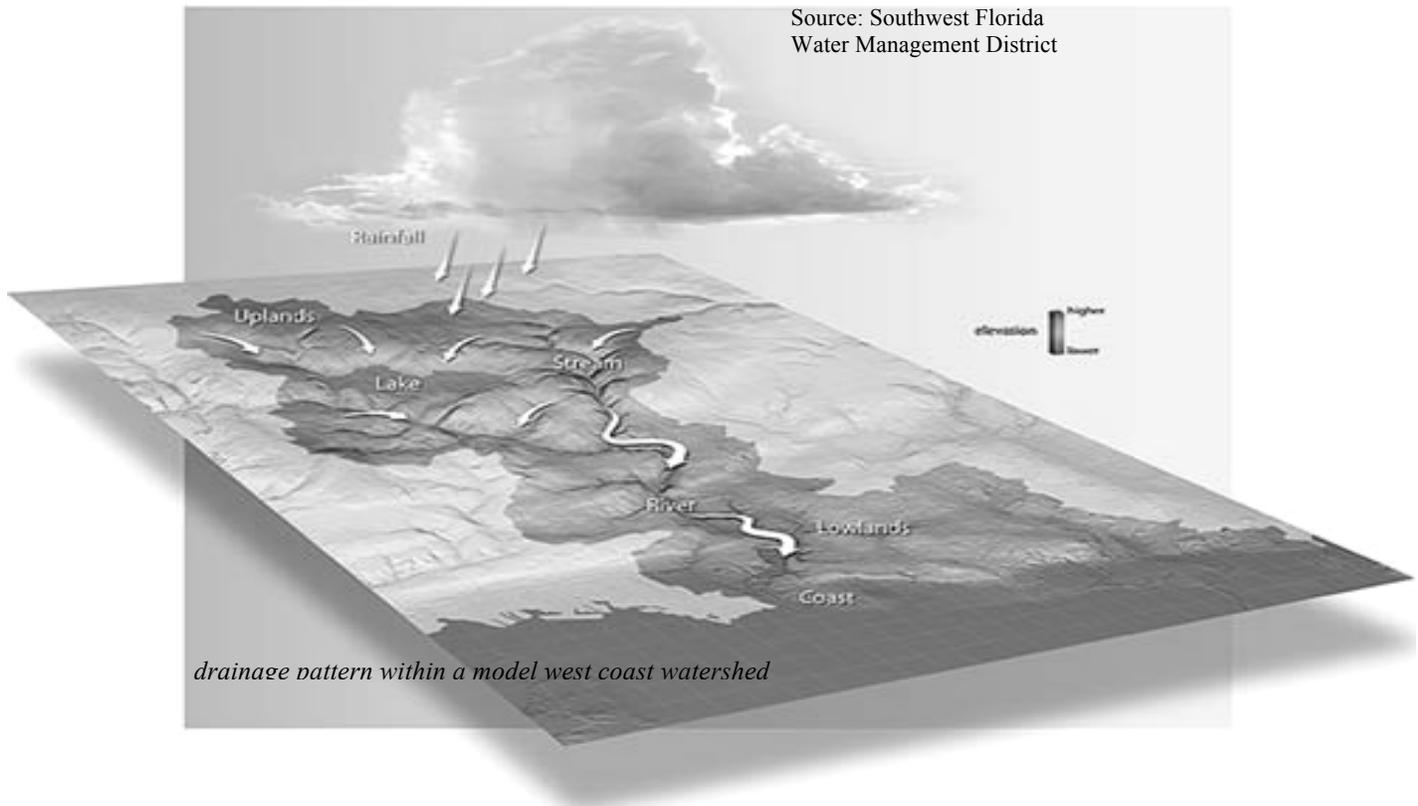
What is the relationship between a river and its watershed? Use details from the student page “**What is a Watershed?**” to support your response.

Assessment: Students will complete a quick write on their understanding of the watershed.

Alternative Strategies:

- Word Web
- Concept Map
- Chalk Talk

What is a Watershed?



What is a watershed?

All of the area that collects rainfall and drains it into an individual river or stream system is called a **watershed**. The area that drains into a river or other body of water is determined by the shape and elevation of the land surface. This is called the **topography** of the watershed.

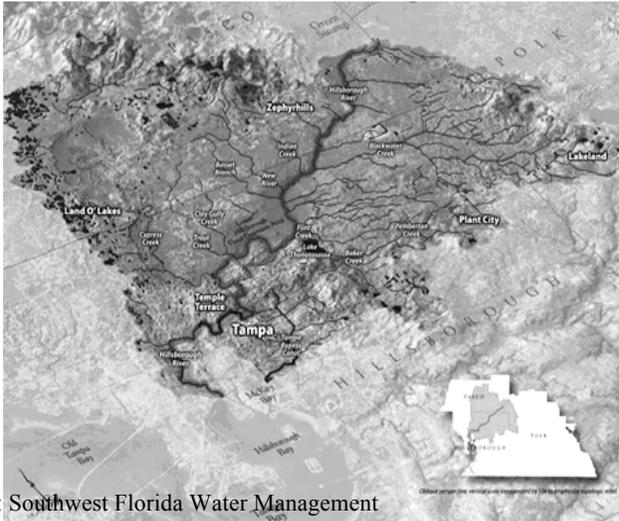
Watersheds come in different shapes and sizes but we all live in one. There are many definitions for the word watershed.

Here are a few of them:

- All of the area that collects rainfall and drains it into an individual river or stream system is called a watershed.
- An area or ridge of land that separates waters flowing to different rivers, **basins**, or seas.
- An area or region drained by a river, river system, or other body of water.
- An area drained by a river or stream.
- A watershed is a basin-like landform defined by highpoints and ridgelines that descend into lower elevations and stream valleys.
- An area of land that contains a common set of streams and rivers that all drain into a single larger body of water, such as a larger river, a lake or an ocean.

- A watershed is a **precipitation** collector.

Are you beginning to get the picture? A watershed can cover a small or large land area. Larger watersheds contain many smaller watersheds. Precipitation, **runoff** and **drainage** are all involved. When rain falls on **uplands**, it has to go somewhere. Not only does water run into the streams and rivers from the surface of a watershed, but water also **percolates** or filters through the soil, and some of this water eventually drains into the same streams and rivers.



Source: Southwest Florida Water Management District

A watershed has a shape. The area that drains into a river is determined by the shape and elevation of the land surface, or topography. The word watershed is sometimes used interchangeably with drainage basin. Ridges and hills that separate two watersheds are called the **drainage divide**. If you were in an airplane, you would be able to see the majority of a watershed. You would see a lot of small feeder streams that gradually empty into the larger body of water.

Sometimes, the pattern of streams and rivers can look like a tree if drawn out. A watershed with its small **tributary** streams and larger river can also be compared to a leaf with its sub-veins and main vein.

Watersheds are important because the **stream flow** and the water quality of a river are affected by things, human-induced or not, happening in the land area "above" the river-outflow point.

Water that drains off the land collects in tiny brooks that merge into larger streams, and finally into a single river. The entire area drained by such a network is called a watershed or a drainage basin. River systems can have many different patterns of branching, but the most common patterns seen in southwest Florida are **dendritic**, **braided** and **meandering**. A dendritic pattern looks like the roots of a tree with many small streams draining into a larger one. A braided pattern looks like braided hair with many channels crossing one another. A meandering pattern looks like a snake with many twists and turns. These patterns predominate here because of the relatively flat topography (surface area), **homogeneous** soils, heavy loads (the amount of sediment transported by a river), and age of the rivers.

Rivers may be young, old, or somewhere in-between. The surrounding topography and the shape of drainage patterns are indicators of a river's age. Steep surrounding terrain and a reasonably straight channel are evidence of a young river. A wide **floodplain** and a winding, twisted channel indicate an old river.

Reservoirs store water and increase the amount of water that evaporates and infiltrates. The storage and release of water in reservoirs can have a significant effect on the stream flow patterns of the river below the dam.

Quick Write Question: What is the relationship between a river and its watershed? Use details from “What is a Watershed?” to support your response.

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