STREAM ORDER CLASSIFICATION

Learning Objectives:
Students will study Pascagoula River stream order map and discuss human impacts on stream flow.

Lesson Objectives:
Number stream orders on map of Pascagoula River. Circle streams more likely to dry up at certain times of the year and explain why.

Identify human impacts that affect stream flow and state what can be done to prevent human impacts.

Materials
Stream order map (see attached)
Materials for water quality survey (see lesson plan on Water Bugs)

Lessons:
Bodies of water that flow across the earth's surface via a current and are contained within a narrow channel and banks are referred to as rivers, creeks, or streams. A tributary is a stream that flows into a main stem river not flowing directly into the ocean.

> Activity: Identify streams, rivers and tributaries on the map of the Pascagoula River

Stream order is a common classification system used to study and measure the size of the world's waterways: the further downstream the stream is, the higher the order; the further upstream the stream, the more likely it is to dry up during parts of the year.

When studying stream order, it is important to recognize the pattern associated with the movement of streams up the hierarchy of strength. Because the smallest tributaries are classified as **first order**, they are often given a value of **one** by scientists. It then takes a joining of two first order streams to form a **second order** stream. When two second order

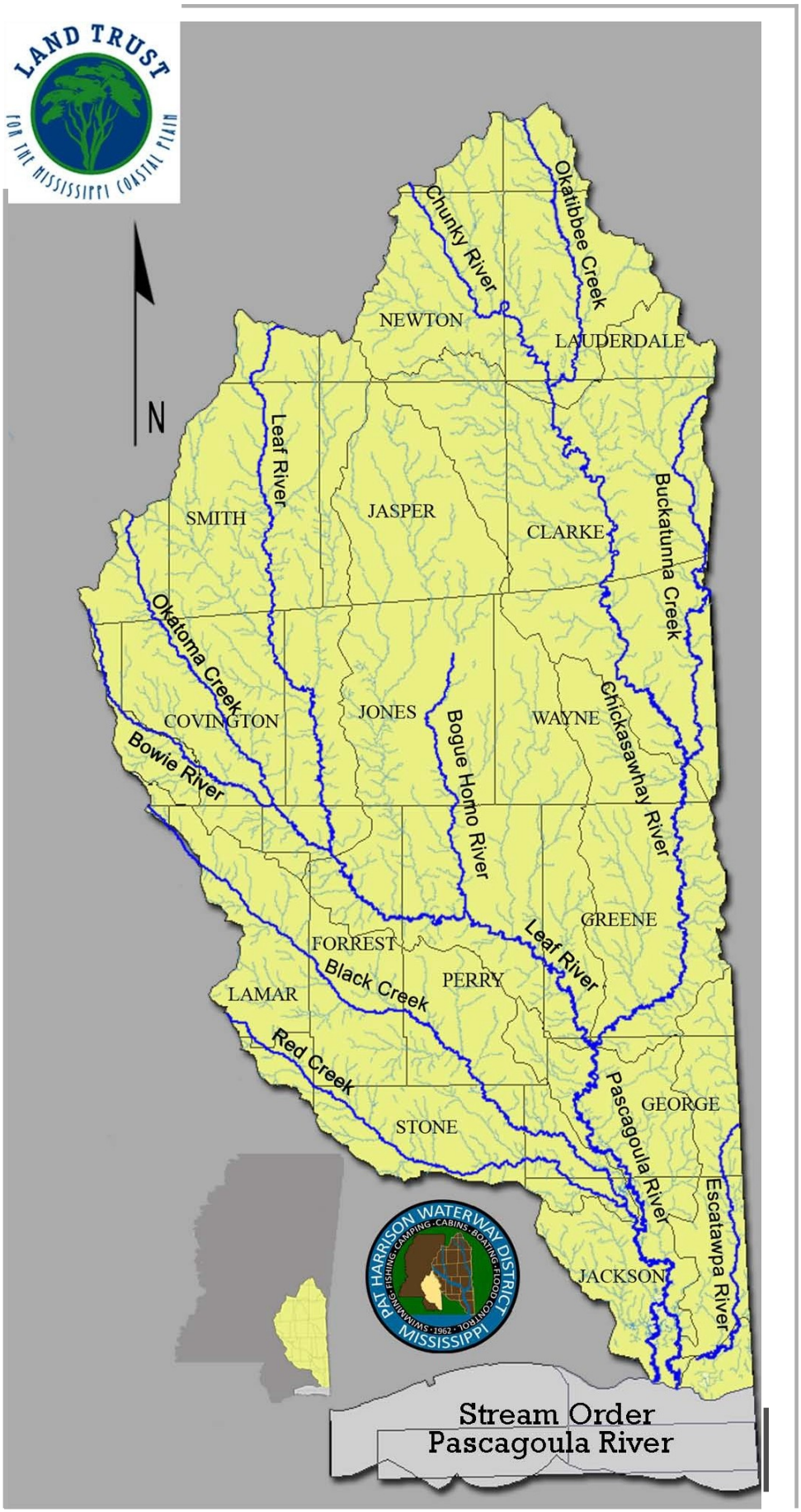
streams combine, they form a **third order** stream, and when two third order streams join, they form a **fourth** and so on.

If, however, two streams of different order join, neither increases in order. For example, if a second order stream joins a third order stream, the second order stream simply ends by flowing its contents into the third order stream, which then maintains its place in the hierarchy.

This method of classifying stream size is important to geographers, geologists, hydrologists and other scientists because it gives them an idea of the size and strength of specific waterways within stream networks- an important component to water management. In addition, classifying stream order allows scientists to more easily study the amount of sediment in an area.

Whether it is used by a geologist, a biogeographer, or a hydrologist, stream order is an effective way to classify the world's waterways and is a crucial step in understanding the many differences between streams of different sizes.

> Activity: Identify the first, second and third order streams on the map of the Pascagoula River.


LAND TRUST
FOR THE MISSISSIPPI COASTAL PLAIN
N
Chunky River
Okatibbee Creek
NEWTON
LAUDERDALE
Leaf River
SMITH
JASPER
CLARKE
Buckatunna Creek
Okatoma Creek
COVINGTON
JONES
WAYNE
Chickasawhay River
Bowie River
Bogue Homo River
GREENE
FORREST
Leaf River
Black Creek
PERRY
LAMAR
Red Creek
Pascagoula River
GEORGE
STONE
Escatawpa River
JACKSON
PAT HARRISON WATERWAY DISTRICT
FISHING · CAMPING · CABINS · BOATING · FLOOD CONTROL · SWIMMING
1961
MISSISSIPPI
Stream Order
Pascagoula River

Samples Questions:

1. What human impacts might affect water quality?
2. How might water quality impact the free flow of water?
3. What can we do to prevent human impacts from slowing the free flow of water?