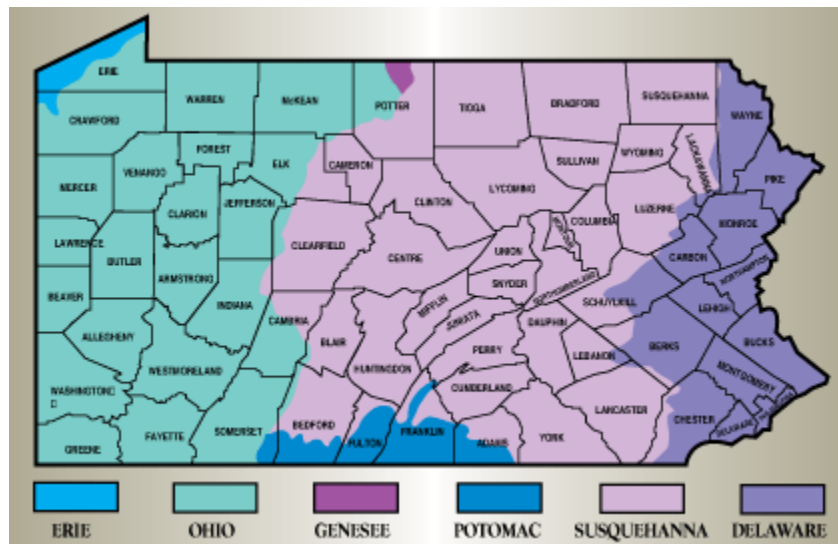


PA Trout In the Classroom: Watersheds



WHAT IS A WATERSHED?

A watershed is an area or ridge of land that separates waters flowing into different rivers, basins, or oceans. Watersheds can best be described using an imaginary line; when rain falls on either side of that line the water drains to a different body of water. This imaginary line is known as a watershed divide.

Pennsylvania recognizes six (6) major watersheds that each have a different river basin (listed in the following table). Smaller watersheds are comprised within each major watershed however, these smaller watersheds all drain to the river basin within the major watershed. Pennsylvania's major watersheds are named after the corresponding river basin.

Watersheds serve an important function when it comes to the management of Pennsylvania's aquatic resources. Conservation planning almost always begins with delineating the watershed before any action takes place. Having a firm understanding of the watershed location of the PATIC program provides a great foundation to begin planning lessons. Pennsylvania has more than 86,000 miles of streams and rivers and 4,000 inland lakes and ponds spanning 160,000 acres, plus 470,000 acres of Lake Erie.

Pennsylvania Water Resources	
Major Watersheds:	
1. Erie Watershed	511 square miles within Pennsylvania
2. Ohio Watershed	15,614 square miles within Pennsylvania
3. Genesee Watershed	94 square miles within Pennsylvania
4. Susquehanna Watershed	27,510 square miles within Pennsylvania
5. Potomac Watershed	1,584 square miles within Pennsylvania
6. Delaware Watershed	6,422 square miles within Pennsylvania
Miles of Rivers and Streams (approx.)	86,000 miles
Number of Lakes, Reservoirs and Ponds (approx.)	4,000
Estuaries, Harbors and Bays (Delaware and Presque Isle)	23 square miles
Freshwater Wetlands (approx.)	404,000 acres
Amount of Groundwater (approx.)	80 trillion gallons

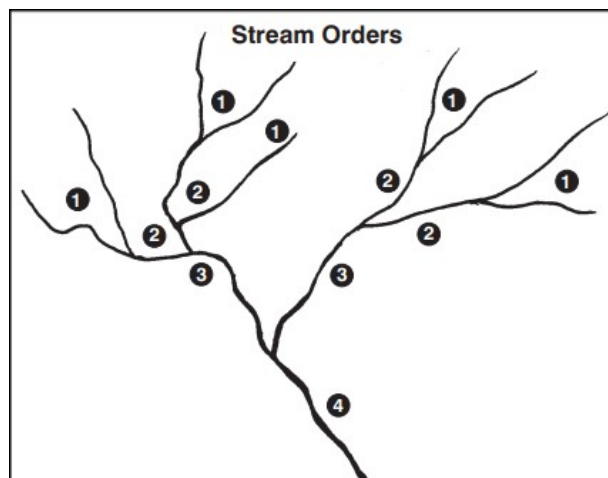


STREAM ORDER

Stream order categorizes streams and rivers based on size and location within a watershed. Calculating stream order provides a rough indication of stream size and helps compare streams.

A first order stream has no tributaries. A tributary is a small stream that flows into a larger stream or river. A second order stream must have a minimum of two first order streams flowing into it. A third order stream must have a minimum of two second order streams flowing into it and so forth.

Categorizing streams into stream order provides a foundation for scientific theorizing. Stream characteristics can be inferred by knowing the stream order. The diagram below can assist in calculating the stream order of potential trout release sites.



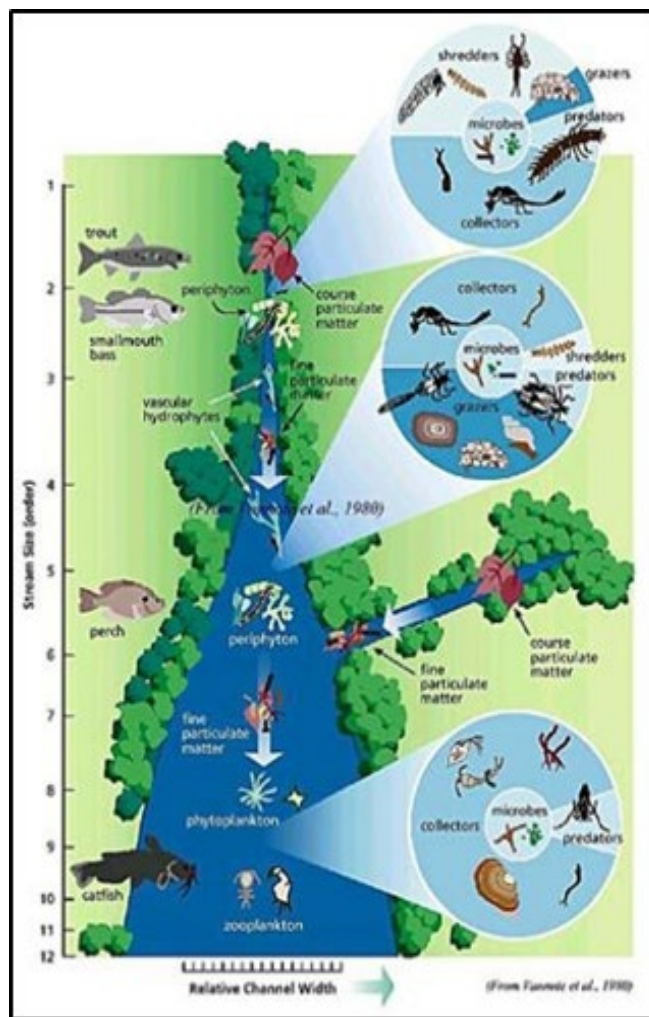
RIVER CONTINUUM CONCEPT (RCC)

A hypothesis developed by Stroud Research Center staff and scientist, Robin Vannote, describes how streams and their watersheds work. The concept predicts the structure of downstream biological communities based on upstream influence. Just as river or stream flow dynamics change throughout stream order, so do the biological and chemical processes.

RCC demonstrates systemic connectivity in watersheds, stream order, biodiversity and energy flow.

To learn more about the RCC and how it incorporates into PATIC programming, visit:

<https://stroudcenter.org/continuum/>



Source: Stream Corridor Restoration: Principles, Processes and Practices, 10/98, By the Federal Interagency Stream Restoration Working Group (FISRWG)