Episode: **Basin Basics**

EXPLORING NORTH CAROLINA


**USEFUL VOCABULARY**

co-evolve
Continental Divide
crucible
reservoir
river basin
runoff
stormwater
stream buffer

## CHAPTER 2 (0:00–5:42)

**1.** How many river basins are in North Carolina?

*17.*

**2.** Each river basin is like a _____with its own _____.

*Living organism; circulatory system.*

**3.** What happens at the Continental Divide?

*Water on one side of the divide flows to the Atlantic Ocean, and on the other side it flows to the Gulf of Mexico.*

**4.** North Carolina was one of the first states in the country to use river basins as _____.

*Planning units.*

**5.** Why is it important for citizens and government leaders to think about organizing the state in terms of river basins?

*Some possible answers: River basins determine where cities can get drinking water and where they can discharge wastewater; river basins affect how water-based recreational resources are managed; decisions that citizens make upstream in a river basin have consequences for everyone living downstream.*

## CHAPTER 3 (5:42–9:10)

**6.** What is interbasin transfer?

*Moving water from one river basin to another.*

**7.** Provide an example of a controversial interbasin transfer.

*About 90 million gallons of water were taken out of the Roanoke River for use by Virginia Beach, Va., in the early 1990s.*

**8.** Why is interbasin transfer a problem?

*Some possible answers: Population growth in cities makes water resources harder to manage; if water resources are limited in each separate basin, sharing water may not be desirable to all users; moving the water is limited by law and technically difficult.*

*Rafting photo courtesy of N.C. Division of Tourism, Film and Sports Development.*

## CHAPTER 4 (9:10–16:38)

**9.** River basins are considered a _____ of evolution because each basin has a long history separate from its neighbors'. Interdependent species have _____ in individual river basins.

*Crucible; co-evolved.*

**10.** How many species of fish have been found in North Carolina river basins?

*More than 200.*

**11.** North Carolina is home to about ____ species of freshwater mussels, ____ species of fingernail clams and ____ species of freshwater snails.

*65; 20; 55.*

**12.** How are host fish part of the life cycle of freshwater mussels?

*Mussel larvae must attach to the gills of a host fish or they won't survive. After a period of development on the fish's gills, the juvenile mussels fall off.*

**13.** Why are freshwater mussels important?

*Some possible answers: They are an indicator of water quality; they filter and cleanse water; they are an important food source for other animals; they may become valuable in cancer research.*

**14.** Why are invasive species a problem?

*They can outcompete native species for nutrients and habitat.*

## CHAPTER 5 (16:38–21:47)

**15.** Why is it important how we use water upstream in a river basin?

*What happens upstream has an effect downstream.*

**16.** How are buffers important to water quality in rivers?

*Buffers are the cheapest, most effective way to naturally treat stormwater runoff.*

**17.** How do buffers work?

*As water moves through a buffer, the plant roots and bacteria in the soil help break down contaminants. Buffers also slow the flow of water, helping to prevent flooding.*

**18.** Dave Toms of the N.C. Department of Environment and Natural Resources emphasizes that people need to conserve both city water and well water during a drought. How are groundwater and surface water related during a drought?

*Groundwater provides most of the flow in a stream during a drought.*

**19.** What is the purpose of the North Carolina Department of Environment and Natural Resources?

*To preserve, protect and enhance the natural resources of North Carolina in an environmentally and economically sound manner.*

**20.** How can individual property owners help the North Carolina Department of Environment and Natural Resources fulfill its mission?

*By making environmentally sound decisions at home.*