1.2g River Habitat - Lifelines to the World

Most Americans live within a mile of a river or a stream. We rely on rivers for drinking water, irrigation, and more. Providing a home for fish, plants, animals, and people, rivers are essential for the survival of many species —including our own.

There are roughly 3.5 million miles of rivers and tributaries in the United States, connecting us to the sea, even if we live far inland. River habitats vary from high, stony streams, flowing channels for ships and boats, to shallow wetlands. A riverbed may be stony or soft, lush with underwater vegetation, murky and slow or cold and clear, but each provides an ideal environment for different species and different life stages.

Trout thrive in highland streams, while catfish lurk near the bottom of slow-moving water. Migrating fish, like salmon, must swim up to cooler, stony beds to reproduce. Even the smallest fish play an important role. "Forage fish" swim upriver to multiply, then head out to sea, providing food for commercially valuable seafood.

The Value of River Habitat

- Sixty percent of our drinking water comes from American rivers.
- Food—irrigating crops.
- Electricity—generating hydroelectric power.
- Transportation—bringing grain, coal, ore, and imports to market.
- Recreation and tourism—providing significant economic boost to waterfront areas.
- Rivers are home to fish and wildlife.
- When waters rise floodplains can absorb large amounts of water, providing natural flood control for communities, preventing damages.

Rivers have three distinct habitat areas: riverbed, riverbanks, and the floodplain. The riverbed is the water channel itself, while the riverbanks, called the "riparian zone", include the land, trees, and water-loving animals and plants along the channel. The low, flat land spreading out from the channel, called the floodplain, periodically floods during heavy rains and snow melt. Sometimes floodplains stay soggy for a long time, creating rich wetland habitat.

Challenges for Rivers

- Dams block migratory fish from returning to their historic spawning grounds, reducing fish populations. Dams also alter the amount of water and sediment traveling downstream, changing living conditions above and below the dam.
- Hard shorelines decrease fish populations and increase water velocity, quickening erosion.
- Digging channels or straightening rivers destroys nearby floodplains and wetlands, and can lead to development where flooding is inevitable.
- Farm runoff containing fertilizers, herbicides, and pesticides contaminates water with toxins and excess nutrients, causing algal blooms and dead zones.
- Combined stormwater and sewage systems can overflow and pour untreated human waste into rivers, creating disease risk and adding nutrient pollution. The resulting algae overgrowth can be toxic to fish and people.
- Riverside development can reduce shade, which can lead to warmer waters that inhibit reproduction in many species. Hard surfaces also increase pollutant runoff from roadways, parking lots, and roofs.

Adapted from NOAA Fisheries (https://www.fisheries.noaa.gov/national/habitat-conservation/river-habitat)