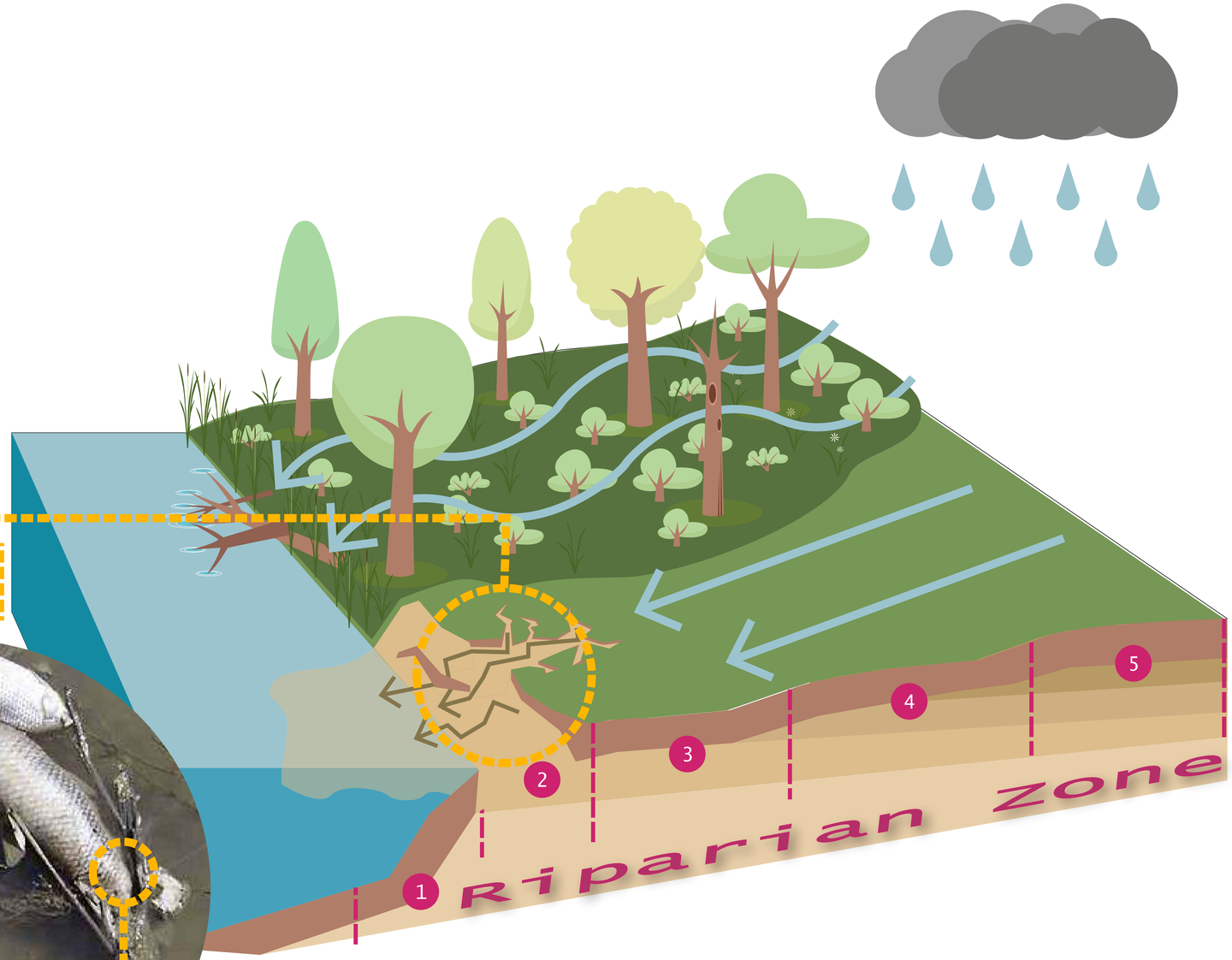
Riparian Zone

What is a Riparian Zone?

A riparian zone is the land adjacent to rivers, lakes, and wetlands where the vegetation and soils are strongly influenced by the presence of water. The size of the riparian zone can vary depending upon the landscape. It may be a small corridor of vegetation that hugs the river or it may be a large network of wetlands stretching far into the floodplain. Riparian zones are formed as the result of water, soil and vegetation interacting with one another. Although they make up only a small fraction of the land, they are among the most valuable of all landscape types.

Why are Riparian Zones valuable?

To understand how riparian zones work, it is important to understand how water moves. Surface water flows over the land and can carry sediment, nutrients, pesticides, and fecal coliform bacteria into water bodies. Pollutants can affect the water body in a number of ways. Excess nutrients can cause algal blooms, fecal coliform bacteria can be an indicator of waste-borne disease and pesticides can kill or sicken fish and aquatic invertebrates (water bugs). Vegetation slows and filters runoff water above ground, causing sediment to settle out and be deposited in the riparian zone. If runoff water does not spread over a riparian zone, it cuts channels and flows directly to the river, rendering the buffer ineffective for reducing sediment and sediment-attached pollutants.



Stormwater runs off faster in areas where plantings have a shorter root system, resulting in eroded river banks and heavier sediment loads in the Red River.

Algae is short lived and results in a high concentration of dead organic matter. As the algae decays, it consumes dissolved oxygen in the water leading to hypoxic conditions. Without sufficient dissolved oxygen, plants, animals and fish may die off in large numbers.

photo credit: Forum News Service

Excess nutrient loading, particularly phosphates, leads to thick algal blooms that can be harmful to humans, animals and the environment.

Riparian Planting Zones Defined:

1. **Toe zone** - the area between the river bed and the average water elevation.
2. **Bank zone** - the area from the average water elevation to the bankfull elevation.
3. **Overbank zone** - the area between bankfull elevation and overbank elevation.
4. **Transitional zone** - the area between overbank elevation and the flood prone elevation.
5. **Upland zone** - the area found above the flood prone elevation

DID YOU KNOW?

Each year, 8,700 tons of phosphorus enters the Red River's drainage basin, Lake Winnipeg. Only 2,600 tons leaves through Lake Winnipeg's outlet leading to 6,100 tons of net phosphorus loading annually. - Lake Winnipeg Foundation

RIVER KEEPERS

MOORHEAD MINNESOTA Parks and Recreation

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