RIVER

ANATOMY OF A RIVER

STREAM BANK
may be BEACHES or BANKS
part of RIPARIAN ZONE

VEGETATION
such as PLANTS, SHRUBS, and TREES

FLOODPLAIN
is FLATLAND

RIVER BOTTOM
or SUBSTRATE
such as COBBLES/ MUD/ SAND
ANATOMY OF A RIVER

CHANNEL:
The channel is the area of a river or stream which periodically or continually contains moving water. Stream channels may have one of several shapes:
- Straight (a fairly uncurved line)
- Meandering (loops and curves)
- Braided (like strands of water that have been braided)

STREAM BANKS:
Stream banks are the portions of the stream which restrict lateral movement of water. Stream banks may be:
- Sandy beaches
- Mud banks
- Subject to erosion due to:
  - swift moving currents along the cutbank of the river;
  - loss of vegetation due to building or change of land use.

Stream banks are part of the riparian zone or the vegetated area adjacent to a water-body, stream or river. A riparian zone is important to the health of the river or stream because it:
- serves to filter runoff from the land before it drains to the river. These filtered materials may be soils, vegetation, or organisms suspended in the runoff;
- slows down the velocity or speed of the water flowing into the river, thus decreasing erosion;
- supplies vital habitat for aquatic and semi-aquatic animals, and
- holds the stream bank soils together, preventing erosion.
FLOODPLAINS:
Floodplains are the flat areas of land covered by materials deposited by the river when it floods. These materials or sediments may be sands, silts or clays as well as organic material. These areas:

- contain nutrient rich soils;
- are located near a source of usable water;
- are flat lands available for agricultural use;
- may contain valuable wetlands, and
- usually flood when the river overflows its banks; this fact alone may be an important consideration in choosing to build in a floodplain.

VEGETATION:
The variety of plants, woody shrubs and trees along the banks of the channel and in the floodplain are called streamside vegetation. This vegetation is important because:

- it is home to many different kinds of animals;
- it forms a buffer between the forested lands, pasture lands or more developed areas and the channel of the river or stream, and
- it serves to stop erosion along the banks of the stream since tree roots hold soil together.

RIVER BOTTOM OR SUBSTRATE:
A river or stream bottom may be composed of rock, gravel, cobbles, sand or mud substrates.

Rock, gravel, or cobbles:
- provide a hard substrate;
- provide a place for aquatic plants and animals to live, and
- form riffles where water running over the rock surface becomes well oxygenated.

Sandy and muddy bottoms:
- are found when the river or stream is slow-moving;
- occur because the low velocity of the stream is not enough to transport larger sediments such as rocks and cobbles, and
- are a habitat for burrowing animals.