THE BASIN BLUES

Shhhh! Buzz, buzz, shhhh! Slap, slap, crunch, crack, yipes! Hum, hum, sputter, splash, splat! Buzz, buzz, hummmmm!

There’s a place where critters abound, where water is deep and rich, where animals munch on grassy green stalks, and then take the time for a dip....

There’s a place, where grasshoppers go, where nutria travel and trail, where birds of all kinds of feathers will flock together, and fish look fishy-eyed at the world!

There’s a place where a crab is a king, and a snail like a jewel will sway, There’s a place where fisher people will go and will stay all night and all day!

There’s a place where the sun and energy it brings shines from daylight to dusk, then a silvery white moon will sparkle the night and the sounds, whoooo, whaaaaa, kurplunk, swish and glop, will make all of us stop!

WHAT IS AN ESTUARY?

An estuary is:

a semi-enclosed body of water that has a free connection with the open sea and within which the sea water is measurably diluted with fresh water that is derived from land drainage.
Estuary Characteristics

THE ESTUARY

has
SALINITY
ranges from
0-35 ppt

receives
FRESH WATER
from
land drainage
to
creeks
to
rivers
or to
bayous

has
TIDAL INFLUENCE
from
OCEAN
moves
nutrients
&
wastes
Salinity:

- An estuary is a place where sea water is measurably diluted by fresh water from land drainage.
- The mixture of fresh and salt water provides a variety of habitats for animals and plants in the area.
- Salinity is a measurable quantity:
  - Fresh water is described as having 0-0.5 ppt (parts per thousand) of salt dissolved in the water.
  - Sea water is 20-35 parts per thousand. Imagine if you took 35 grams or parts of salt (table salt will do!) and dissolve it in 1,000 parts of water...you have just made sea water!

Fresh water:

- There are areas of the estuary which are characteristically freshwater areas. Other areas of the estuary, however, will have varying degrees of salinity because of the introduction of saline water from the Gulf of Mexico.
- Fresh water in the estuary comes from rivers, creeks, bayous, and streams which drain toward the estuary.
- Fresh water amounts will vary with variations in rainfall.
- During periods of heavy rainfall the estuary becomes less salty since more fresh water is added.
- Animals living in the estuary must tolerate wide ranges of salinity and, therefore, are called euryhaline biota. If you travel from the top of the estuary toward the Gulf of Mexico, salinity as well as types of animals and plants will change.

Tidal Influence:

- The salinity of an estuary may change on a daily basis due to tides and winds.
  - Tides are the daily or twice daily movement of water in and out of an estuary or coastal area. There are high and low tides. High tides are determined by the high water mark on the shoreface, the sand on the beach. High tides bring high salinity water and add nutrients to the estuary, flushing away waste products, impurities, or even pollution. As the high tide gradually falls to its lowest point, it becomes the low tide, and the cycle starts over again.
  - Winds are movements of air which blow from offshore, moving seawater into the estuary. Winds also blow from the land toward the sea, moving water out of the estuary and drying areas which are normally wet.
**Biodiversity:**

When an ecosystem or a habitat has many different plants and animals, it exhibits **biodiversity**. Biodiversity contributes to the stability of ecosystems. If there are many producers, consumers and decomposers, there is less chance that loss of one species will impact the entire ecosystem.

Estuarine animals and plants must tolerate changing salinities and other conditions such as fluctuating temperature, water level, currents, and levels of oxygen. These changing conditions are stressful to many animals and plants. Few species can tolerate these conditions. Therefore, the ecosystem is less diverse! For example, while we may have many species of fish in some estuarine areas, scientists tell us that a coral reef contains four times as many species as are found in Lake Pontchartrain, a typical estuary.

What the estuary lacks in **biodiversity**, it makes up for in **abundance** of the species that inhabit the area. To a mosquito this means that there is a lot of grass from which it can suck plant juices; to a frog, it means there are a lot of mosquitoes to catch at night; to a blue heron, it means there are a lot of frogs to catch!

**Muddy Substrates:**

Sediments such as sands, silts, and clays are found in estuaries and are derived from river systems.

The specialized environment of muddy substrates is home for burrowing worms, clams, microscopic bacteria, fungi, and other specially adapted animals.

If you plan on living in the estuary, prepare to get your feet muddy!