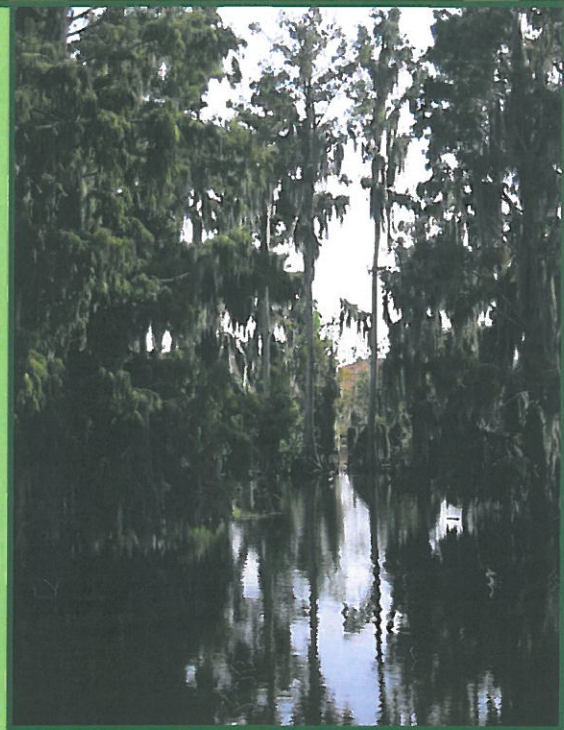


THE FLOW OF WATER

By Larry Eichert

In the winter time it does not seem like much of anything is happening in the wetlands. But it is. Water, or the lack of it, is extremely important for the maintenance of wetland's structure and function making the wetlands the "Kidneys" of the environment. Water affects many factors, including soil, bacterial activity, plant growth or decay, nutrient availability and its transmission and supply. These, in turn, determine the biota (living organisms) in a wetland, completing the cycle, altering the wetland hydrology and other physiochemical (a later topic) features. The flow of water through the wetlands is the result of the balance between inflows and outflows of water, called the water budget. The major parts of a wetland's water budget includes: precipitation, evapotranspiration (water evaporating through the leaves), surface water flow, ground water changes and overbank flooding. This flow affects plant species composition and richness, primary productivity, organic accumulation and nutrient cycling.



The proper flow of water throughout our wetland systems is a big challenge. It requires constant maintenance of water flow patterns that were constructed during the development of our community. In order to construct roads and develop an intra-structure, the builders had to divert the natural flow of water (a sea of grass) through the land into a variety of channels, ditches, catch basins and underground piping systems.

Accumulated sediments and organic matter gathering throughout the system has interrupted the water flow and decreased the duration and frequency by which the wetland areas are either flooded or drained. It has caused opportunistic and invasive species plants to flourish.

Fixing the inter-structure piping system is something that must be undertaken to restore the proper functioning of our wetland communities. At the same time we still need to maintain an active program for the control of invasive plant species. Once this is done and both are properly maintained the micro-ecosystems within the wetland community will no longer be under as much stress and will develop into a complex, energy efficient, water purifying, wetland community over a period of time.

When this happens we will notice fewer insects because birds and small reptiles will control them. Less invasive species plants will be seen because the systems will be drained properly. Fewer "weeds" will grow because of an increase in the complexity of plant species that will utilize the available nutrient supply inhibiting their establishment. The system will become a complex balanced ecological community. We will see more birds returning to Stoneybrook.

Next time: Wetlands as a "biological supermarket"