The Swamp?

By Jackie Chen

My previous article, last October, provided a whirlwind synopsis of our subdivision's natural history. Many of you, perhaps, were as surprised as I was to learn that we live on cleared swamp land.

What exactly is a swamp? – It is wet woodland.

Let's revisit the settlement and early development of our area. The early settlers desired drier land for farming so drains were dug. Then fields were cleared of trees. But what happens to the soil when trees are cut down?

1. Immediately it begins to lose organic nutrients.
2. The mineral portion washes away at a rate increased by 5 or 6 times the previous rate.
3. In winter time the ground freezes more deeply and loses the ability to absorb snow melt. Flooding of low lying areas increases.
4. During rainy seasons, more rain hits the ground and further increases chances for widespread flooding.
5. In dry seasons, higher grounds become susceptible to drought and fire.
6. Year round - cold temperatures become colder and warm temperatures hotter; the wind blows unchecked.

Some think that the solution to the newly created wet areas is additional drainage. This may solve water problems in your backyard but at the expense of creating or increasing them in someone else's backyard. It also does not solve the ongoing loss of fertility as organic matter is consumed by crops, burned off by sunlight or washed away by sheet erosion. It may further increase the danger of drought in dry seasons.

Nevertheless, many farmers did just that, installed drain tiles. And the fields dried out. Then a developer bought the field and the soil was covered with roofed structures, asphalt streets, and concrete driveways, patios and sidewalks – none of which catches or absorbs water. More drains were installed; but at times, we still have too much water.

Could there be another solution to our water problems besides more drains? Here are the results of a few studies completed in the last decade which suggest one possibility. A study by the town of Sacramento, CA found a tree canopy prevents 36 % of the rain which hits it from reaching the ground. Eugene, OR discovered that acreage which is 58% covered by leafed trees will reduce peak storm drain flows by 25% compared to non-leaf conditions. Scientists at the Center for Ecology and Hydrology in Bangor, England compared pasture land to a neighboring pasture newly planted with trees. They found the 2-3 year old woodland to be 60 times more effective at absorbing water than the grazed land. We have "grazed land" in our neighborhood. It is not grazed by cattle, sheep, or goats; it is grazed by lawn mowers instead.

Neighbors, do you have a good spot or spots for a tree in your yard? If you must remove a tree, can you plant another to take over its job? Perhaps contact the city for a street tree.

By converting some of our lawns to tree canopy gardens, we can decrease the amount of water hitting our yards, increase the soil's water absorbing capacity, reduce incidents of standing water, moderate the wind's force, and reduce our lawn mowing expenses. Pruning of trees is needed much less frequently than mowing of grass. Chipped prunings provide great rough mulch for making new garden beds or to place on less visible portions of existing beds. The mulch will decay and add organic matter to the soil, thus providing - FREE FERTILIZER! Fallen leaves provide protective winter mulch for perennials and more free fertilizer for next year's growth. The presence of more trees will reduce the amount of water flowing into our county drain system, and this will be greatly appreciated by our downstream neighbors! Thus, trees and the canopy they provide are a natural alternative to drainage tiles for reducing water problems.

For those who are interested in learning more about historical landscape changes, I recommend two books available from the Allen County Public Library. The first, The Trout Pool Paradox: the American Lives of Three Rivers by George Black, traces the changes in three rivers in Connecticut during the mid 1800's thru the present time. Despite its title, it is filled with stories of colorful historical figures who engage the reader in events of humor, pathos, and intrigue and by this means draws them into the life of these rivers. The second, Changes in the Land: Indians, Colonists, and the Ecology of New England by William Cronon goes even farther back in history. This book traces the conflict between two economic systems and the land use and management protocols that grew out of them. It dispels the mistaken notion that the open, often park-like forest which Europeans found when they arrived on America's shore was the result of natural processes. Instead it shows from historical documents that the forest was deliberately managed by the Indians to keep that openness, which was better for hunting than overgrown thickets. Both books provide food for thought, suggesting that we can learn much from the mistakes of previous generations and pointing out that there is no pristine past to which we either can or should return.