Treating waste water in poplar and willow root zones

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Rhyzo waste water treatment concept is straight forward and understandable –"Each drop of waste water passes within an inch of a root before pipe discharge or percolation". „EWastewater" is a trademarked process that can be a practical and economical alternative to „conventional" water pollution control.

Ecolotree has worked specifically with poplar & willow trees to grow predictable rooted soil reactors to remove regulated contaminants as deep as 5 meters below ground surface. Effluent that now requires further treatment is filtered, pumped and irrigated into the root zone. By design, the effluent water flows through the root system where specific pollutants are adsorbed, entrained, mineralized or taken into the plant. Water then percolates to the ground water or reaches a drain line to a stream. Sufficient dwell time and soil chemistry are essential to remove nitrogen, phosphorous, pathogens, pharmaceuticals, metals, oils/greases, BOD, total dissolved solids (TDS), and total settleable solids (TSS).

These are the same processes that are used in conventional water treatment systems. One major exception is the plant-based treatment reactions that beneficially use the nutrients and water to grow biomass.

The EWastewater treatment concept is ready to be deployed on a large scale based on data from prototypes and full-scale systems. Reasons to expand the concept of rhizofiltration wastewater treatment:

1. Money –cheaper to build and operate if land is available with less tax requirement
2. Jobs - local, new „green collar" jobs
3. Carbon foot print – significantly less fossil carbon power requirement while fixing and sequestering biomass
4. Watershed-scale benefits – EWastewater is part of the new sustainable landscape that performs „utility functions" including ground water recharge, nutrient cycling, pollutant capture, habitat diversity, biomass production, and ambiance.
5. Technology –available irrigation, drainage and monitoring systems can control a predictable plant root reactor for year-round operation