Todd, John Innovative Ecological Designer (1939-) Encyclopedia Article

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Todd, John Innovative Ecological Designer (1939–)

John Todd is an internationally recognized biologist and pioneer in ecological design. He has been a practical activist in the ecology movement since 1969 when he cofounded the New Alchemy Institute in order to explore science and engineering based on ecological principles. Todd developed earth-based technologies to grow food, generate fuel, transform waste, and purify water.

Todd is best known for his wastewater treatment systems in which floating structures support plants whose roots grow in the wastewater, becoming home to a variety of introduced creatures, including bacteria, fungi, snails, insects, and fish. Underwater baffles direct water through the plant roots, and bubbled air increases oxygen and microbial activity. As the bacteria and other organisms feed off the waste and purify the water, they reproduce to form an efficient ecological living machine. Because they utilize natural processes, these systems require little energy to operate, minimize the use of chemicals, produce only small amounts of sludge, and cost less to install than traditional wastewater treatment plants. More than one hundred such systems are currently operating worldwide.

John Todd. (Courtesy of Ocean Arks International. Reproduced by permission.)

Todd is president of Ocean Arks International, a nonprofit organization that is dedicated to ecological research, education, and development. A professor at the University of Vermont, he has authored over two hundred articles on biology and earth stewardship. He is involved in developing a zero-emissions community food center in Burlington, Vermont, where wastes from food production are recycled as resources. Spent grain, for example, can be used to grow mushrooms. He has received a number of awards for his innovative wastewater treatment system, including the U.S. Environmental Protection Agency's Environmental Achievement Award in 1996.

Bibliography

Todd, Nancy Jack, and Todd, John. (1994). *From Eco-Cities to Living Machines: Principles of Ecological Design.* Berkeley, CA: North Atlantic Books.

Internet Resource

Ocean Arks Web site. Available from http://www.oceanarks.org.