

A Roadmap to the Dual Benefits of Poplar: A Bioenergy Crop and a Wastewater Management Tool

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Poplar is often used as a tool for managing wastewater. Across the Pacific Northwest, wastewater treatment plants have grown hybrid poplar irrigated with recycled water and applied biosolids for decades. As the poplars grow, they take up excess nutrients and toxins from the water and soil amendments, reducing the amount of processing and exported wastes at the water treatment facility while ensuring clean water enters nearby waterways.

The outreach component of the Advanced Hardwood Biofuels Northwest (AHB) project, led by Washington State University Extension, has identified municipal and industrial wastewater treatment facilities as key early-adopters of hybrid poplar bioenergy crops. By engaging with wastewater treatment facilities, AHB hopes to support the establishment of an initial supply of feedstock for developing biorefineries that may one day use the crop as a feedstock to create renewable biofuels and biochemicals. These stakeholders could achieve dual benefits of treating wastewater and biosolids while producing biomass for existing and developing biomass and wood product markets.

We will provide details on efforts to bring energy crops toward commercialization while achieving environmental benefits such as waste water management and phytoremediation. Through a national forum, we have partnered with others to develop a roadmap that outlines the challenges and opportunities in growing poplar for environmental benefits as well as to establish a renewable fuels industry.

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Biography

Dr. Townsend is a Regional Extension Specialist at Washington State University. Patricia leads her team in developing outreach materials and conducting research on the experience and needs of various stakeholders regarding biofuels. She works closely with wastewater professionals to find solutions and markets for growing poplar as a wastewater management tool. She completed her Ph. D at the University of Washington (UW) working closely with local landowners on tropical forest restoration and conservation in Costa Rica. While at UW, Patricia also worked on the environmental impacts of biofuel feedstocks. She has numerous publications related to her extension, energy, and environmental work. Currently, she is happy to be providing outreach to build a sustainable biofuel system in the Pacific Northwest.