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# Will the Foundation tree (Eastern Hemlock Trees) go extinct?

Bonsu M. Osei

*Eastern Connecticut State University, oseib@easternct.edu*

Garrett Dancik

*Eastern Connecticut State University, dancikg@easternct.edu*

Max Olsen

*Hartford Magnet Trinity College Academy, max.g.olsen@gmail.com*

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Title of presentation: "Will the Foundation tree (Eastern Hemlock Trees) go extinct?"

**Abstract:**

In this presentation, a mathematical model is proposed to explain the interaction between Eastern Hemlock Trees and the invasive species Hemlock Woolly Adelgid. The model dynamics show that the coexistence state is the most stable state; moreover the solutions exhibit traveling waves for a small parameter space. Sensitivity analysis suggests that the mortality rate of Eastern Hemlock Trees and the predation intensity of Hemlock Woolly Adelgid drive the dynamics of the interaction. Although Eastern Hemlock trees are foundation trees that provide shelter for several species, based on the model and sensitivity analysis, selective and strategic removal of these trees will help curtail their destruction.