Nearly 60 million acres of American forests are experiencing mortality rates far outside historical norms due to increased outbreaks of endemic and exotic pests. The number of insects, pests, and diseases being unleashed on forests threatens to overwhelm the system. Currently, responses to these 21st Century challenges are mostly limited to 19th and 20th Century technologies. The Forest Health Initiative aims to advance the science, regulatory, social understanding, and potential use of biotechnology to address forest health challenges.

Key desired outcomes include:
- A blight-resistant American chestnut tree in 3, not 30+ years, and a socially acceptable and legally achievable pathway to consider biotechnology as a tool for forest health issues.
- Sequence the American and Chinese chestnut trees
- Insert blight resistant genes from Chinese chestnut into American chestnut
- Develop early disease screening (Year 1) as opposed to current plant/wait (4-6 years)

Outcomes:
- Identified 30 Chinese chestnut genes for blight resistance, and integrated into American trees;
- Increased chestnut productivity 12-fold from 2 candidate genes per year to 24 at full scale;
- Developed a screening assay to detect resistance in weeks vs. 4-6 yrs by the current method;
- Sharpened messages for presentations to broad audiences and stakeholder groups; and
- Developing a regulatory road map for use as a part of a larger Rapid Response scenario.

The Forest Health Initiative website -- http://foresthealthinitiative.org/index.html -- contains a complete library of work and results. The program is now entering its second phase -- field testing, public messaging, and regulatory engagement.