



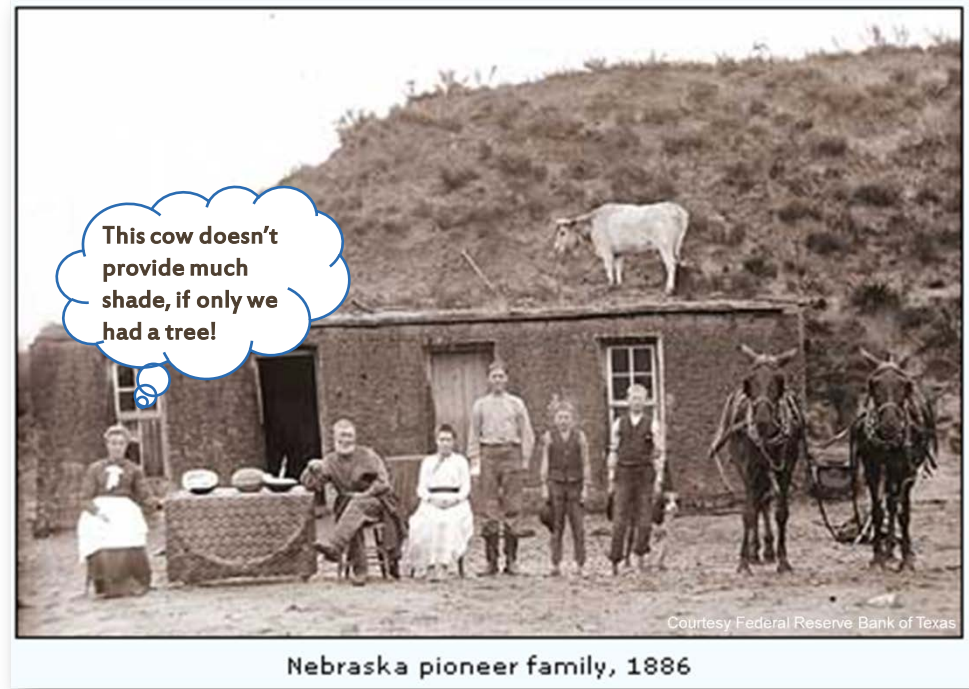
Our Future Urban Tree Canopy

Susan D. Day, Ph.D., Virginia Tech



Why tree canopy?

- It's beautiful
- It's comfortable and shady
- It makes me feel good

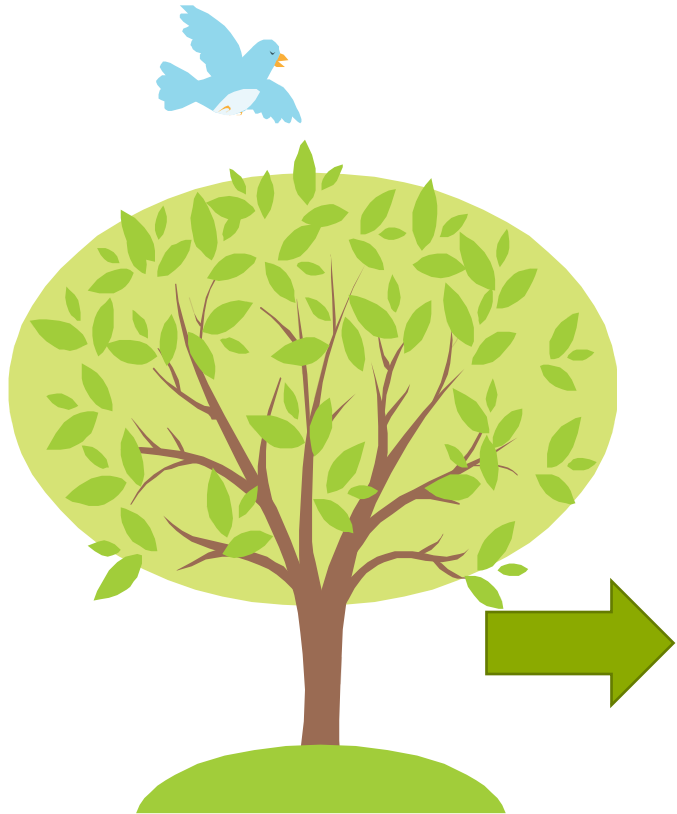




Why Tree Canopy?—Take Two

- It's beautiful = it increases real estate values and thus tax base; it attracts citizens and businesses to your city.
- It's comfortable and shady = it lowers building energy use; it lowers temperatures potentially limiting ground-level ozone formation; it encourages people to go outdoors, reducing crime and healthcare costs.
- It makes me feel good = it encourages social interaction; increases productivity; lowers stress; reduces healthcare costs.
- Plus many more.....stormwater mitigation, etc.

Quantify, quantify, quantify

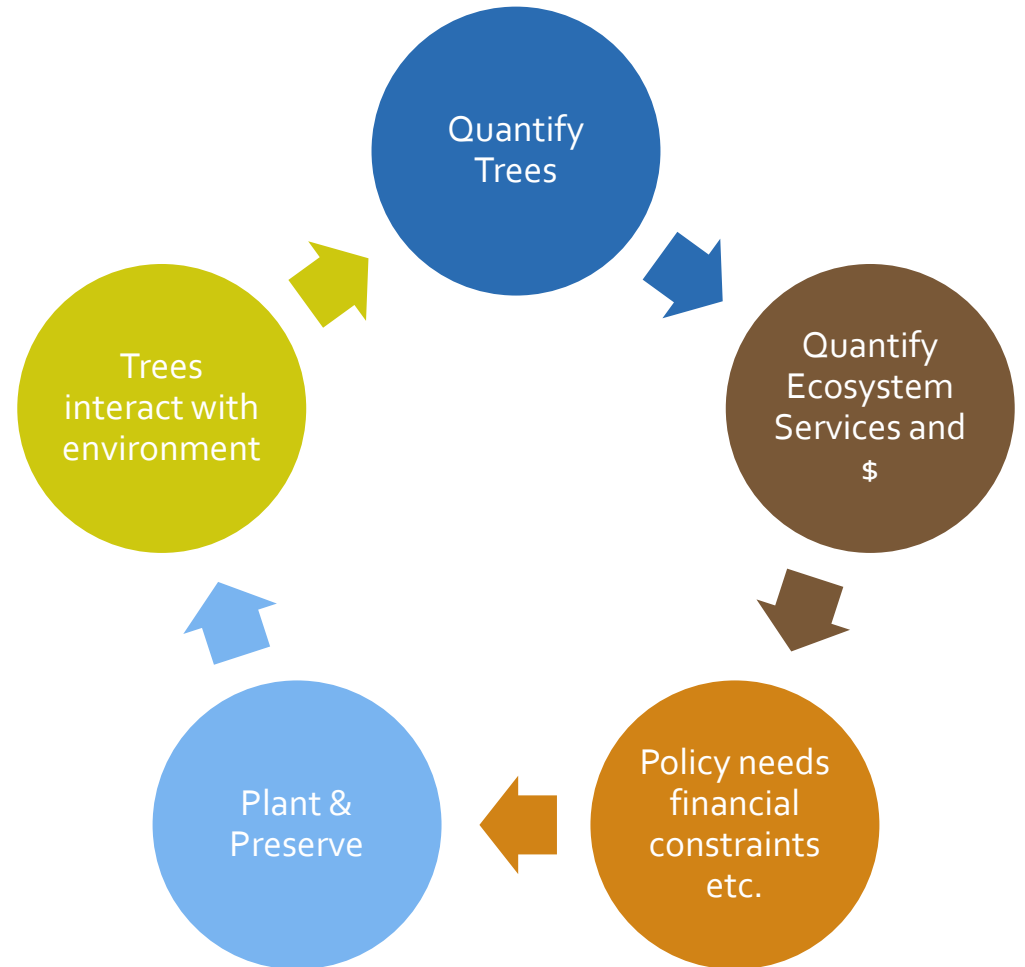


Ecosystem
Services



We need to quantify ecosystem services

- Complicated policy environment
- Limited funds
- Multiple Planning goals



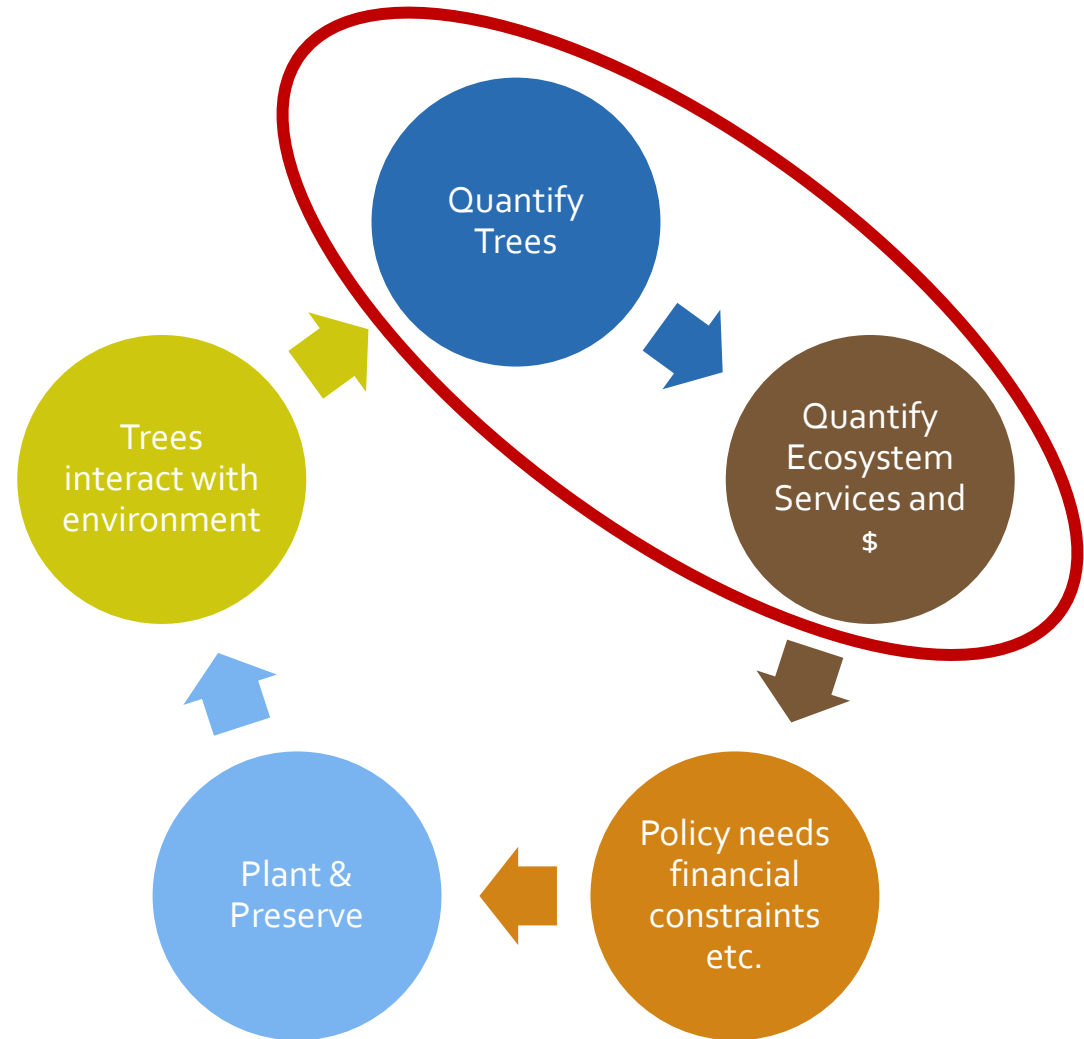


Even if trees were widgets, this would be a tough job

Ecosystem services vary by environment X species interactions.

Tree canopy outcome varies by environment X species interactions.

We have made huge progress in the last 25 years





The next horizon for UTC

GIS, modelling, decision-making tools



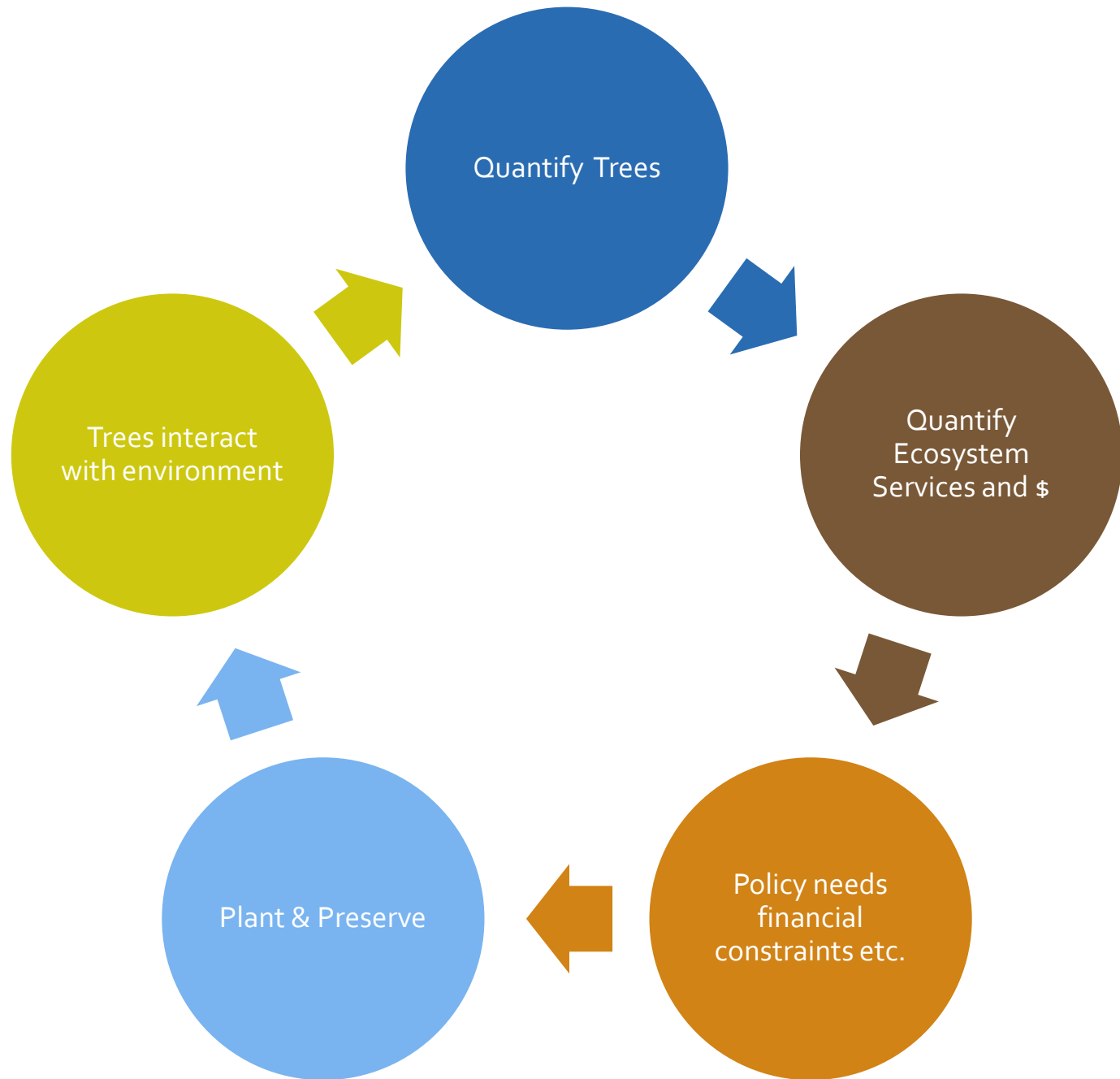
Photo: E. Wiseman

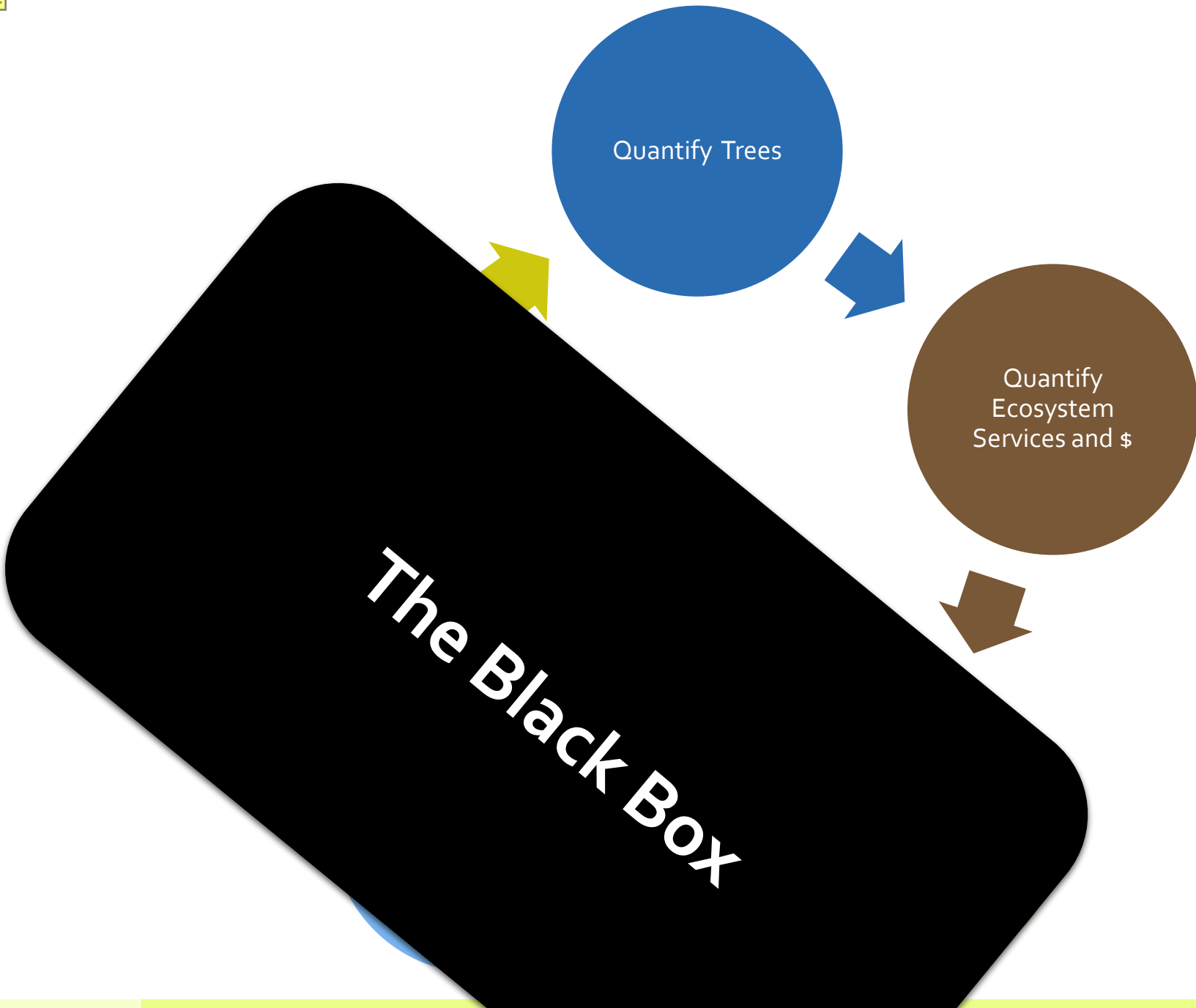
These will help
us make sense of
it all.
But wait....



We need data

- Effects of site, species, neighborhood, maintenance, source, etc. on survival and growth
- Policy feedbacks and their effects on the environment
- Mortality and longevity
- Management and storm damage... more policy feedbacks
- Add your own...





The Black Box

Quantify Trees

Quantify
Ecosystem
Services and \$



Our collective task: Chip away at the black box