

Considering Biomass

A View from the Southern US



ENVIRONMENTAL DEFENSE

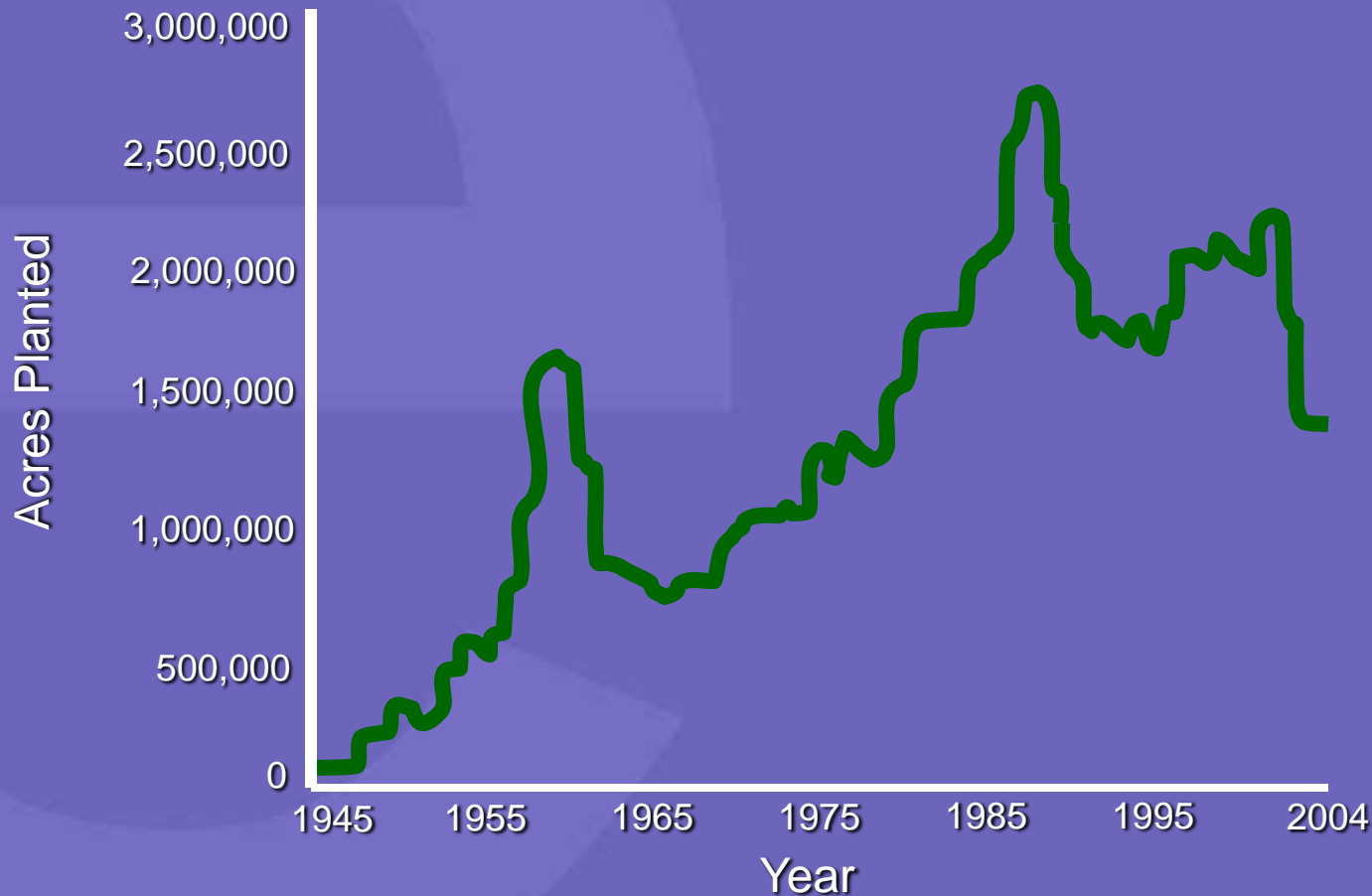
finding the ways that work

Southern Forests Today



Wood Biomass: Opportunities and Challenges

Tree Planting Rates in Southern US



Source: Jeff Prestemon, USDA Forest Service

Wood Biomass: Opportunities and Challenges

Southern Forests of the Future

- Georgia Gov. Purdue: “Georgia can be the biofuels Saudi Arabia of the South.”
- US Rep Ethridge: “NC could literally become the Saudi Arabia of biofuels.”



Consideration #1: Learn from the Past



Consideration #2: Potential Ecological Impacts

- Soil Nutrients (McComb and Lindenmayer, 1999)
- Formation of Organic Soils (Fuhrman, 2004)
- Water Quality (Hagan and Grove, 1999)
- Wildlife Habitat
 - Birds (Lohr et al, 2002)
 - Mammals (Loeb, 1999; Mengak et al, 2003)

Impact Depends on Scale

- Chip Mill: 1000 acres per 100,000 tons of capacity. Most mills have 250,000 to 400,000 tons capacity.
- Bio-electricity plant: May require 600 acres of cleaner clearcuts per 1 MW of electricity generation. If clear pulpwood, 233 acres.
- Bio-fuel plant: ~660 acres of cleaner clearcuts per 1M gallons. 50M gal = 12,500 to 33,000 acres annually
- OSB plant: ??

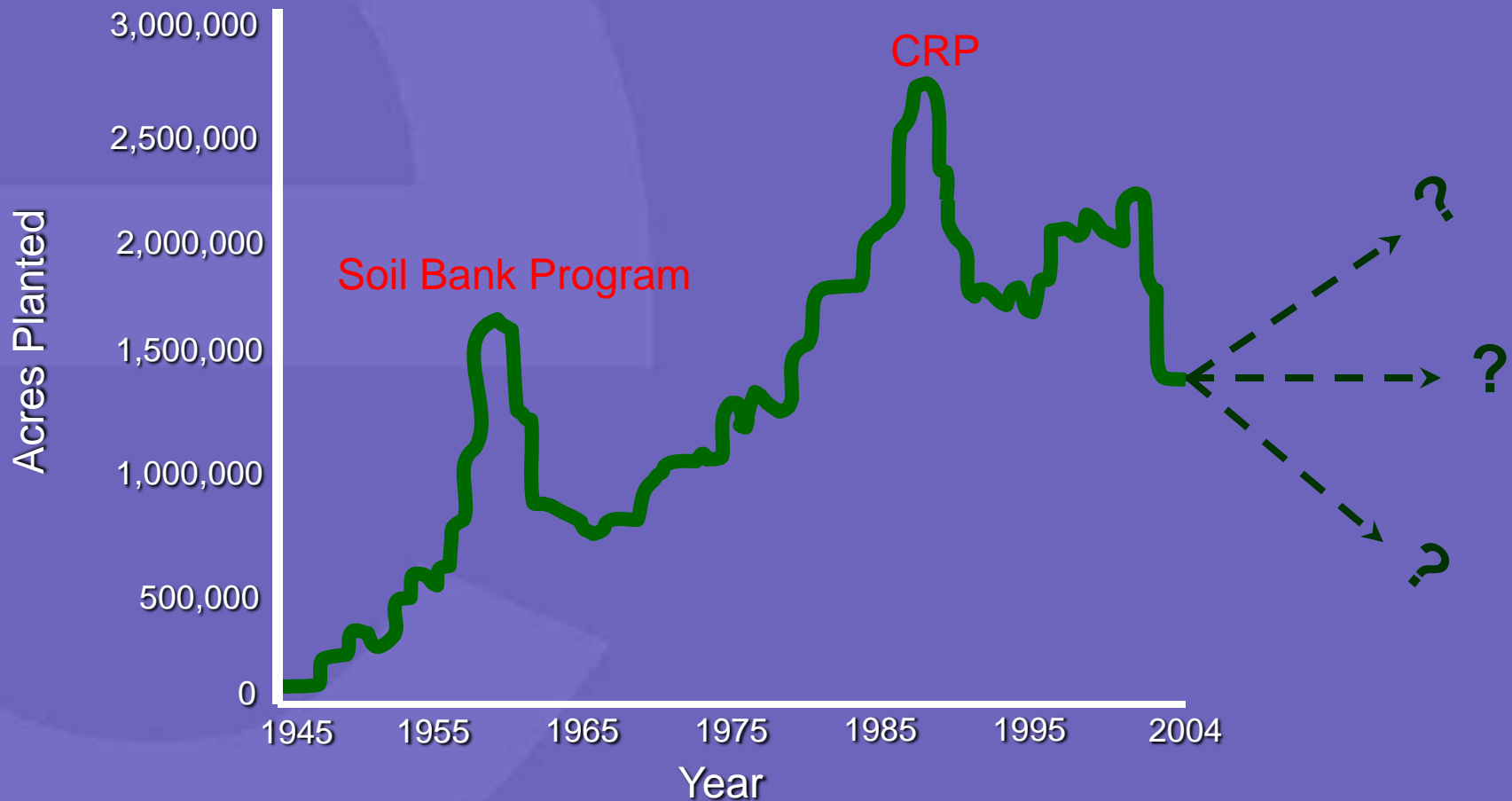
Consideration #3: Lack of Policy Framework

- No Statewide Forest Practice Acts
- Most states have voluntary BMPs
- Few mechanisms to track potential impacts
- Will certification programs take hold?

Consideration #4: Role of Public Incentives

- Farm Bill
- Energy Bill
- Tax credits
- Renewable Portfolio Standards (RPS)
- State and local incentives

Tree Planting Rates in Southern US



Source: Jeff Prestemon, USDA Forest Service

Wood Biomass: Opportunities and Challenges

Many Remaining Questions

- Which forests will provide biomass?
- What other markets will remain or emerge for small diameter wood?
- Will landowners be rewarded?
- Role of GMO trees?
- Water Supply concerns
- Controlling Air and Water emissions
- Type of Harvests: clearcuts, thinnings, other?