

# The Economic Impacts of Invasive Species

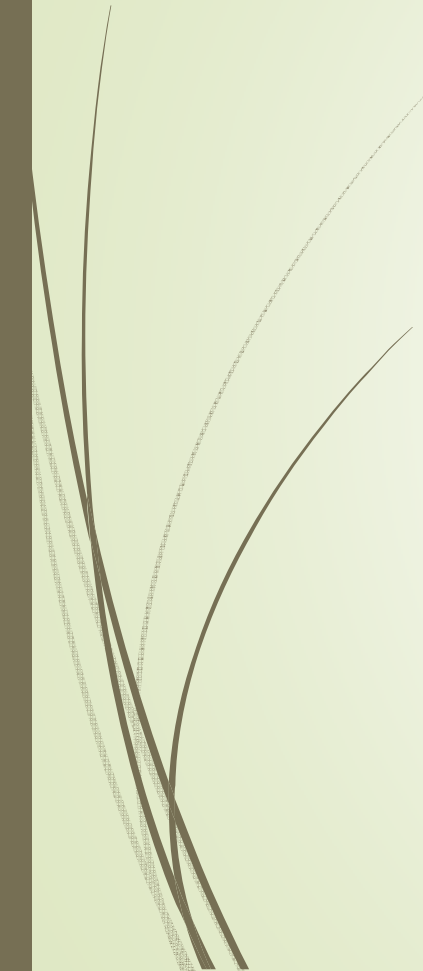
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# What we know

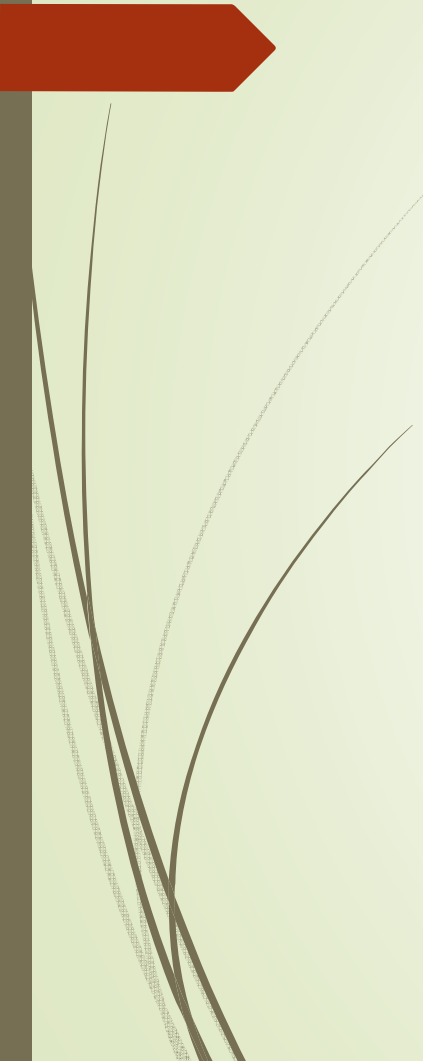
(or think we know)

- According to the GSARP website, negative effects of non-native species were estimated at 97 billion in 1991
  - A more recent estimate (2005) puts the annual effects at 120 billion (Pimentel, Zuniga, and Morrison)
  - These estimates include direct loss and cost of control
- 



## The problems with what we know:

- Where do these estimates come from?
- These estimates are for direct costs; what indirect costs are there?
- There are important distinctions between loss and control costs.
- One of the greatest potential costs of invasive species is potential extinction of native species. What is the cost here?
- These costs are only estimated after they occur.



A project estimating the potential impacts  
of the Red-Streaked Leafhopper on  
sugarcane

# The Red-Streaked Leafhopper



Zahniser et. al, 2010

## Healthy Sugarcane

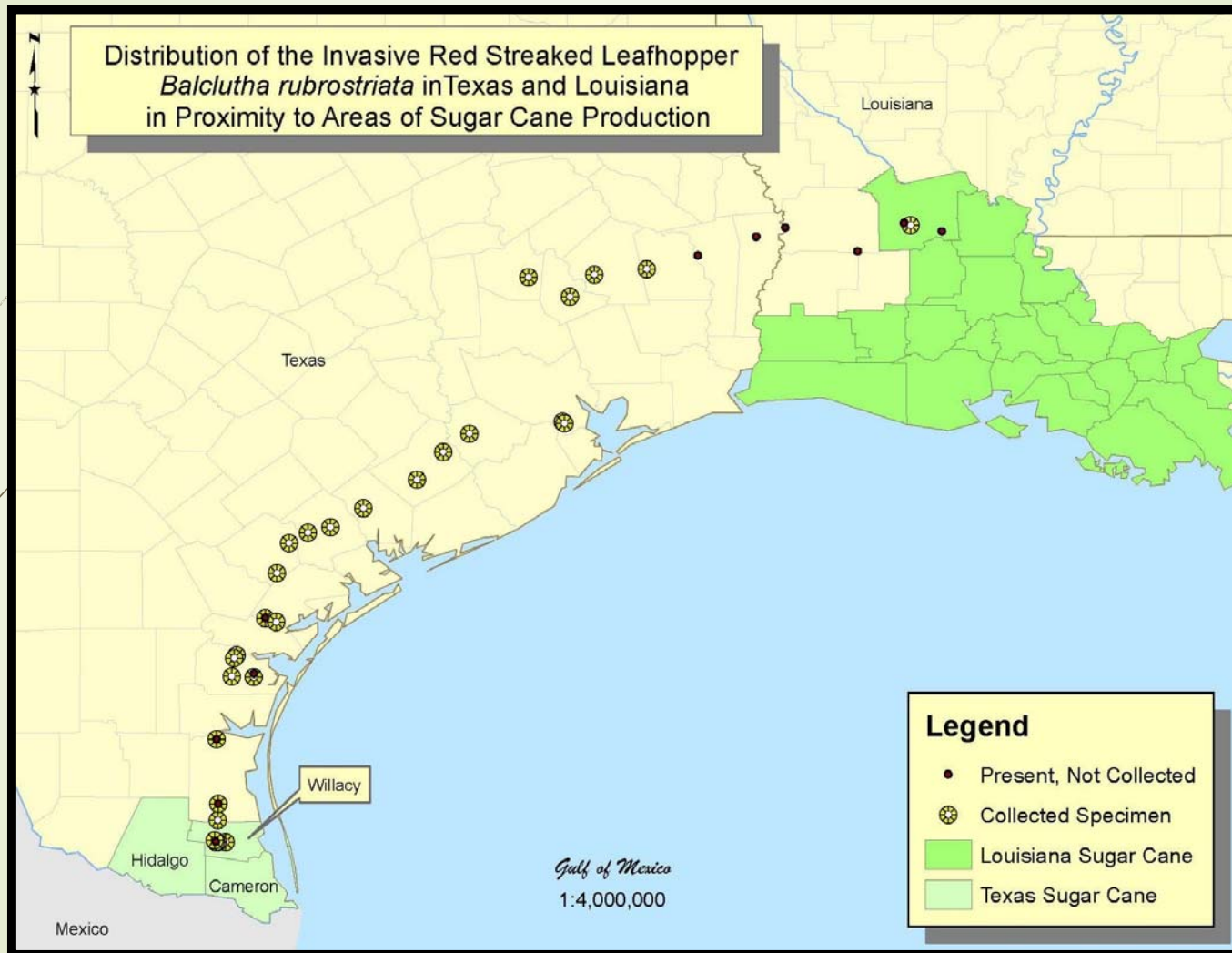


Sugarcane  
infected by the  
white leaf  
phytoplasma

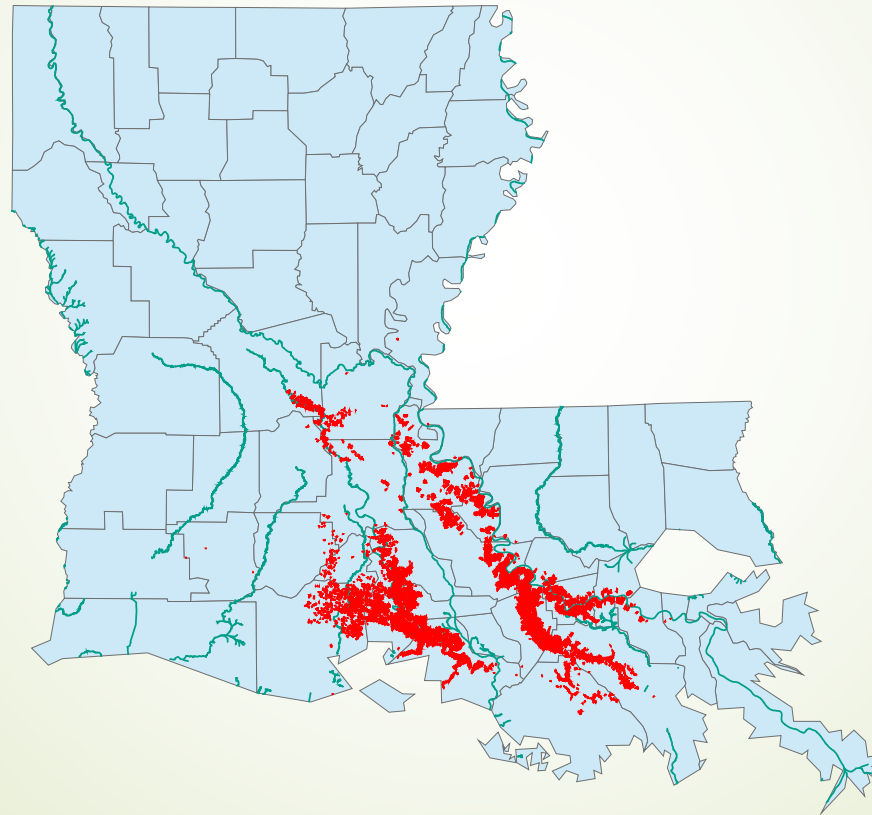




Distribution of the Invasive Red Streaked Leafhopper  
*Balclutha rubrostriata* in Texas and Louisiana  
in Proximity to Areas of Sugar Cane Production



# Satellite imagery of sugarcane in Louisiana



Approximately 400,000  
acres of sugarcane

Generating a direct  
impact of about  
\$975,000,000

Or, approximately \$2450  
an acre





## What can an economist add to a discussion on invasive species?

- Provide predictions of effects rather than estimates of actual loss.
- Provide estimates of secondary and tertiary impacts.
- Model a dynamic cost/benefit relationship.
- Provide documentation that is trusted by funding bodies.



## What does an economist need?

- ▀ Data on where the invasive species is.
- ▀ Data on how the species spreads.
- ▀ Estimate of the potential unit impacts
- ▀ Software



Thank you

Questions?

