Mexican Rice Borer Trap Monitoring & Survey Program Update

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&

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Louisiana Department of Agriculture & Forestry

Purpose & Goals

Regulatory monitoring for introduction from Texas

Buy time for research and development of resistant cane

Allow development of BMPs

Ancient Past *1999 - 2007*

12 – 42 traps annually

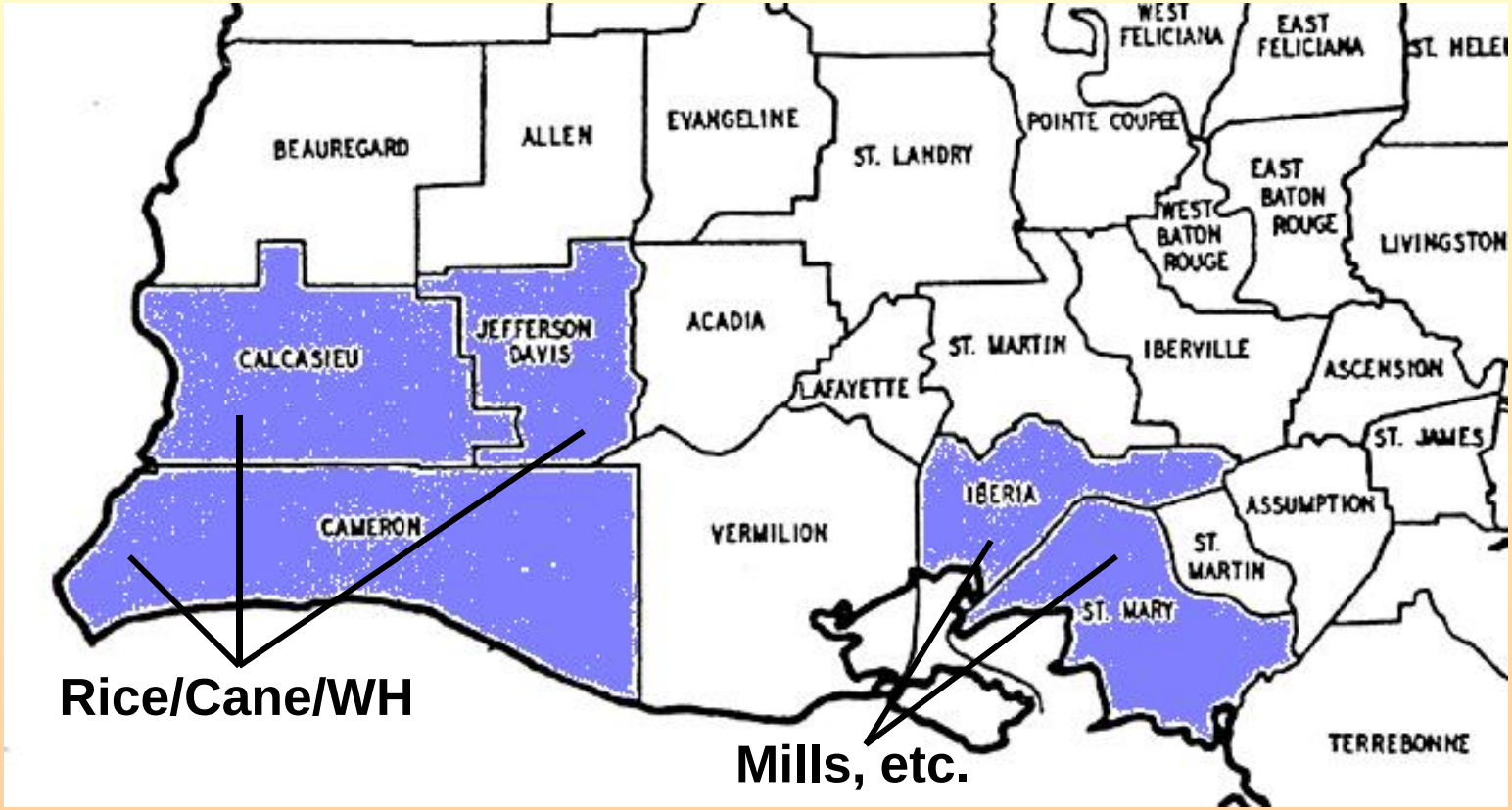
Summer / Fall into December

Near rice, cane & wild hosts

At mills & off-loading sites

Ancient Past

1999 - 2007



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Recent Past *2008 - 2010*

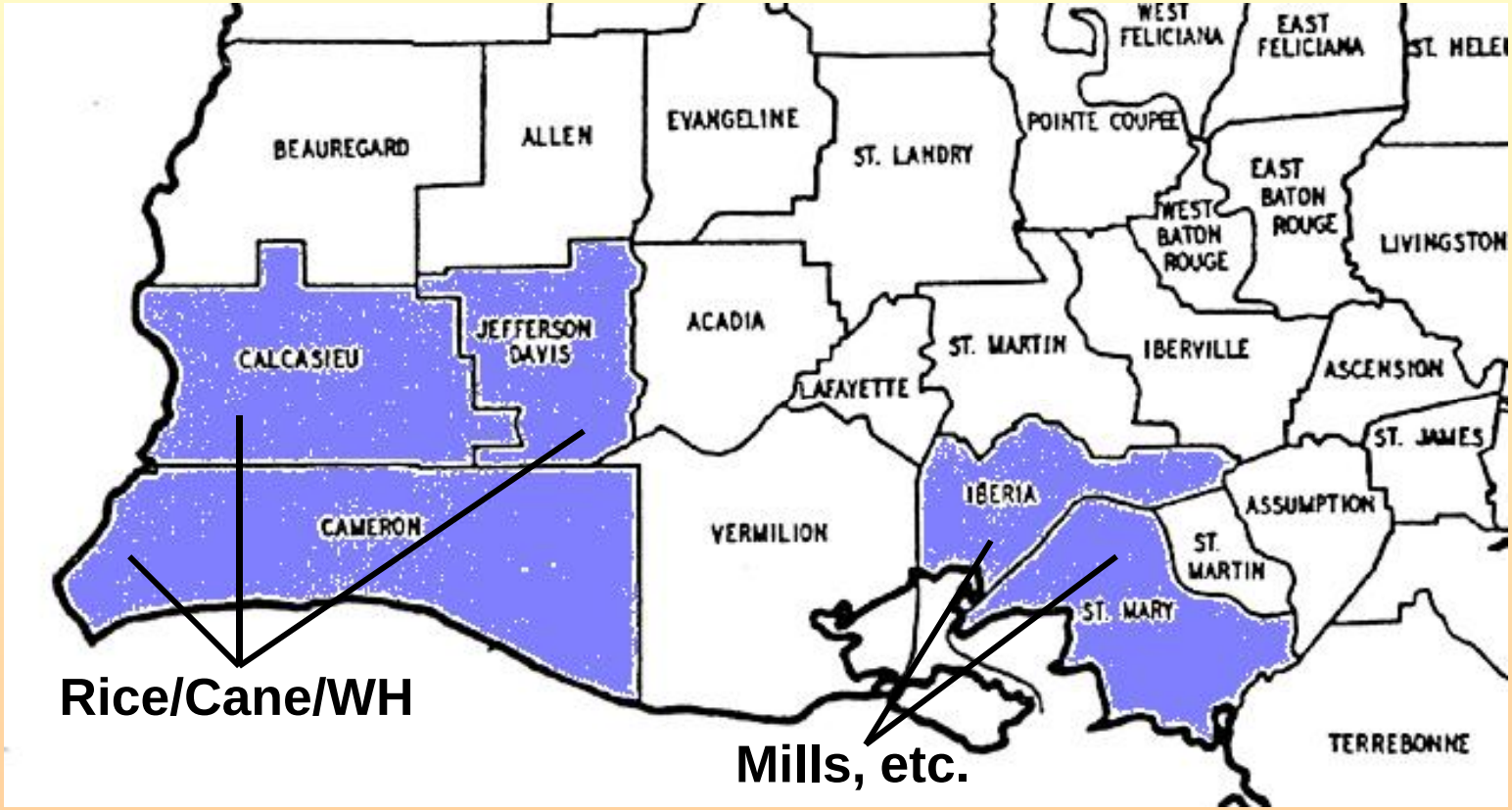
~40 – 70 traps annually

Late Spring into December

Near rice, cane & wild hosts

At mills & off-loading sites

Recent Past 2007 - 2010



Recent Past *2007 - 2010*

Strategic Improvements:

Increased trap numbers

Earlier deployments

Trap line (N to S) integration

Early & late wild host focus

2011 Season

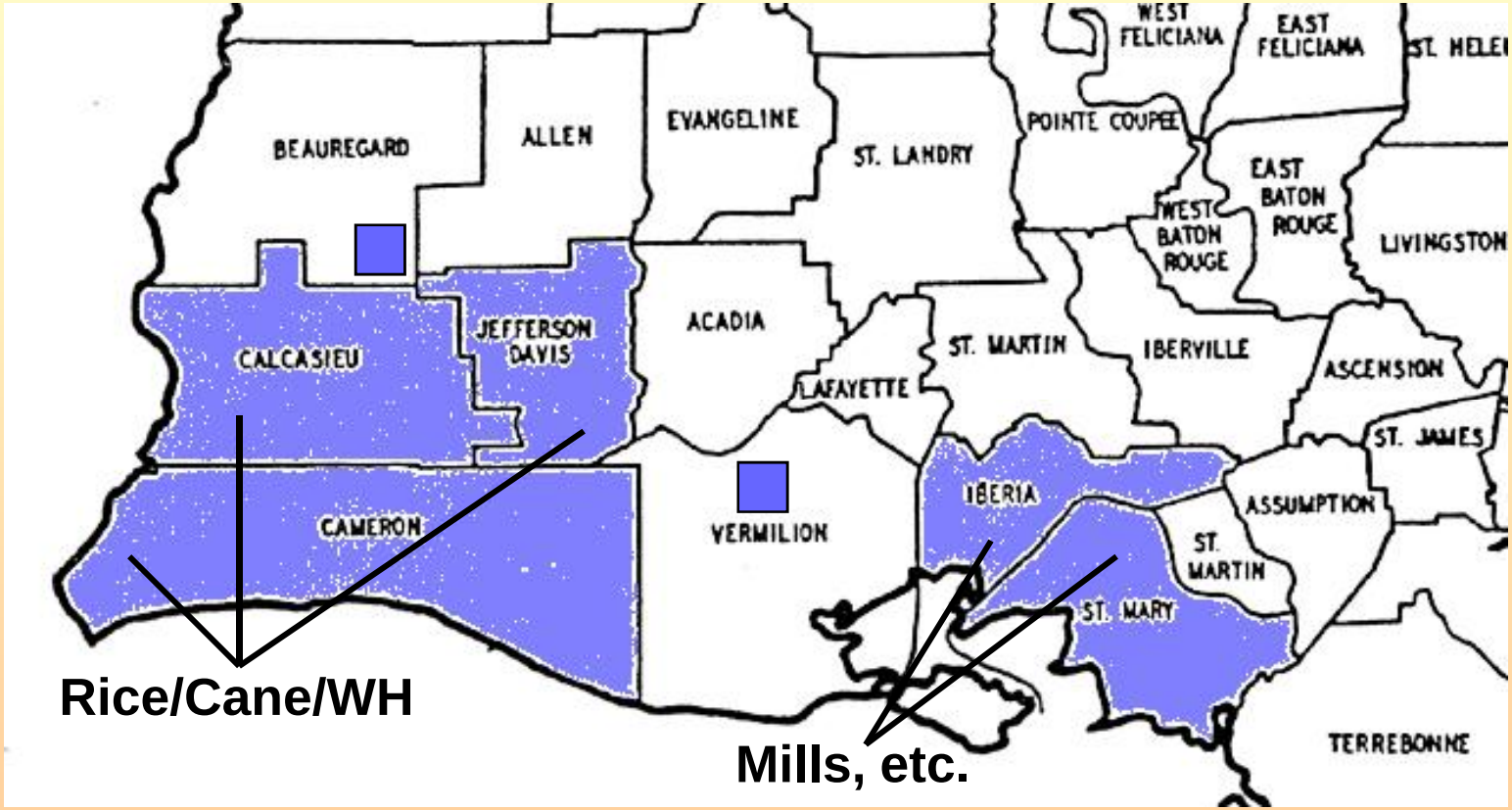
~40 – 60 traps average

~ Year-round deployment

Near rice, cane & wild hosts

At mills & off-loading sites

2011 Season


BEAUREGARD
ALLEN
EVANGELINE
ST. LANDRY
POINTE COUPEE
WEST FELICIANA
EAST FELICIANA
ST. HELE
EAST BATON ROUGE
WEST BATON ROUGE
LIVINGSTON
CALCASIEU
JEFFERSON DAVIS
ACADIA
LAFAYETTE
ST. MARTIN
IBERVILLE
ASCENSION
ST. JAMES
CAMERON
VERMILION
IBERIA
ASSUMPTION
ST. MARTIN
ST. MARY
TERREBONNE
Rice/Cane/WH
Mills, etc.

2011 Season

Strategic Improvements:

~ Year-round deployment

Moved traps in response to finds

Expanded into more parishes

Physical crop survey (LSU)

2011 Season Current Stats

MRB Finds

Year	+ Parishes	# + Sites	# MRB
<2007	None	0	0
2008	Calcasieu	2	2
2009	None	0	0
2010	Calcasieu	1	7

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2011 Season Current Stats

MRB Finds 2011

Parishes	# Sites	# + Sites	# MRB
Calcasieu	34	26	212
Cameron	14	11	27
Beauregard	2	1	3
Vermilion	1	0	0
Jeff Davis	12	2	10

As of mid-November, 2011

2011 Season Current Stats

MRB Finds 2011

Month	# MRB
March	36
April	59
May	36
June	57
July	19
August	32
September	35
October	9
November	4 (removed traps)

2012 Season *Plans*

- Making plans for 2012 trapping now
- Bulk will be in Jeff Davis in a N-S line
- Possibly add more in Vermilion
- Might also have some in southwest Allen Parish

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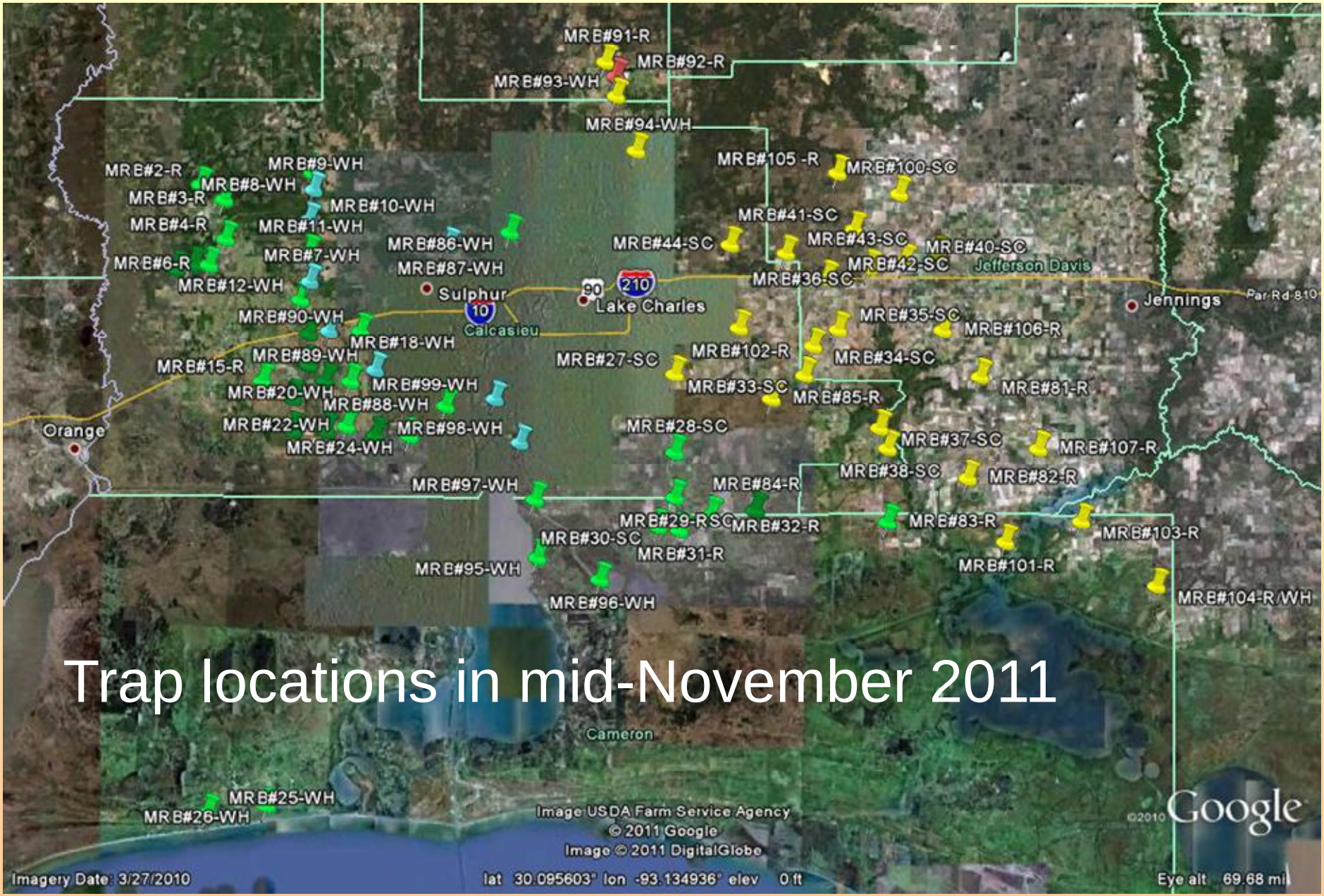


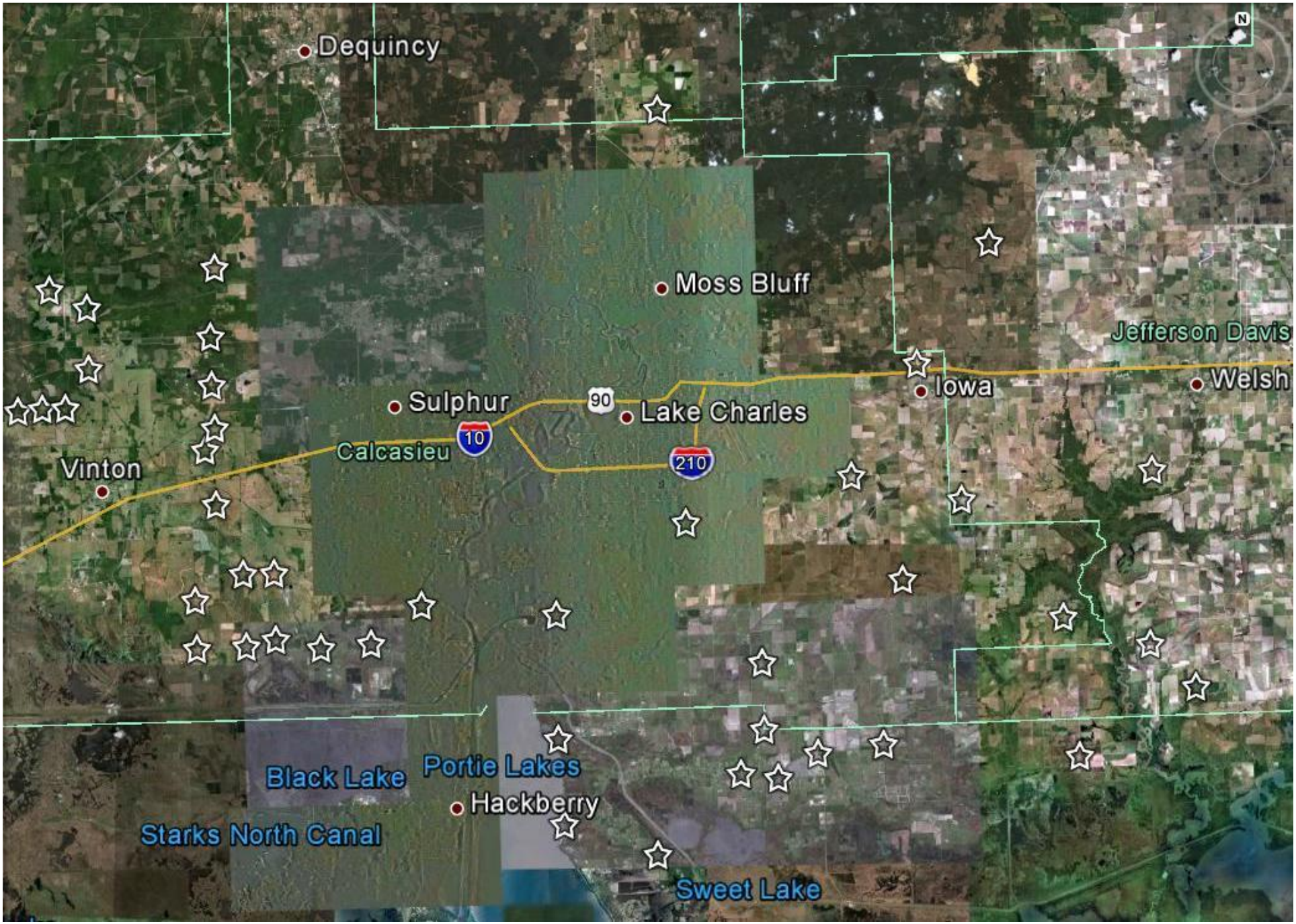
Trap locations in mid-November 2011

+ removed

- removed

+ deployed

- deployed


Dequincy
Moss Bluff
Jefferson Davis
Iowa
Welsh
Sulphur
90
Lake Charles
10
Calcasieu
210
Vinton
Black Lake
Portie Lakes
Hackberry
Starks North Canal
Sweet Lake

The MRB is in Louisiana
what should you do now?

- Learn to identify the pest
- Support the pheromone trap program
- Learn to scout for visual signs of MRB
- Use a multi-tactic management strategy
  - Cultivar selection
  - Weed management
  - Aggressive scouting
  - Insecticide control
  - Stubble management

MRB identification card

Mexican Rice Borer *Eoreuma loftini* (Dyar)

The Mexican rice borer is a devastating pest of sugarcane and a serious pest of rice. It was first collected in Louisiana in two pheromone traps on Dec. 15, 2008, near two rice fields northwest of Vinton, La.

1. Identification — Mexican rice borer adults are light tan moths with delta-shaped wings (Fig. 1A). By comparison, sugarcane borer adults are larger, straw-colored moths about 3/4-inch long with a series of black dots arranged in an inverted V-shape pattern on the front wings (Fig. 1B). Mexican rice borer adults produce spherical, globular, cream-colored eggs hidden between the folds of dried leaves. After hatching, young larvae feed inside fresh leaf sheaths and then bore into the stem or stalk. This feeding causes an orange discoloration of the leaf sheath.

Fig. 1A) Mexican rice borer adult; Fig. 1B) Sugarcane borer adult. (F. Reay-Jones and T. Riley)

Mexican rice borer larvae are whitish with a light-colored head capsule and two pair of dark purple stripes running the length of the body (Fig. 2A). By comparison, sugarcane borer larvae are yellowish or white with a series of brown spots on the back (Fig 2B). As they bore into the stem or stalk, Mexican rice borer larvae pack tunnels with frass, which prevents the entry of predators or parasites (Fig. 3). Pupation takes place inside the stem or stalk after mature larvae have made moth emergence holes that are smaller than those made by the sugarcane borers in sugarcane.

Fig. 2A) Mexican rice borer larva; Fig. 2B) Sugarcane borer larva. (A. Meszaros and J. Saichuk)

2. Injury to rice & sugarcane — ***Rice injury*** begins with feeding in leaf sheaths. Borers then tunnel inside the stem. Signs of early injury in rice are withering and death of the youngest leaf, resulting in a condition called deadheart (Fig. 4A). Most infestations are not obvious until after the boot stage. Stem feeding during panicle development causes partial or complete sterility and the white-head condition (Fig. 4B). The white, empty panicles are lightweight and stand upright. Feeding inside the stem can also cause plants to lodge before harvest.

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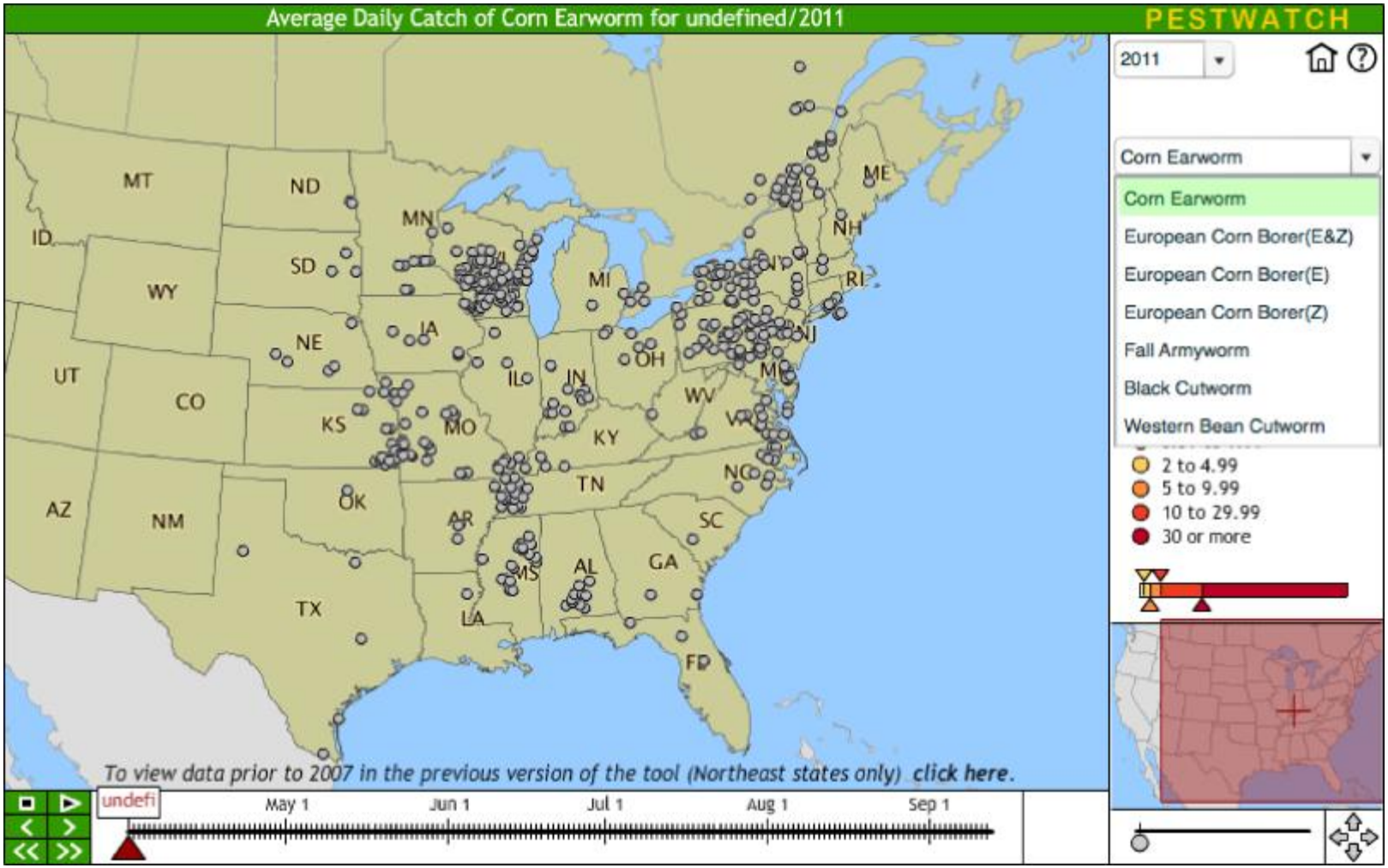
Partnership with Pennsylvania State University



Discussion

- Where should we backfill traps?
- Anticipated hurdles to using electronic system
- Water-seeded label for Dermacor X-100 in rice