

# Management of Subterranean Termite Populations Made Possible with Advances in Technology: A case Study

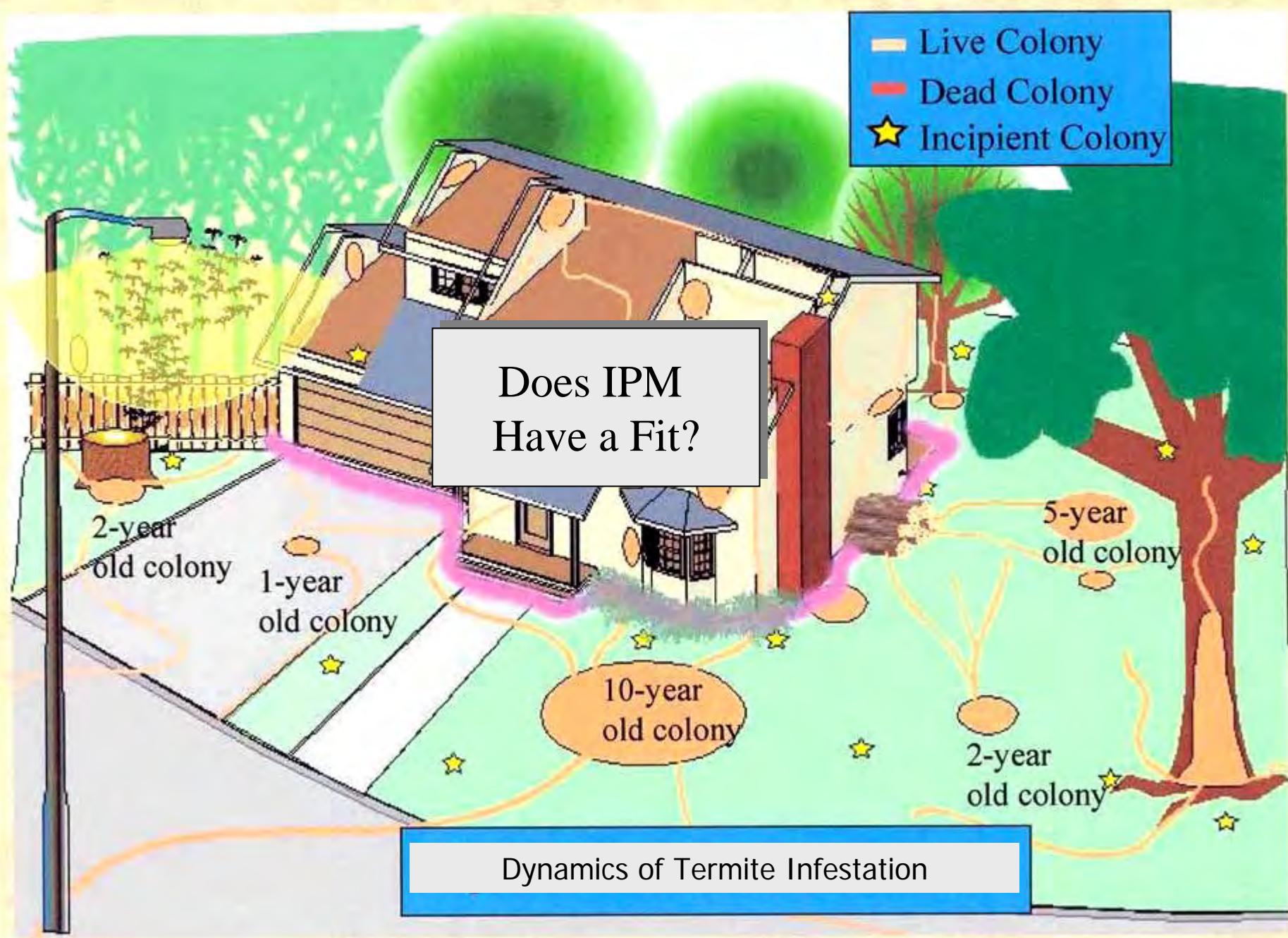
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USDA-ARS

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# *Coptotermes formosanus*, the Formosan Subterranean Termite



- Multiple introductions during and after WWII
- Crates for shipping were infested and used in construction or buried
- Sandalwood trade may account for Hawaii infestation

# A Billion Dollar Problem

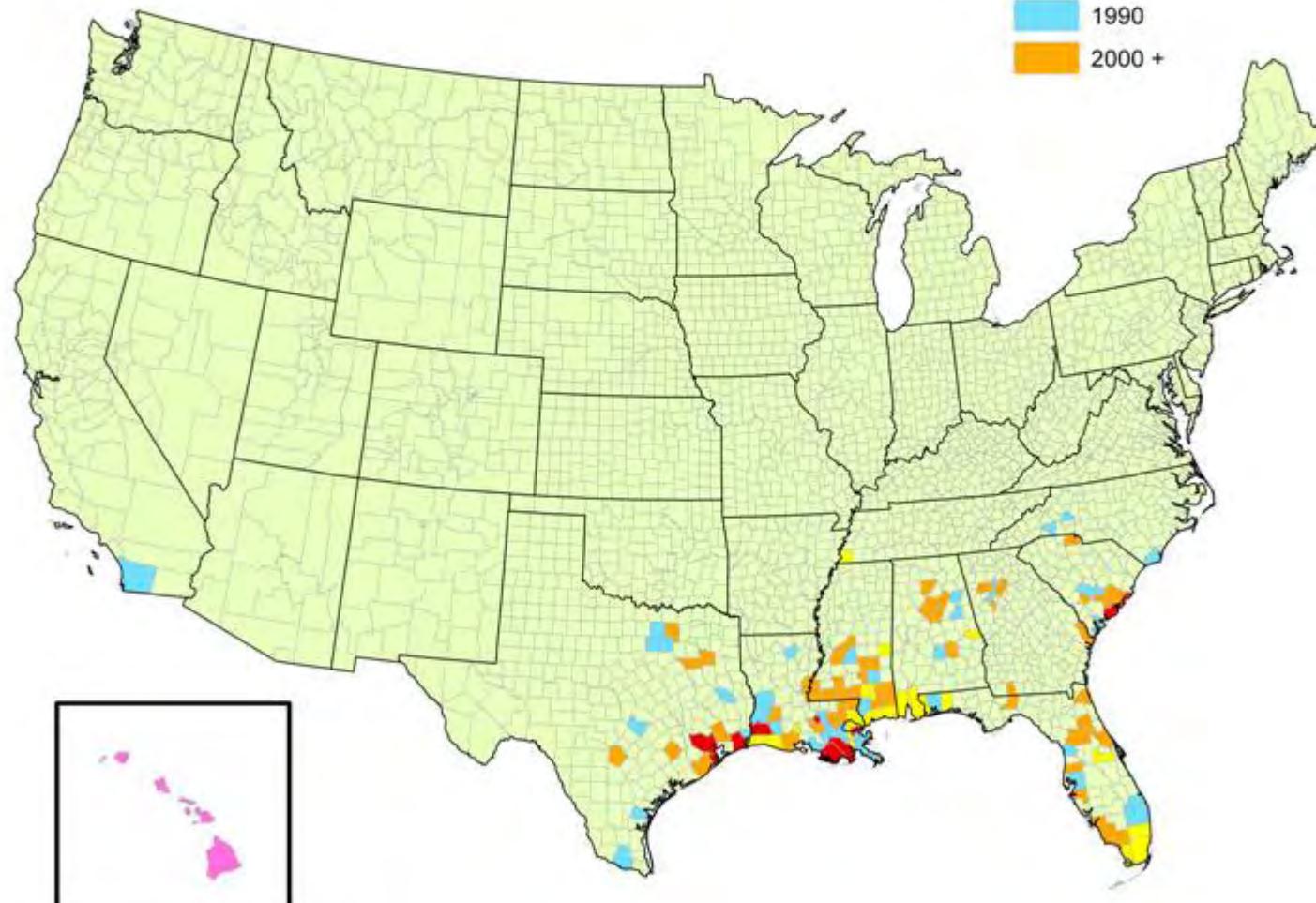


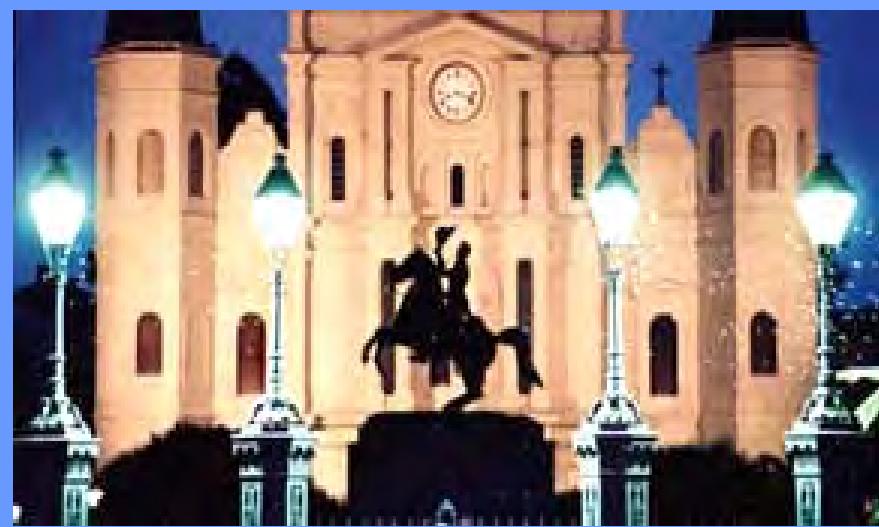
- Costs include treatment, repairs, loss of trees, depressed property values.
- Eleven states infested.
- Populations increase naturally at points of original introduction and spread to neighboring communities.
- Spread to other urban centers and into rural areas is by commercial and private enterprises.

# FST DISTRIBUTION

DECade First Detected

- 1900
- 1960
- 1980
- 1990
- 2000 +







# The New Orleans French Quarter Project

- **LSU Agricultural Center**
- **New Orleans Mosquito and Termite Control Board**
- **USDA-Southern Regional Research Center**
- **Pest Management Professionals**
- **Property Owners/Tenants**

# Area-wide Management Strategy

- **Inspect & treat all properties (public & private) in a defined area. Presently, includes three French Quarter neighborhoods & the levee.**
- **Property owners required to cooperate with program managers, e.g. Remove conducive conditions, allow inspections. Select licensed PMP. State-approved contract.**
- **PMP's must apply termiticides in compliance with federal & state laws.**
- **Use only non-repellent termiticides or baits.**
- **USDA-ARS & partners to provide project oversight & evaluation of progress.**
- **Estimate changes in FST density with in-ground monitors and alate traps. Inspections.**

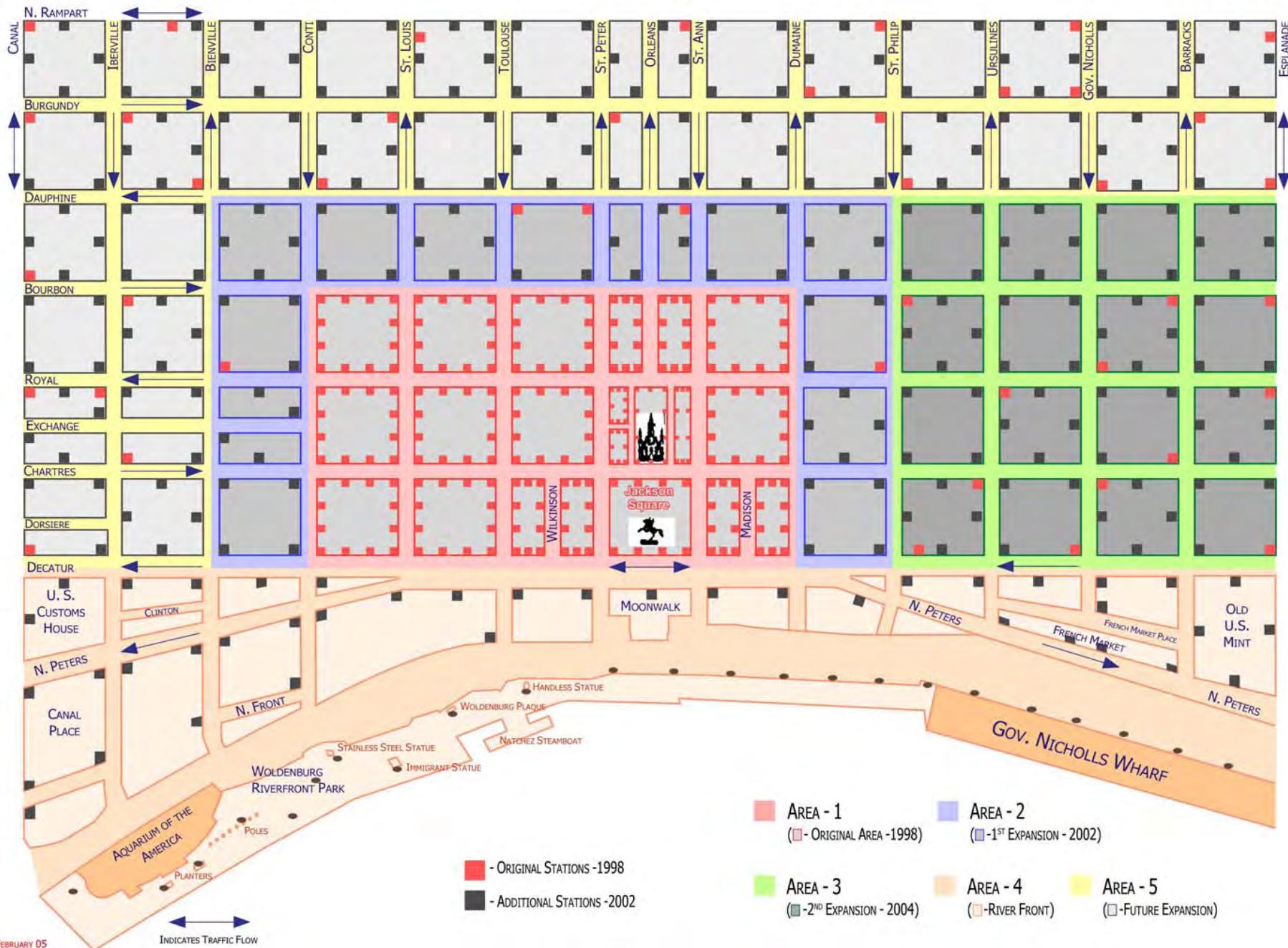


Ed Frytag, NOMTCB

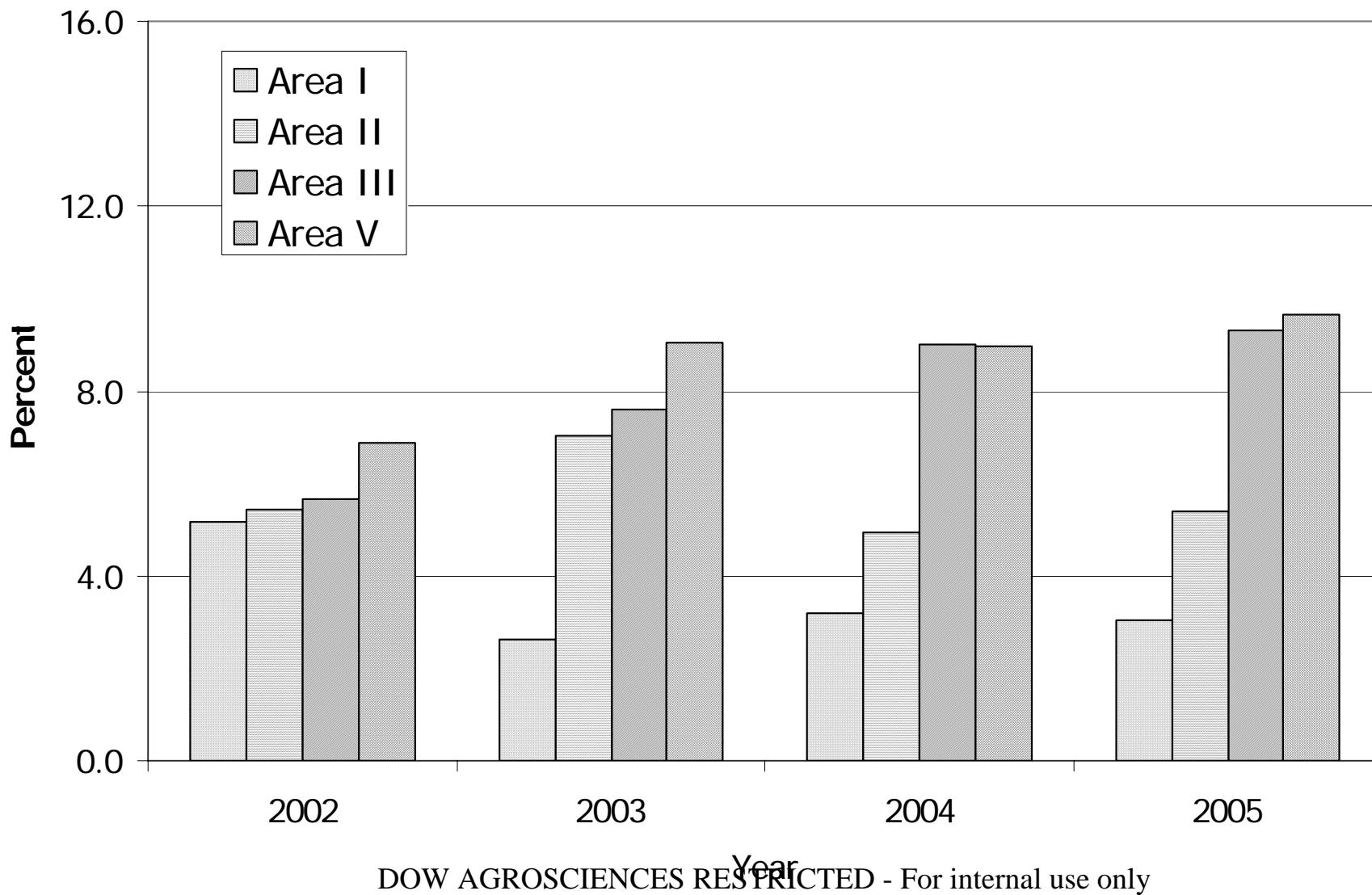


INGROUND LOCATION  
2005

# FRENCH QUARTER

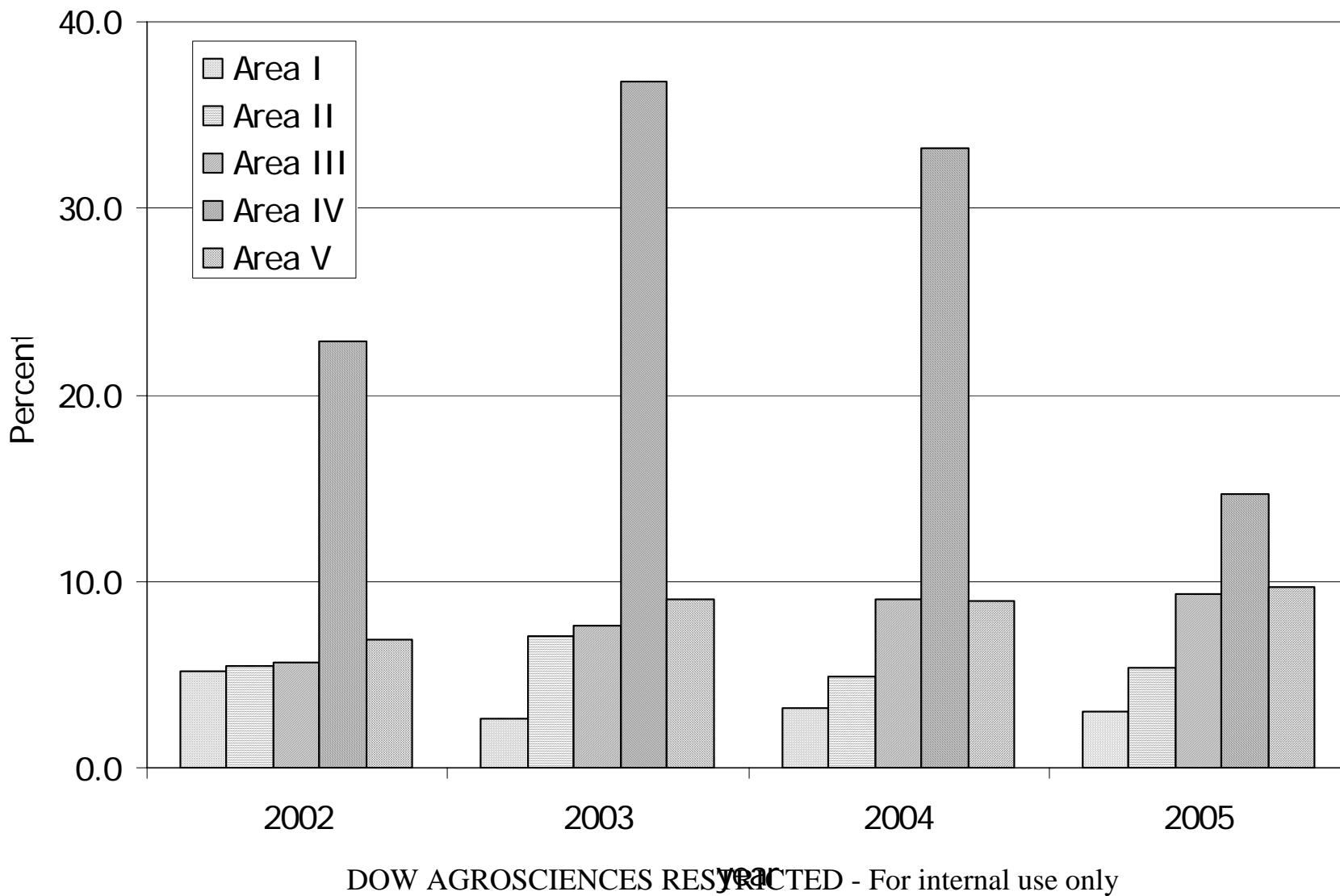


## Active In-Ground Stations in The New Orleans French Quarter



# Active In-ground Stations in the New Orleans French Quarter

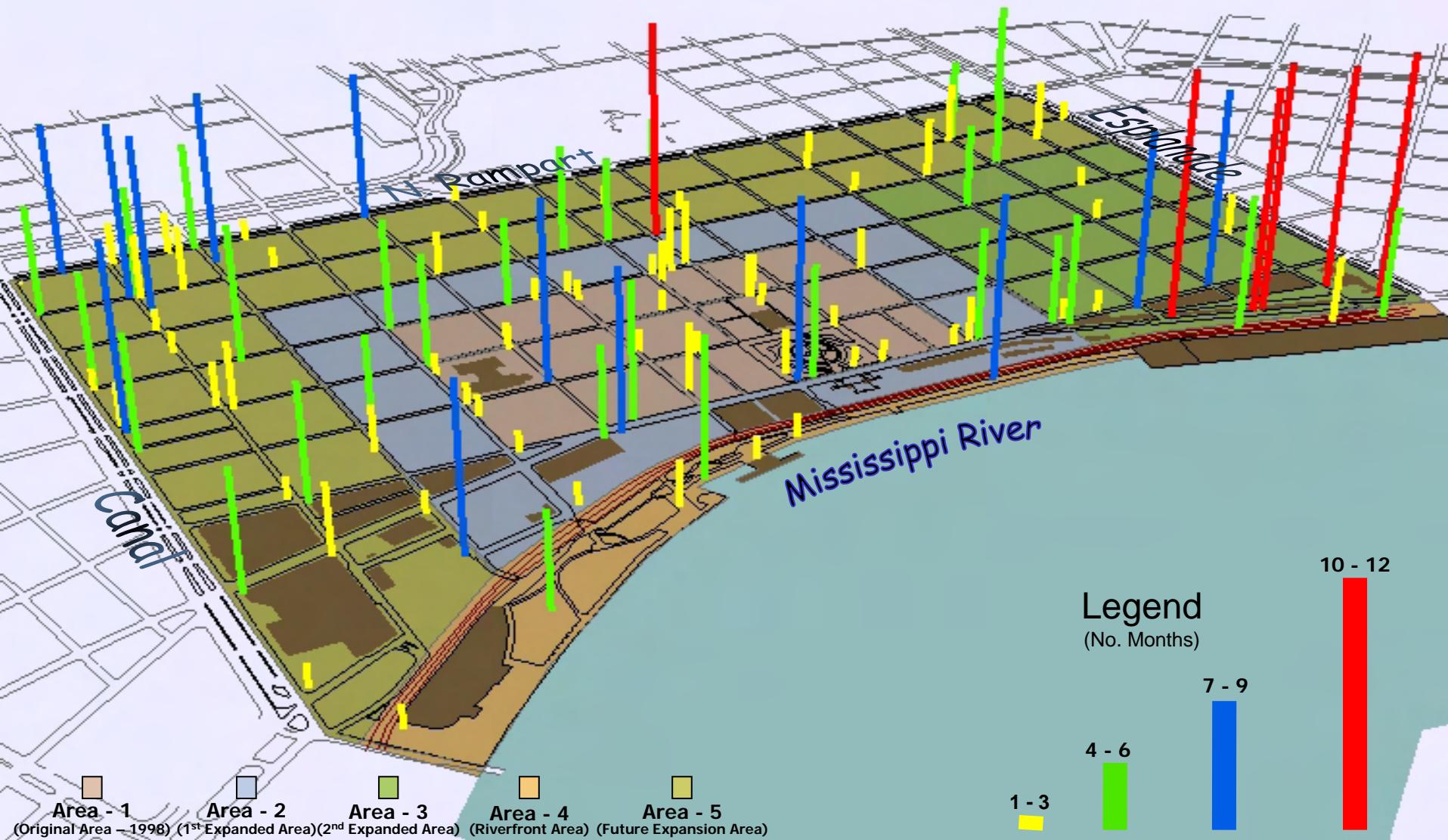
Includes Levee (Area IV)



# Formosan Subterranean Termites

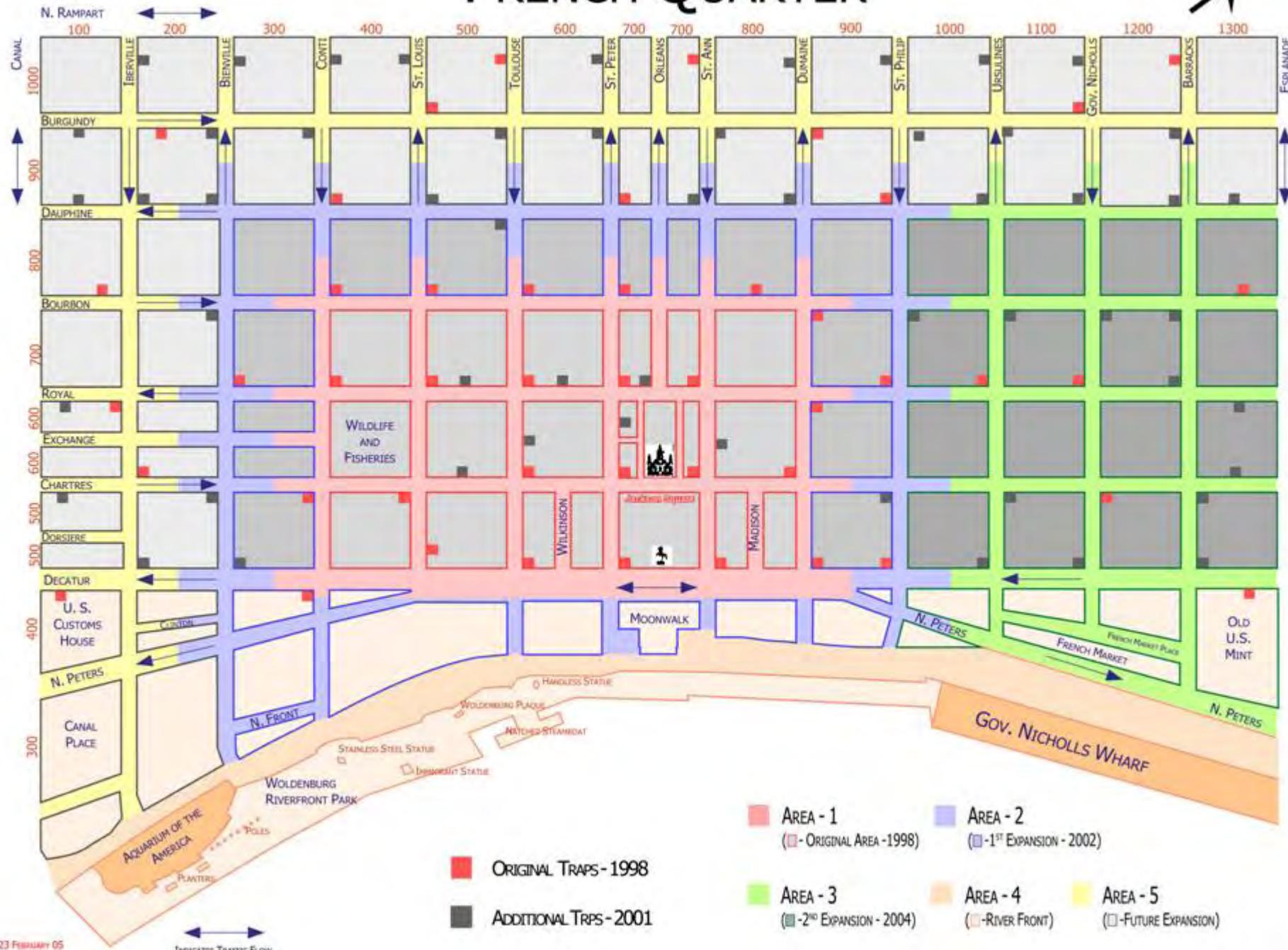
## Monthly Activity

### 2005



ALATE TRAP LOCATION  
2004

# FRENCH QUARTER

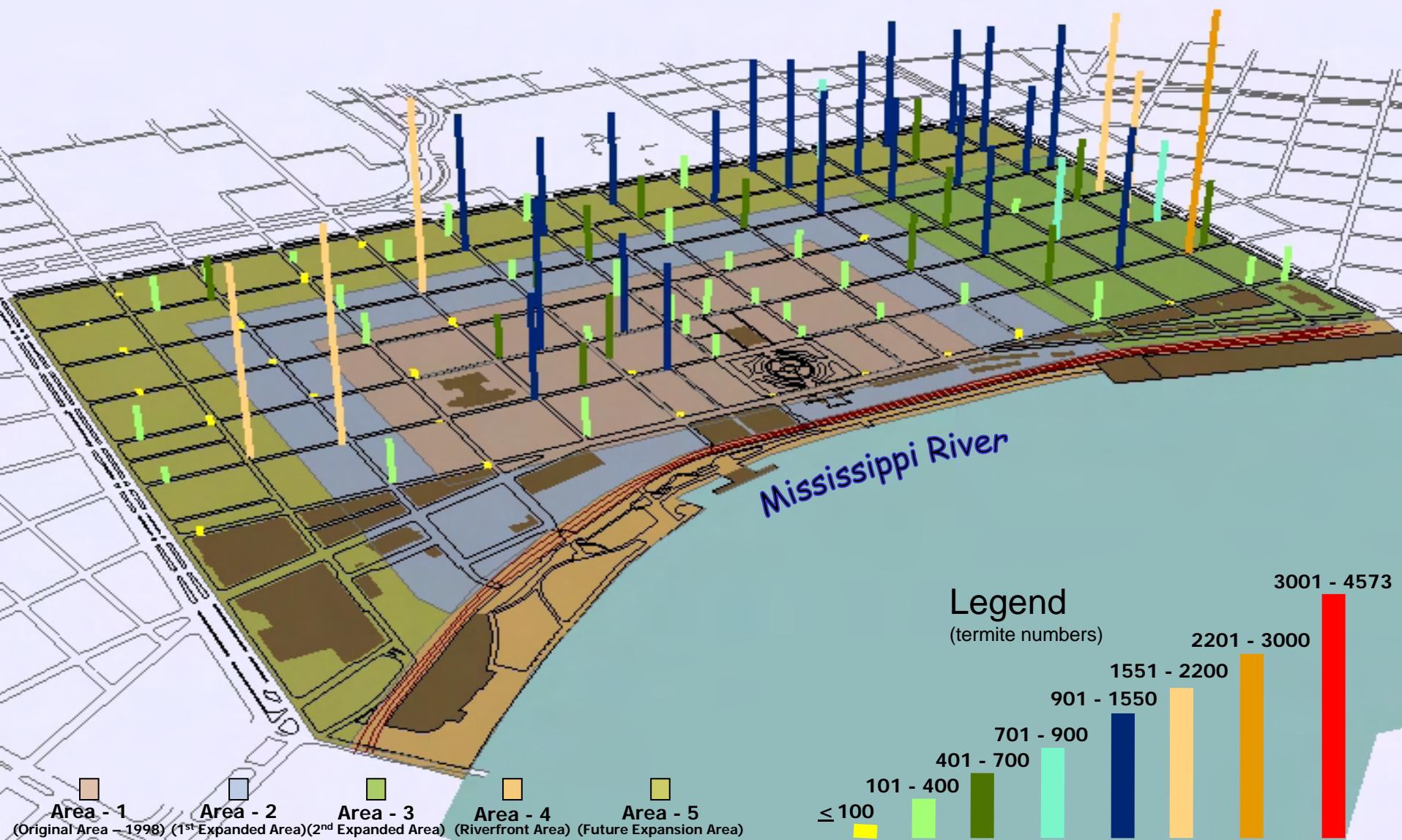




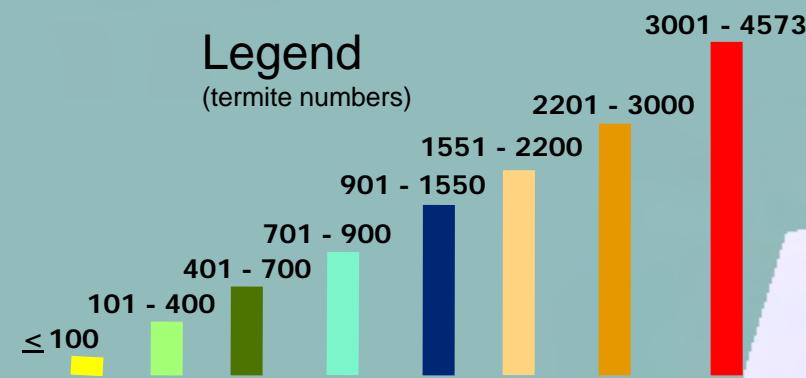
# Formosan Subterranean Termites

## Alate Activity

### 2005

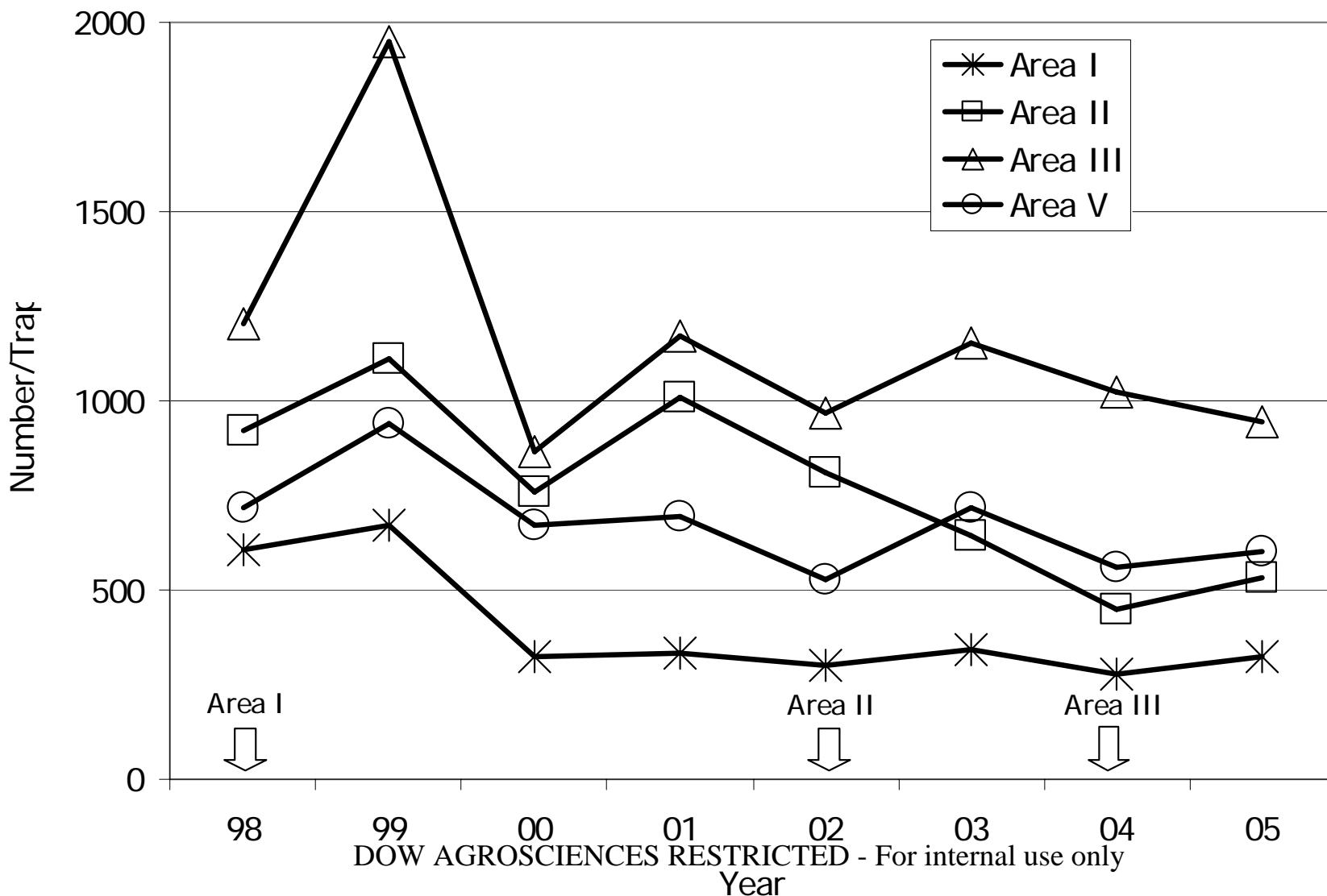


Legend  
(termite numbers)



Area - 1 (Original Area - 1998) Area - 2 (1<sup>st</sup> Expanded Area) Area - 3 (2<sup>nd</sup> Expanded Area) Area - 4 (Riverfront Area) Area - 5 (Future Expansion Area)

# Affect of Area-wide Management on Density of Fomosan Alates New Orleans' French Quarter





## Refugia

Abandoned Structures

Hidden / Above-ground  
Colonies in Structures

Trees & Courtyards

RR Crossties & Warf

Levee & Parks

Buried Debris

Above-ground Colonies

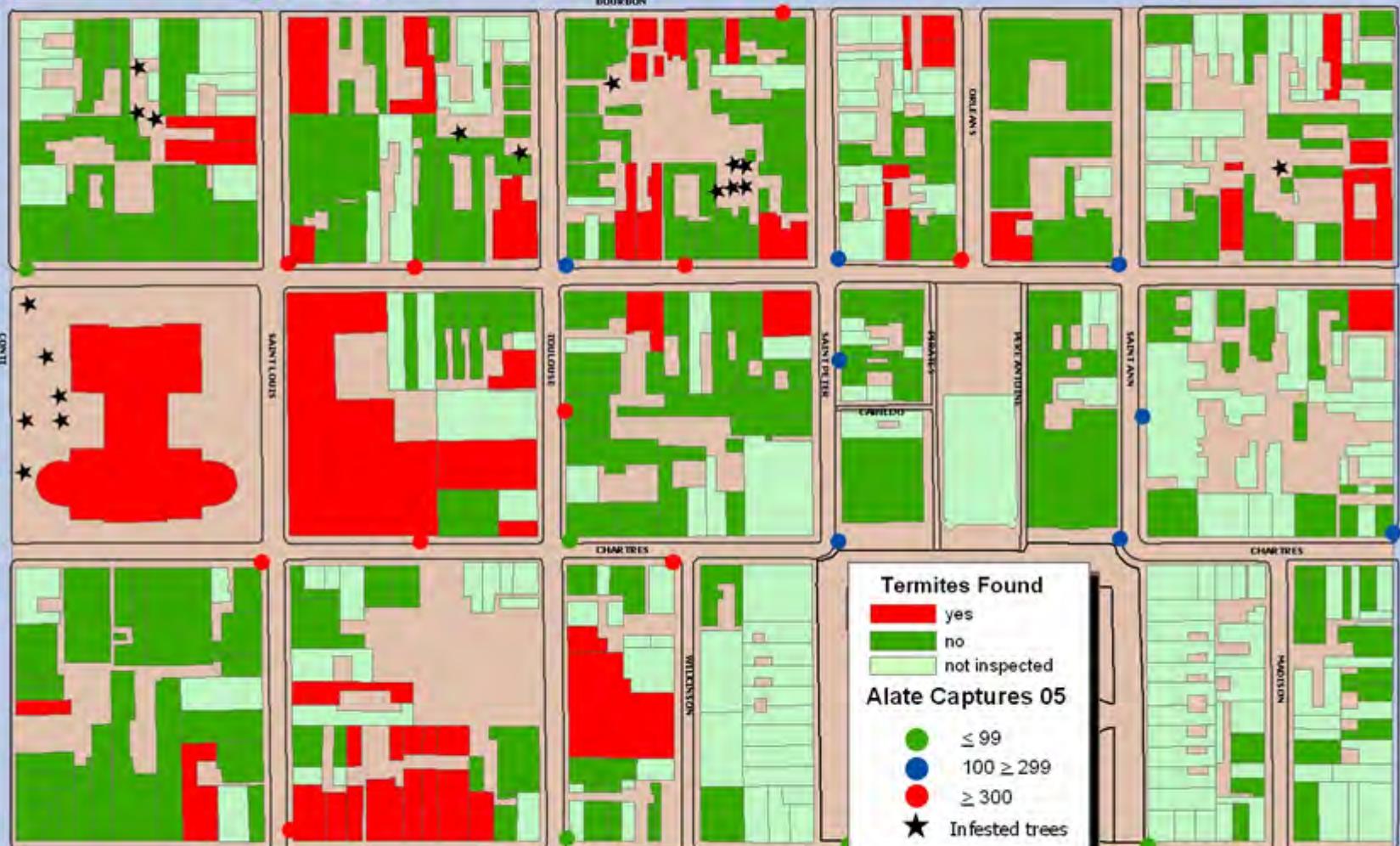


Shared-wall brick construction in the French Quarter

DOW AGROSCIENCES RESTRICTED - For internal use only

French Quarter  
Area - 1

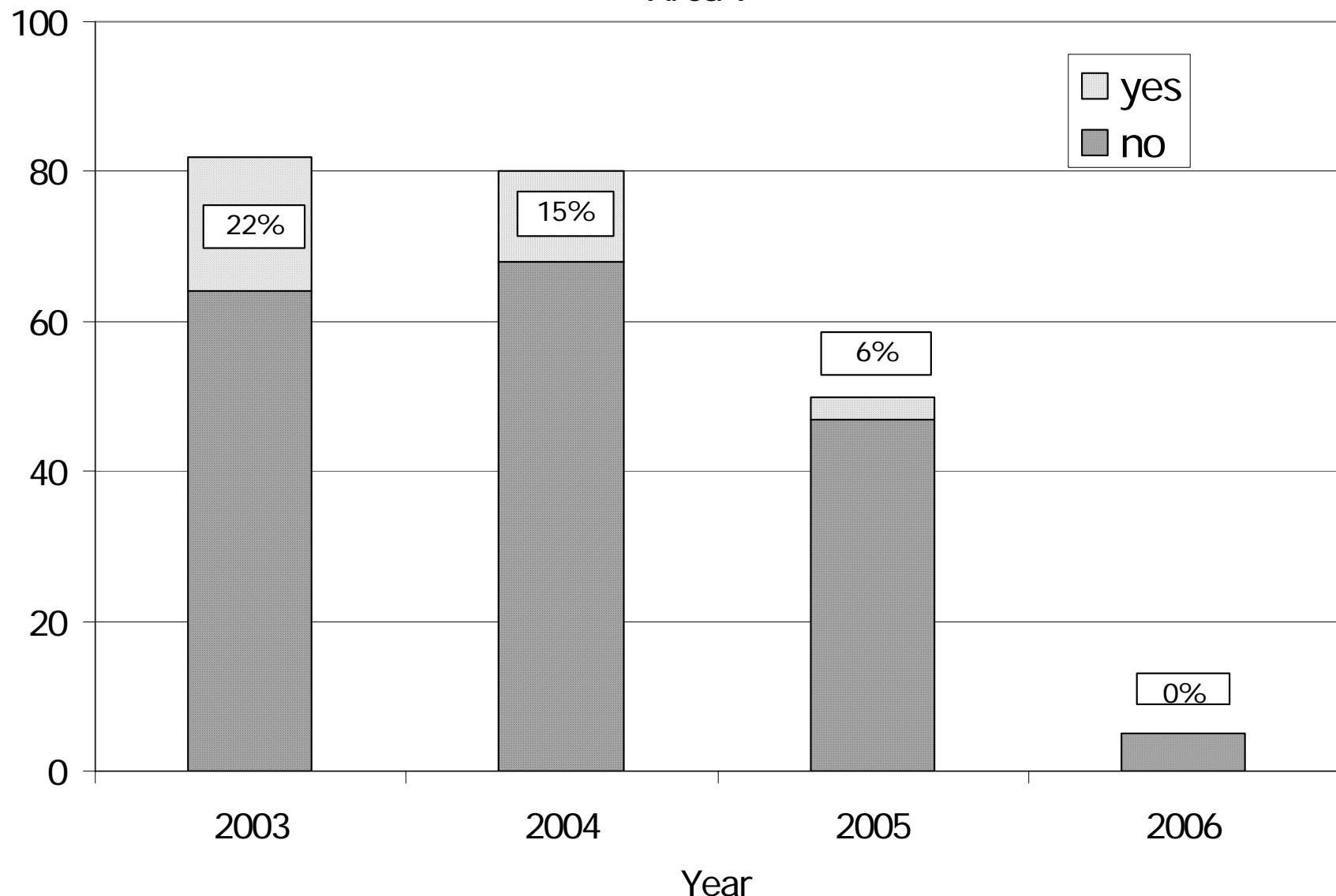
# INFRARED INSPECTION RESULTS



06 March 06

0 112.5 225 450 675 900 Feet

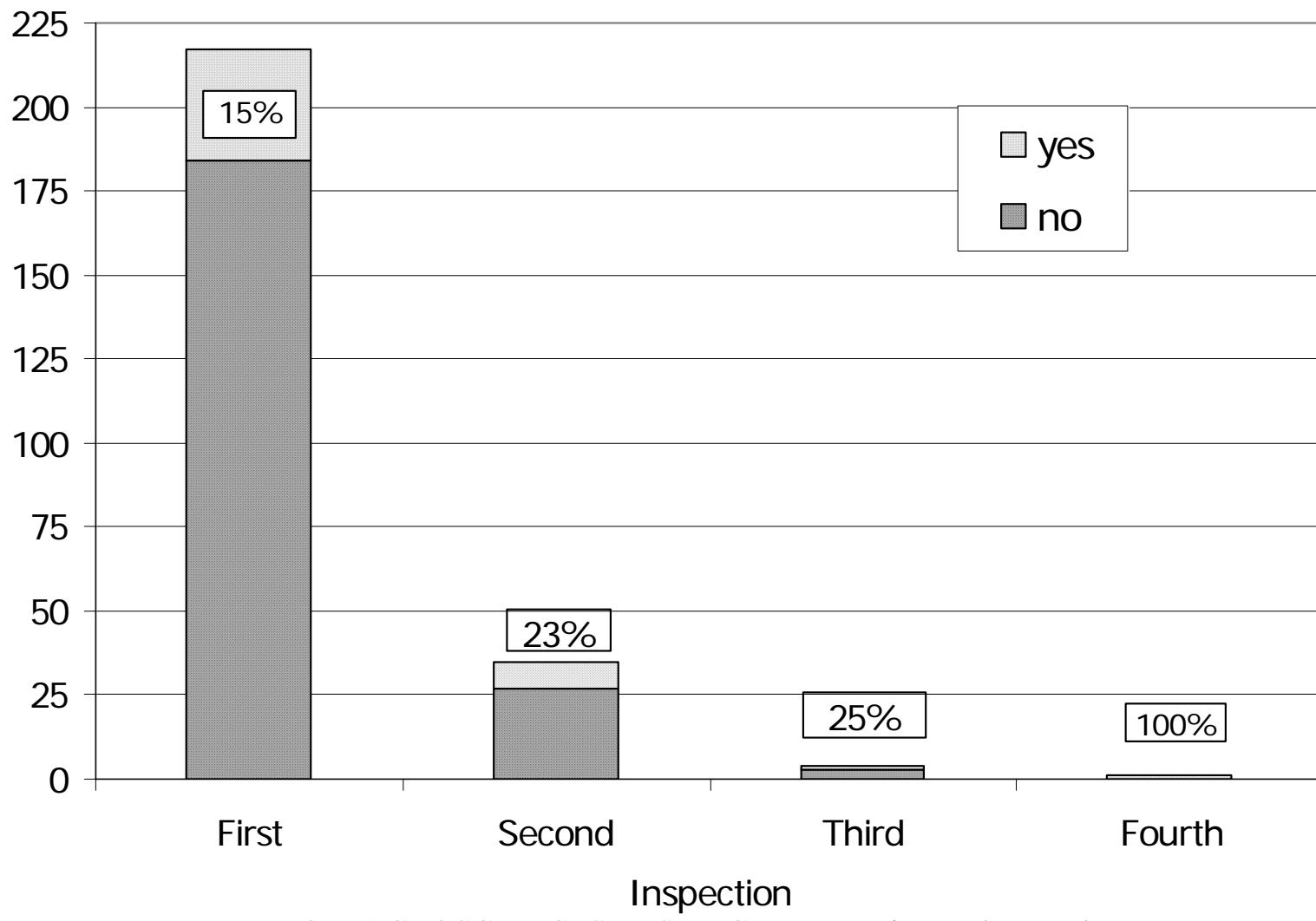
Results of First Inspection  
Number of Structures with Termites  
Area I



# Inspection Results

## Number of Structures with Termites

### Area I





BOURBON

TOULOUSE

ROYAL

SAINT PETER

# Conti

Chartres

Royal

St Louis

2002-05

16 Colonies

15. Shrubs

14. Magnolia - Yes

16. Magnolia

17. Palmetto

18. Japanese Yew

19. Japanese Yew

Japanese Yew

12. Palm - Yes 13. Magnolia

11. Magnolia - Yes

10. Magnolia

9. Palm

8. Oak - Yes

6. Magnolia

7. Palm - Yes

23. Shrubs

22. Shrubs

21. Magnolia

4. Magnolia

3. Magnolia

5. Japanese Yew

1. Magnolia

2. Magnolia

Blue Star

Green Star

Green Star

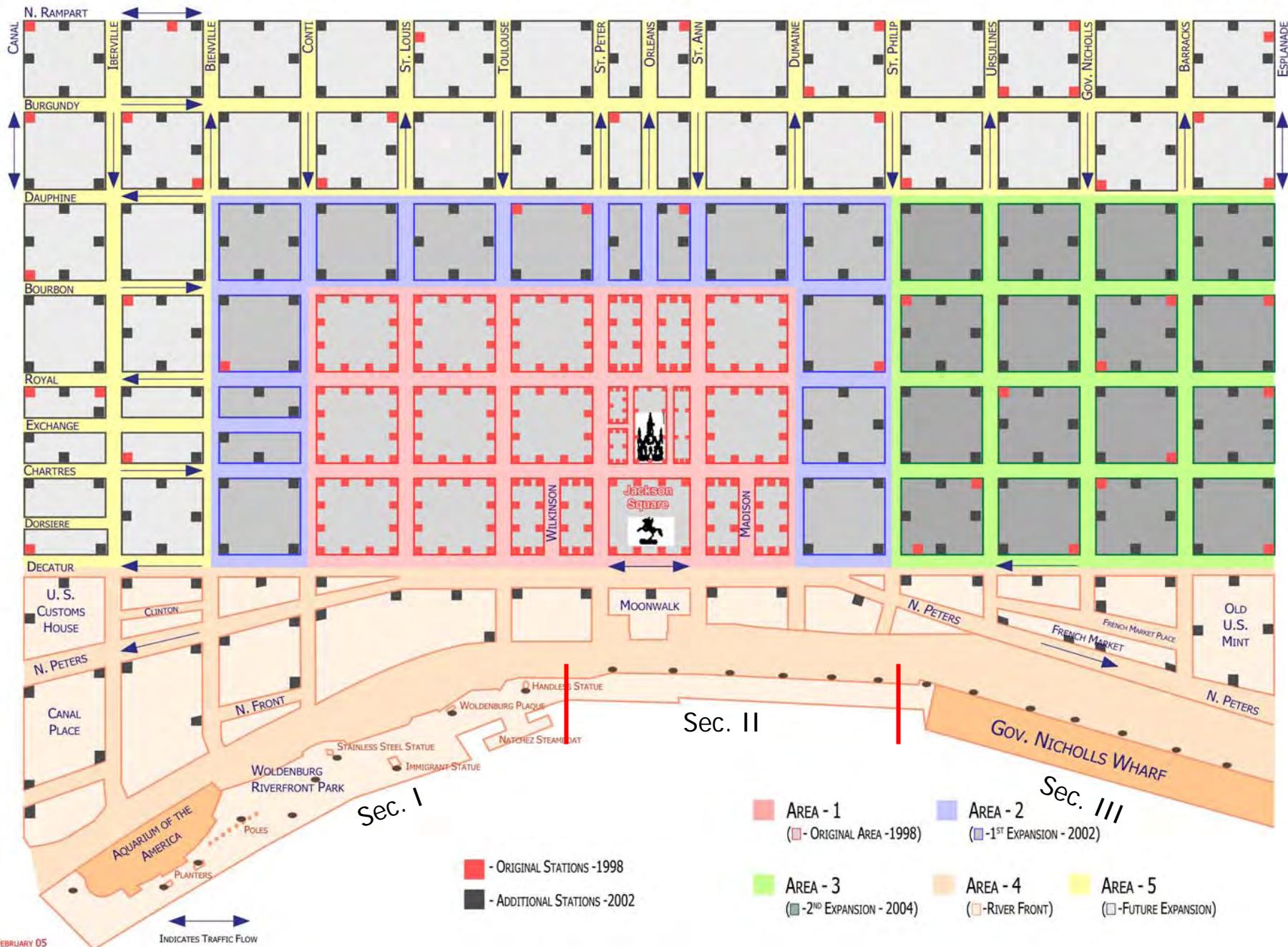
Red Star

Red Star

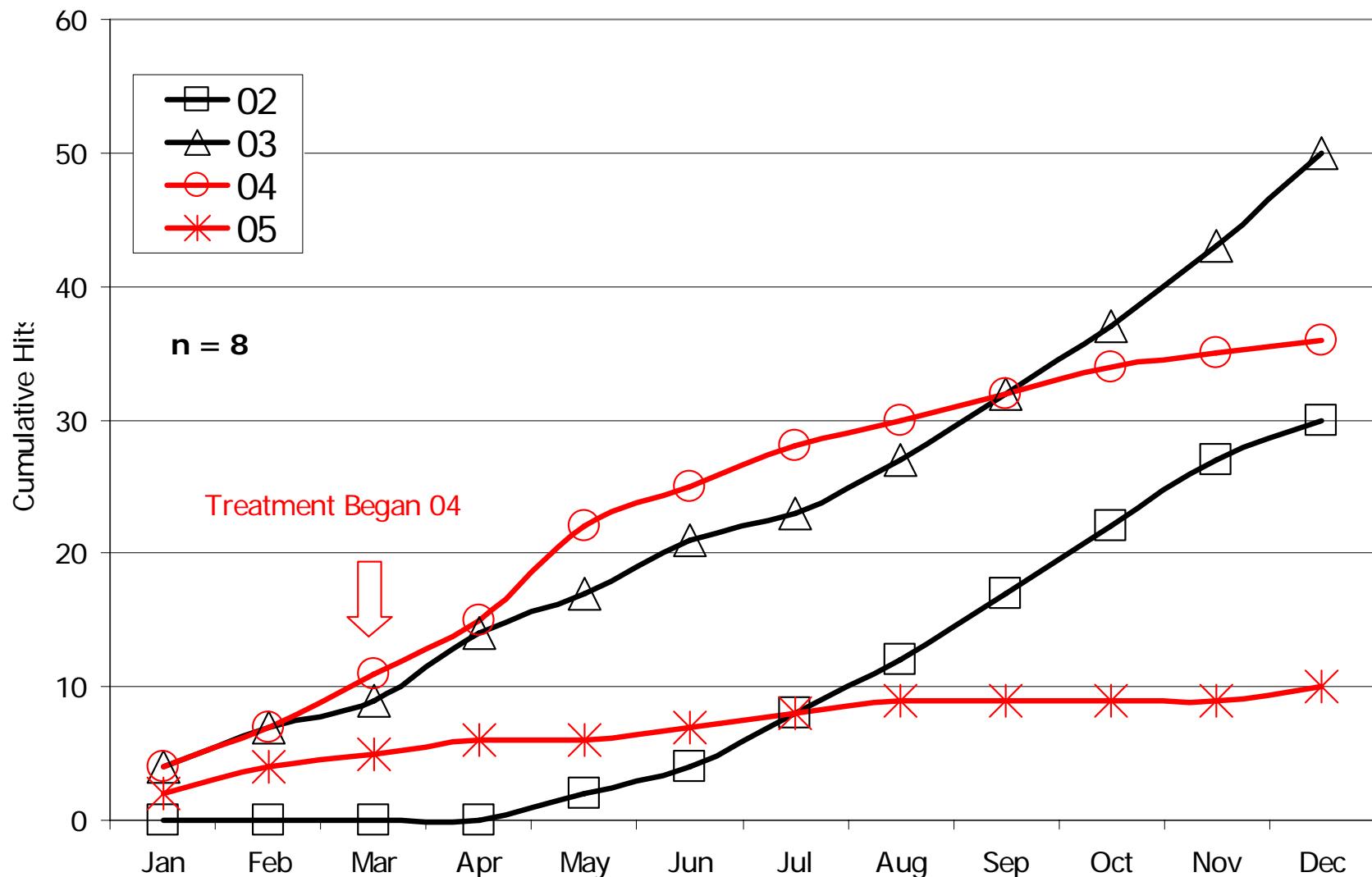


INGROUND LOCATION  
2005

# FRENCH QUARTER

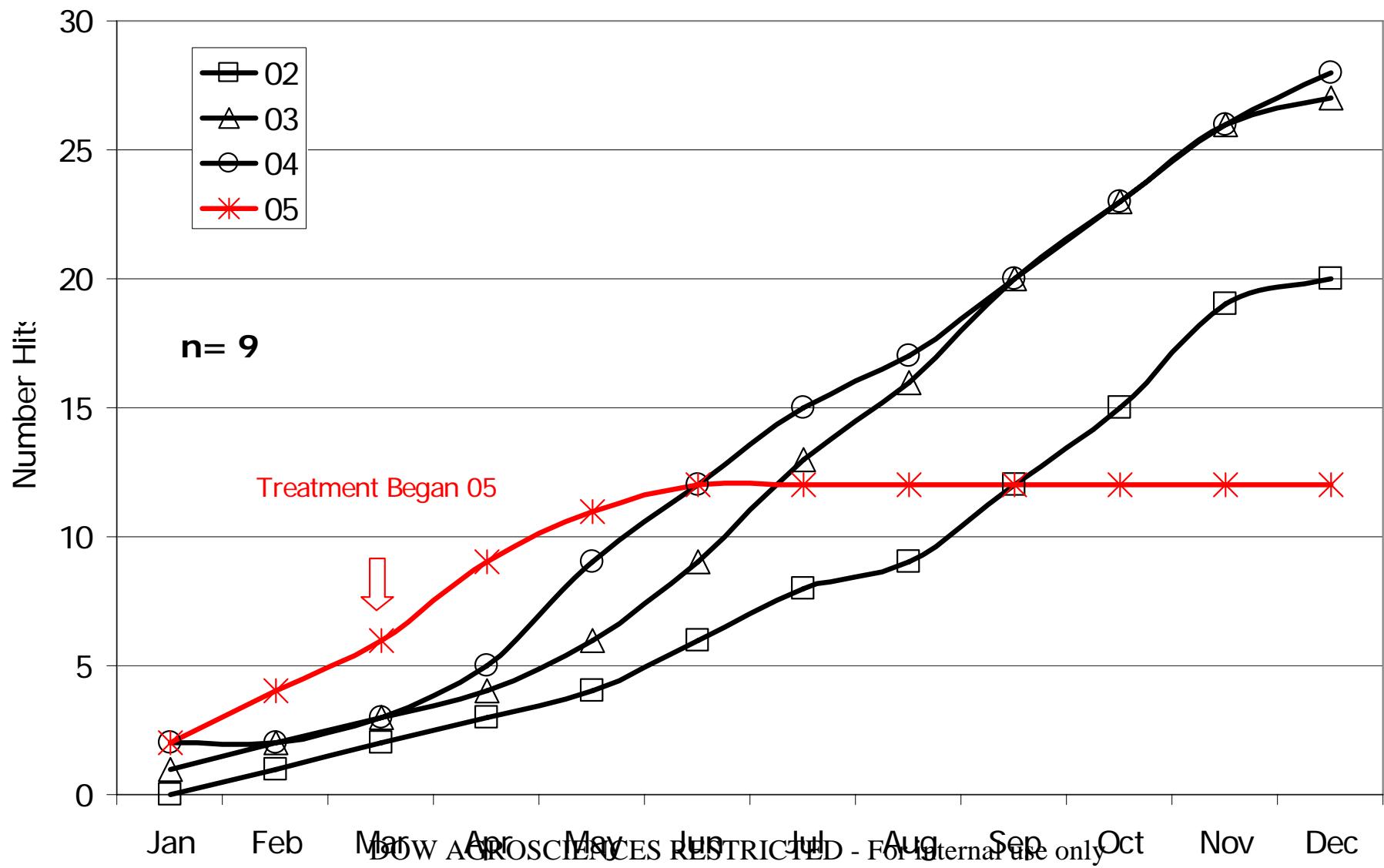


## Active In-Ground Stations on Levee Section 2

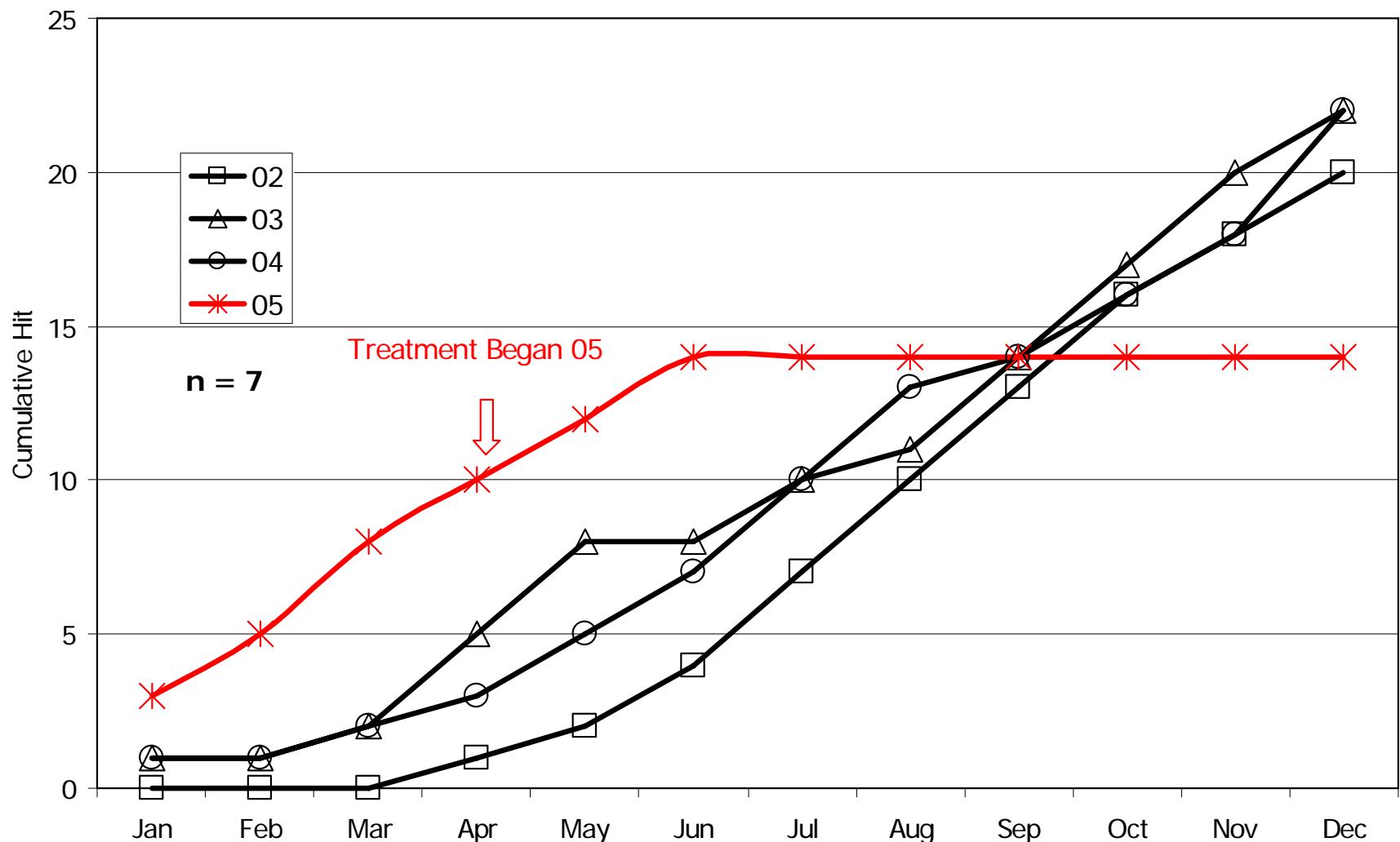


# In-Group Stations on Levee

## Section 1



## Active In-ground Stations on Levee Section 3





## Status



- Significant reduction of alates (>50%)
- Termite activity on levee is reduced (>98%)
- Seven percent of inspected structures found infested. Down from 22% in 2003
- Isolated areas of “high” termite activity remain inside test area
- Above-ground infestations



# Acknowledgements

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