RW 19 Update: Leesville, LA

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R. Kidd, Research Associate
Forest Health Cooperative (FHC)
Auburn University, School of Forestry and Wildlife Sciences

RW 19: Forest Productivity Co-op

- Thinning and fertilization study
- Goal: Manage density to optimize value in fertilization
- 8 industrial study sites established across different physiographic regions
  - 6 in the southern US
- Recently, established Leesville, LA (Site 193101)

Site 193901, Tuscaloosa, AL

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RW 19: Treatments

- Thinning
  - 100 TPA
  - 200 TPA
  - 300 TPA
  - 500 TPA
  - Fertilization
  - With: 200 lbs N + 25 lbs P
  - Without

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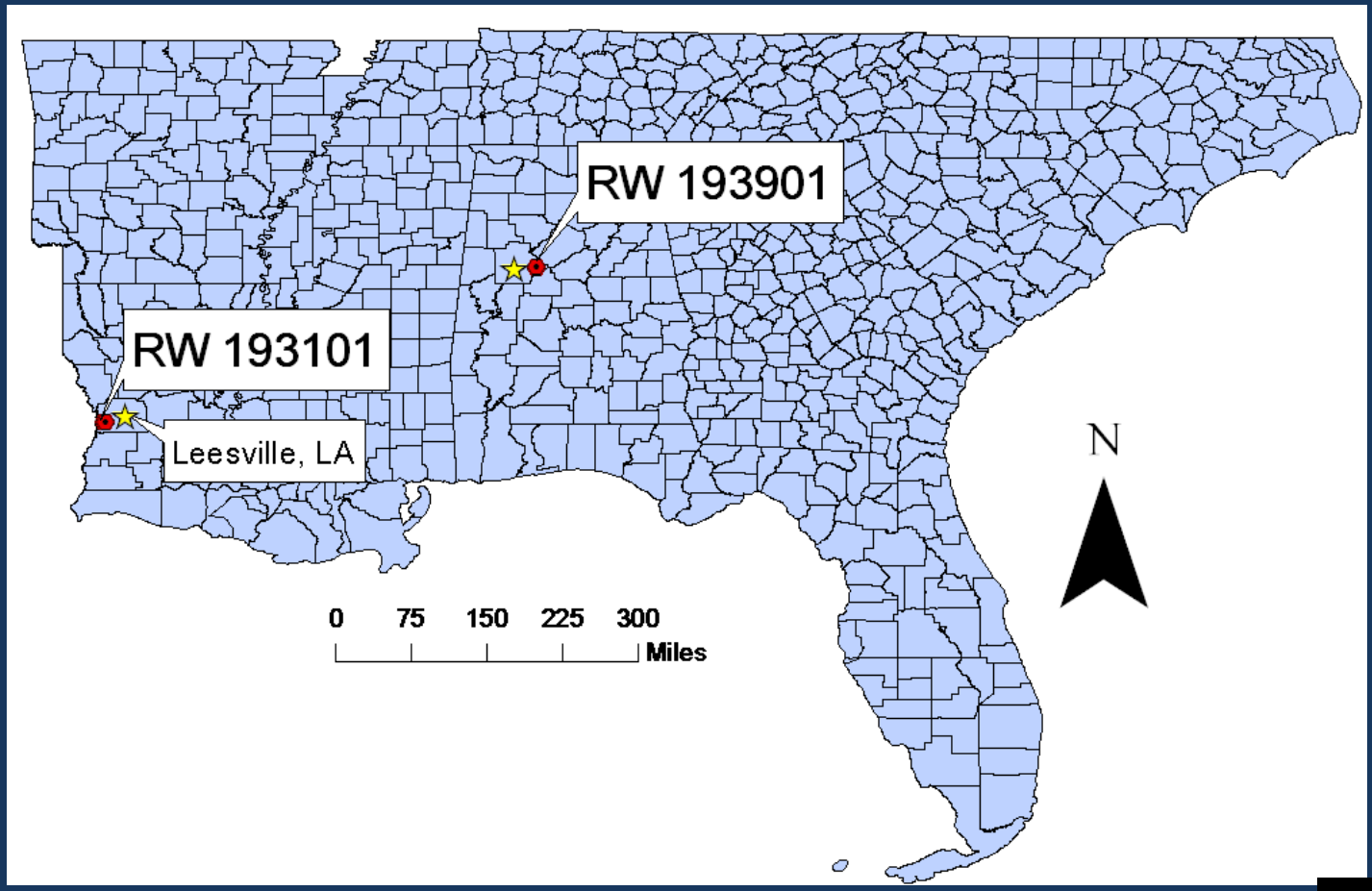
RW 19: FHC Involvement

- Goal: Understand the effects of thinning and fertilization on root-feeding bark beetle abundance and forest health in industrial pine plantations
- Use data to develop a practical, cost-effective management plan
- Previous study RW 193901
- Traps installed post-treatment

FHC Objectives in RW 19:

- Quantify the populations of root and lower stem colonizing beetles (*Hylastes* spp.) and other pine bark beetles through different seasonal periods.
- Compare populations among stands under various management regimes (thinning and fertilization) during different seasonal periods.
- Determine tree vigor following thinning and fertilization treatments.
- Relate management and site characteristics to changes in populations of root and lower stem colonizing insects while monitoring for changes in forest health condition.

Location of RW19: (Site 193101)



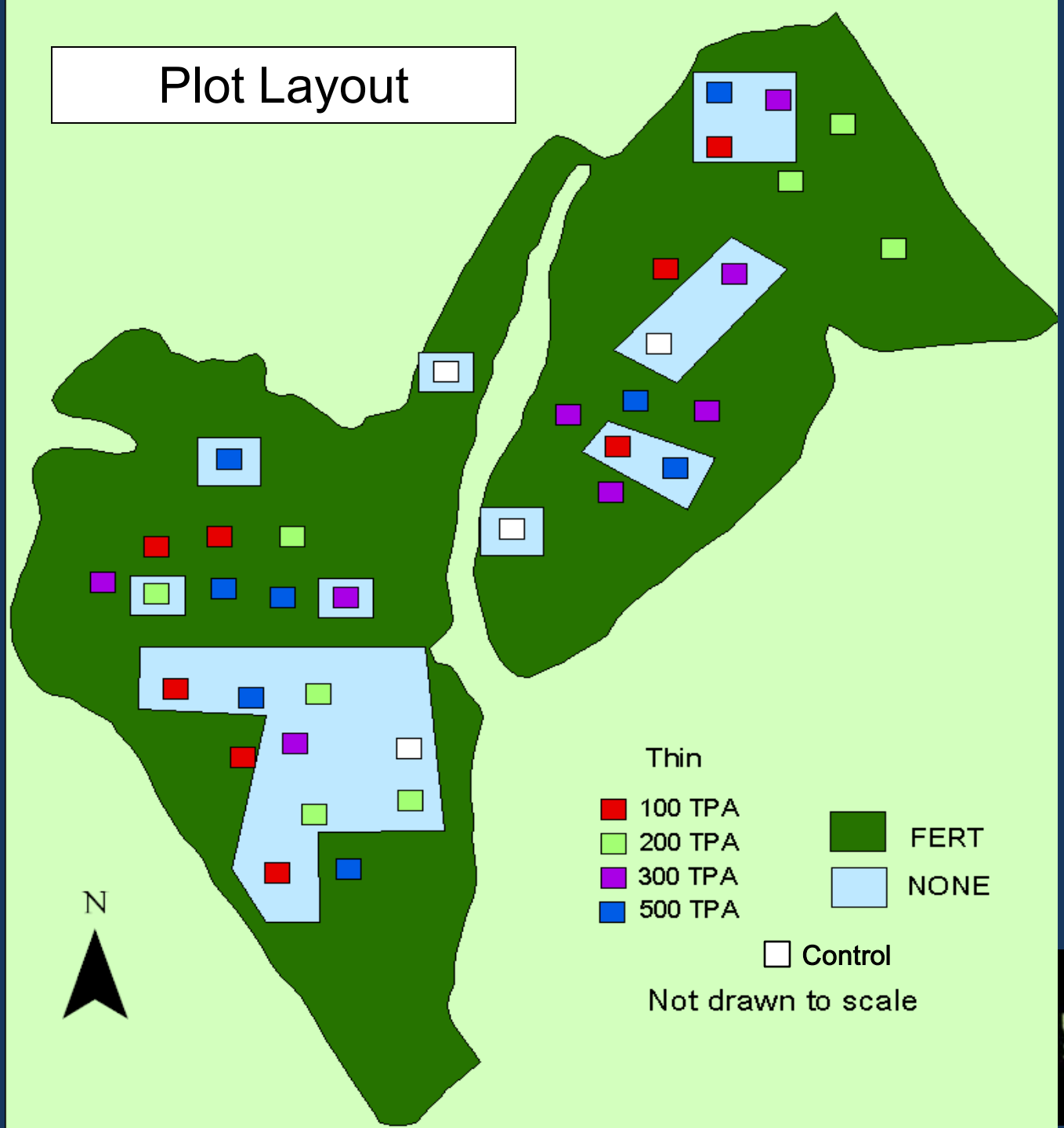
Site Description: 193101- Leesville, LA

- Managed by Forest Capital Partners
- Property embedded in WMA
- Gulf lower coastal plain
- Loblolly (planted and fertilized in 2000)
- 105 ac grown for pulp production
- 500 tpa, 6” dbh, 40’ ht
- Soil currently being analyzed by FPC

Study Setup: 193101-Leesville, LA

- Contractor established 50 plots
  - 1 acre plots (including buffer)
  - Stocking, dbh, hts, soil, foliage
  - Assigned treatments to plots such that average pre-treatment numbers were consistent among treatments
- FHC installed 1 panel and 1 pitfall trap at 36 plots
  - 32 treatment
  - 4 controls (no treatment)

Plot Layout


Thin
100 TPA
200 TPA
300 TPA
500 TPA
FERT
NONE
Control
Not drawn to scale
N

Timeline of Study:

- Plots installed and pre-treatment stand data recorded by contractors
- Traps installed: 5/10/11
- Completed 3 insect collections
- Pre-treatment insect collections will occur bi-weekly by Roger Menard (USFS) or technician
- Thin: 7/11/2011
- Fertilize: 2/2012

Work Continues…

- Traps will be re-installed following thin treatments
- Collections will continue 1 year post-fertilization (2/2013)
- Resin analysis
  - Pre-fertilization (flow & content)
  - 1 yr post-fertilization (flow & content)
- Root pathology
  - 1 yr post-fertilization
- Crown rating
  - Pre-fertilization
  - 1 yr post-fertilization

Acknowledgements:

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FOREST CAPITAL PARTNERS LLC

- Dr. Tom Fox
- Tim Albaugh
- Mark Williams
- Jim Tule
- Jeff Thompson and Crew (Contractors)
- Roger Menard and Staff, USFS
- Daniel Anderson, FHDL
- Graduate and Undergraduate Students, FHDL