

Management: Did It Work?

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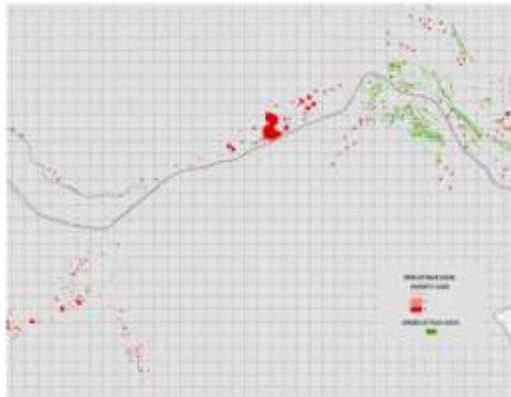


Experiment: Patterns

Bait, cut & burn in Banff NP

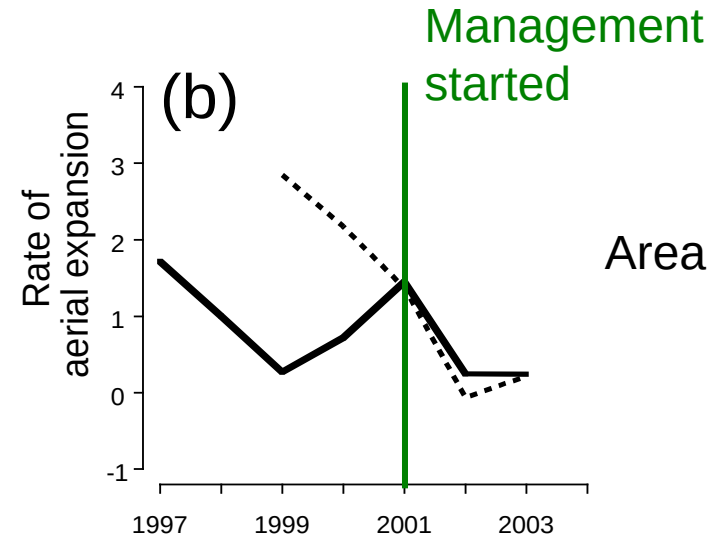
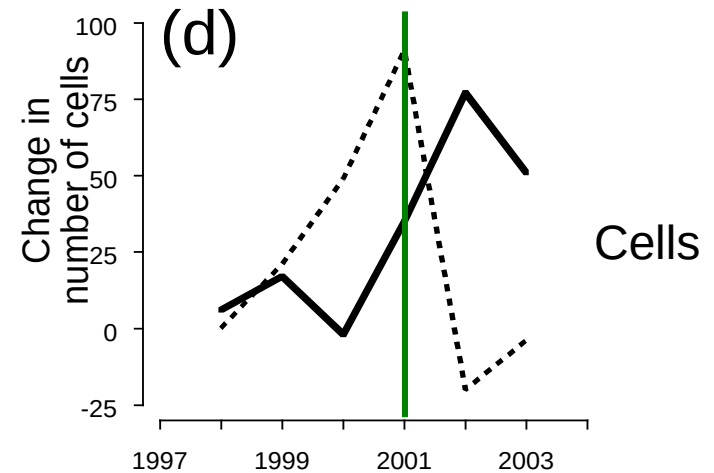
Monitoring

Management



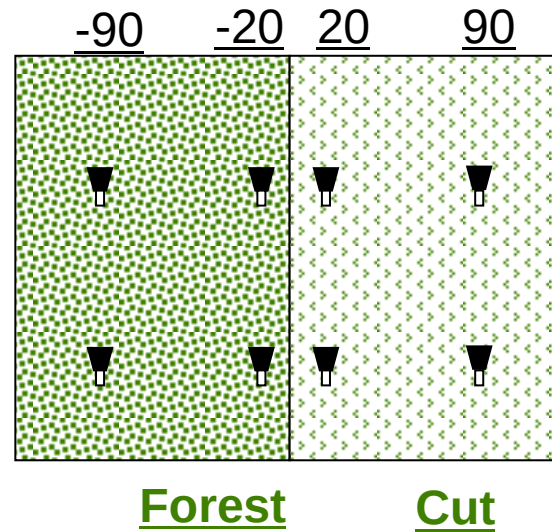
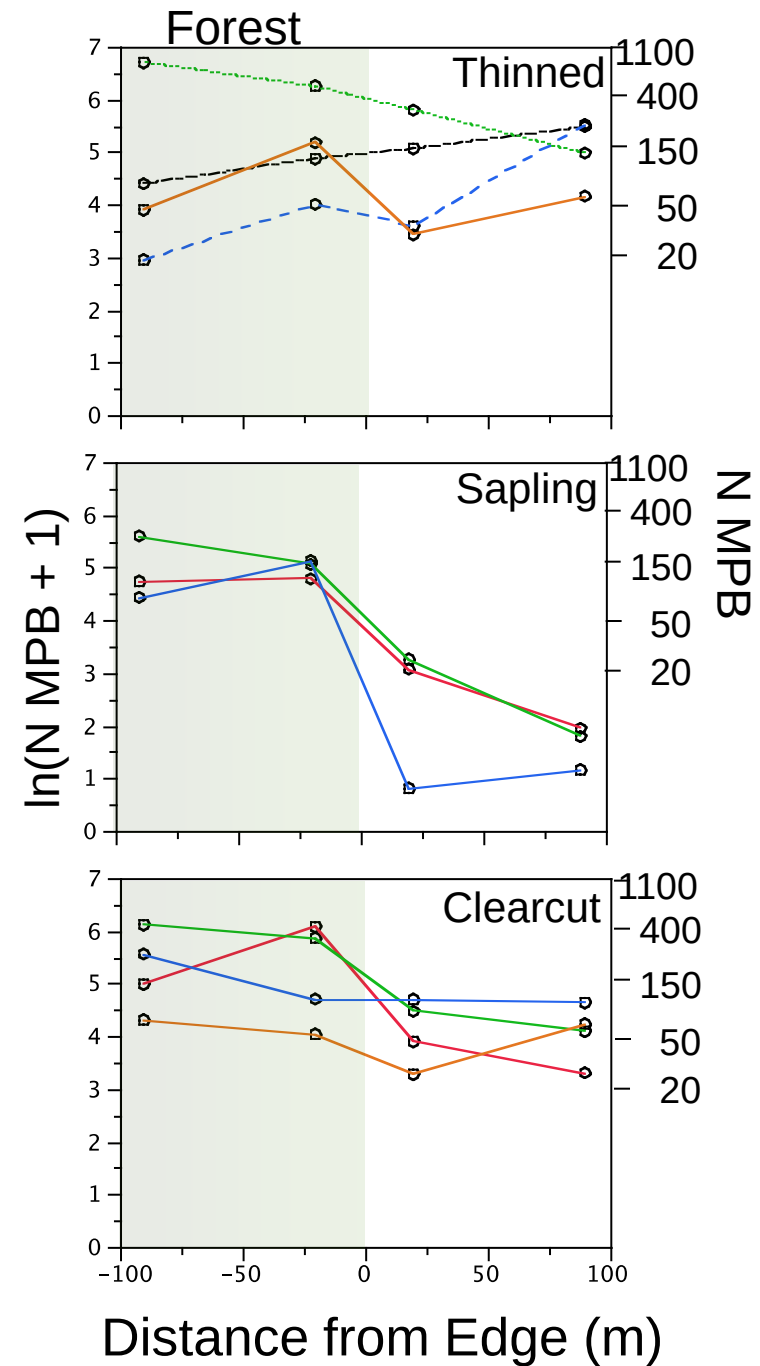
Measured as:

- 1) Area
- 2) Cells (500 x 500 m)



Experiment: Process

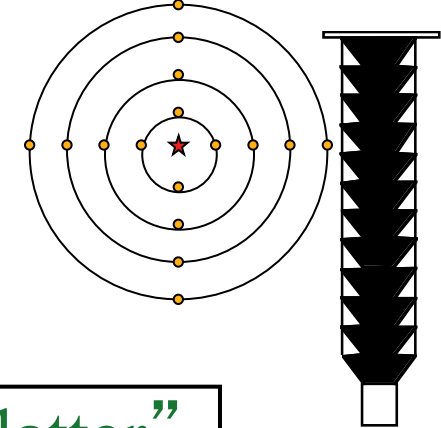
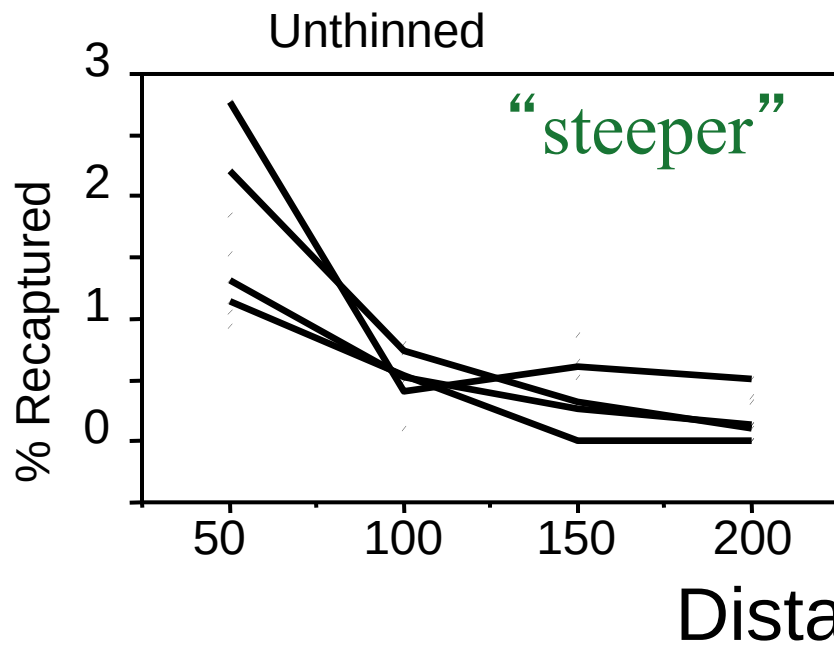
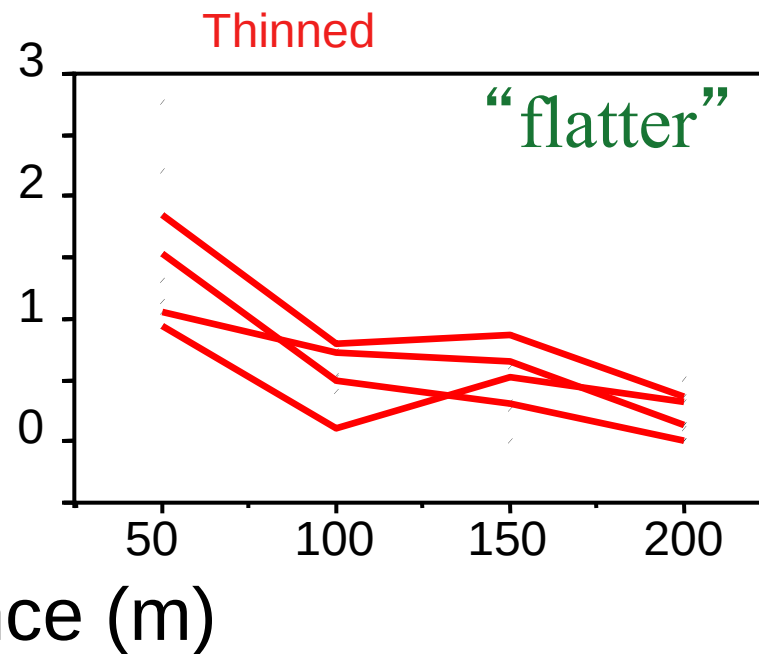
Beetle movement across harvest edges



Experiment:

2) Beetle dispersal through thinned stands

Mark recapture study of pine engravers, *Ips pini*



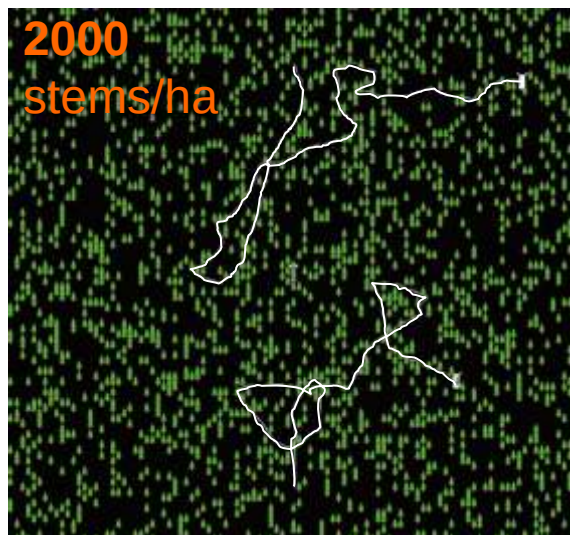
Unthinned: 105 ± 10 m

Thinned: 377 ± 19 m

Beetles disperse
further in thinned
stands

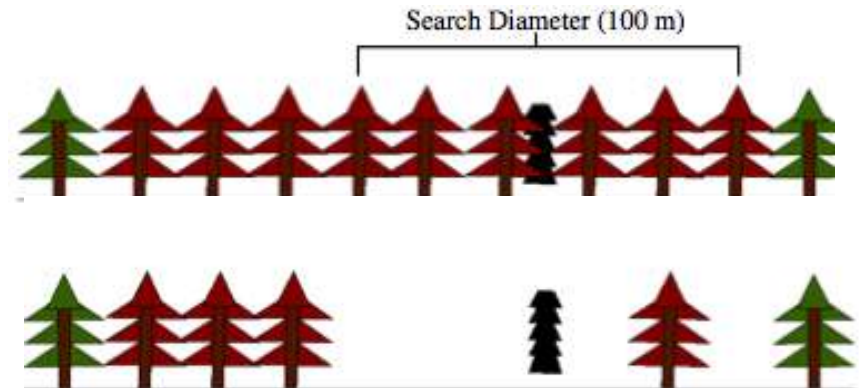
Modelling Pattern and Process

Simulation Model
Tyler Reid, U. Calgary



Analytical Model
Shaun Strohm, UBC

$$\frac{\partial P}{\partial t} = \underbrace{\mu_p \nabla^2 P}_{\text{diffusion}} - \underbrace{\nabla \cdot \left[\left(\nu_c \nabla C + \nu_a \frac{b_0 - A}{b_0 + A/b_1} \nabla A \right) P \right]}_{\text{chemotaxis}}$$



Needed: Information juggernaut

