

The impact of understory vegetation management on predators in oil palm plantations in Sumatra, Indonesia



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Oil Palm



Palm Oil



Many Products



80%

20%



- 85% production in Malaysia & Indonesia
- Most produced & traded vegetable oil in the world (~60MT/yr, ~25Mha)
- Found in ~1/2 of all packaged products sold in the supermarket

Oil Palm



Palm Oil



Many Products



80%

20%

UK Food Information Regulations 2014

Vegetable Oil, Vegetable Fat, Palm Kernel, Palm Kernel Oil, Palm Fruit Oil, Palmate, Palmitate, Palmolein, Glyceryl, Stearate, Stearic Acid, Elaeis Guineensis, Palmitic Acid, Palm Stearine, Palmitoyl Oxostearamide, Palmitoyl Tetrapeptide-3, Sodium Laureth Sulfate, Sodium Lauryl Sulfate, Sodium Kernelate, Sodium Palm Kernelate, Sodium Lauryl Lactylate/Sulphate, Hydrated Palm Glycerides, Etyl Palmitate, Octyl Palmitate, Palmityl Alcohol

Oil Palm Causes Deforestation



Boycotting would make the problem worse



Oil palm and biodiversity

A situation analysis by the IUCN Oil Palm Task Force

Meijaard, E., Garcia-Ulloa, J., Sheil, D., Wich, S.A., Carlson, K.M., Juffe-Bignoli, D., and Brooks, T.M.

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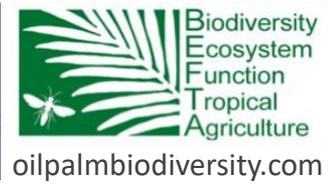
ZOOS
VICTORIA



CONSERVATION
INTERNATIONAL

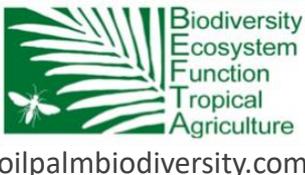


Testing real management strategies

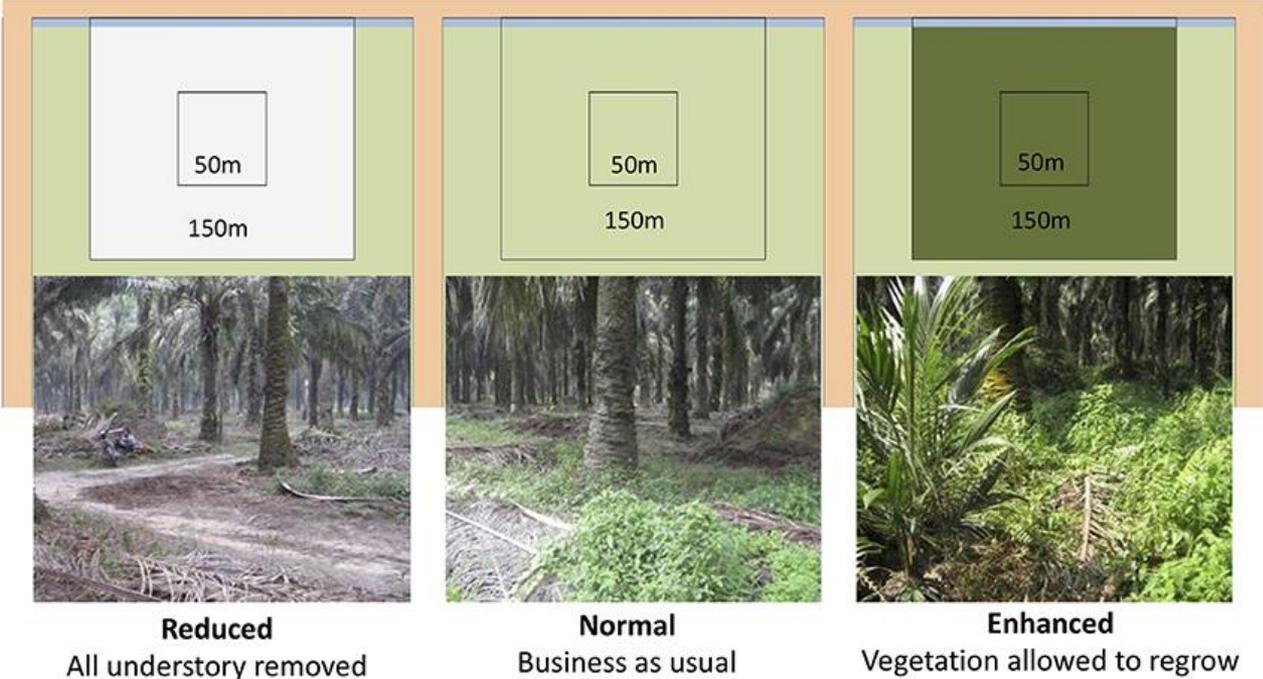


Ed Turner
William Foster
Sarah Luke
Michael Pashkevich

Testing real management strategies



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Pests



~5% yield reduction
Puan et al 2011



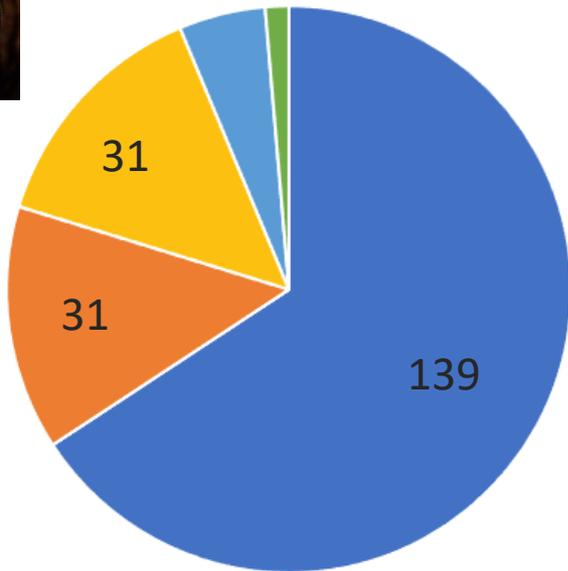
Up to 30%
Potineni & Saravanan 2013

Pre-treatment
1 yr post-treatment
2 yrs post-treatment

4 replicates
1502 camera trap nights



Rat trapping



Pre-treatment
1 yr post-treatment
2 yrs post-treatment

4 replicates
1502 camera trap nights

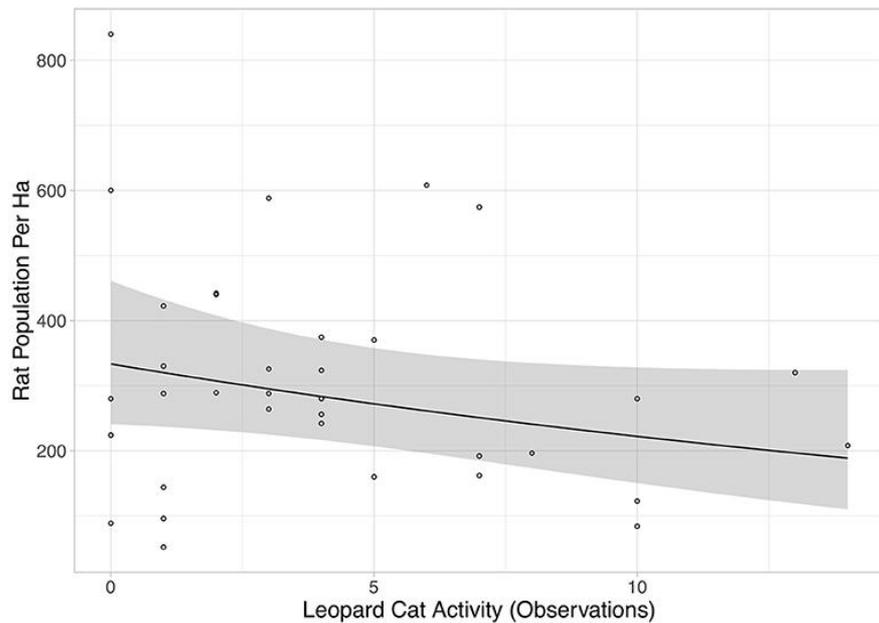
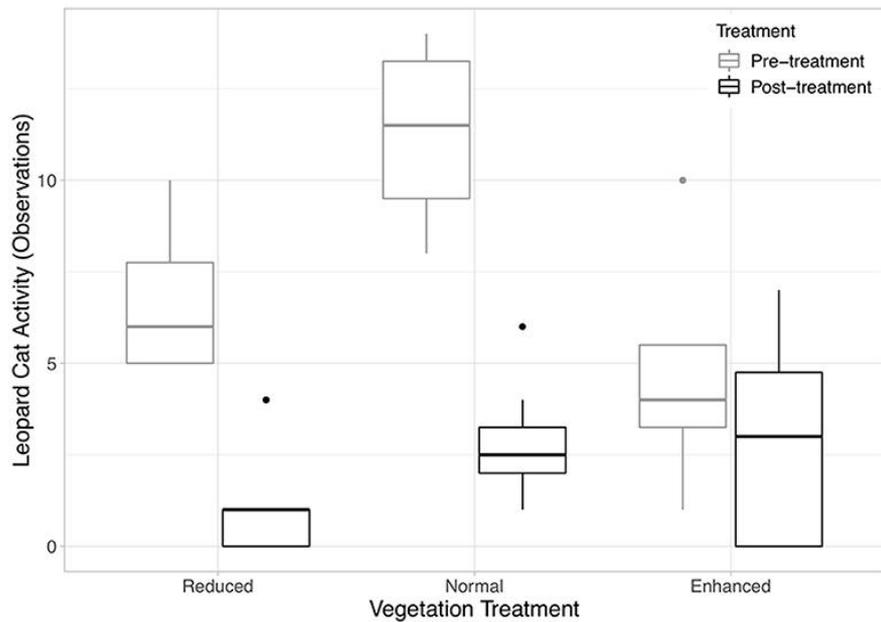


Rat trapping





Leopard Cats are
controlling rats



Removing understory vegetation
reduces Leopard Cat activity







Ant suppression experiment



Physical barrier & poison



Ant suppression experiment



Physical barrier & poison

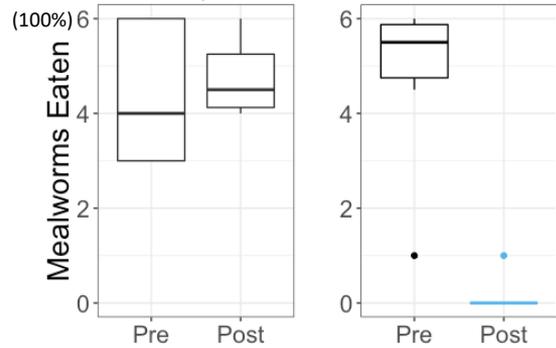


Six model herbivores

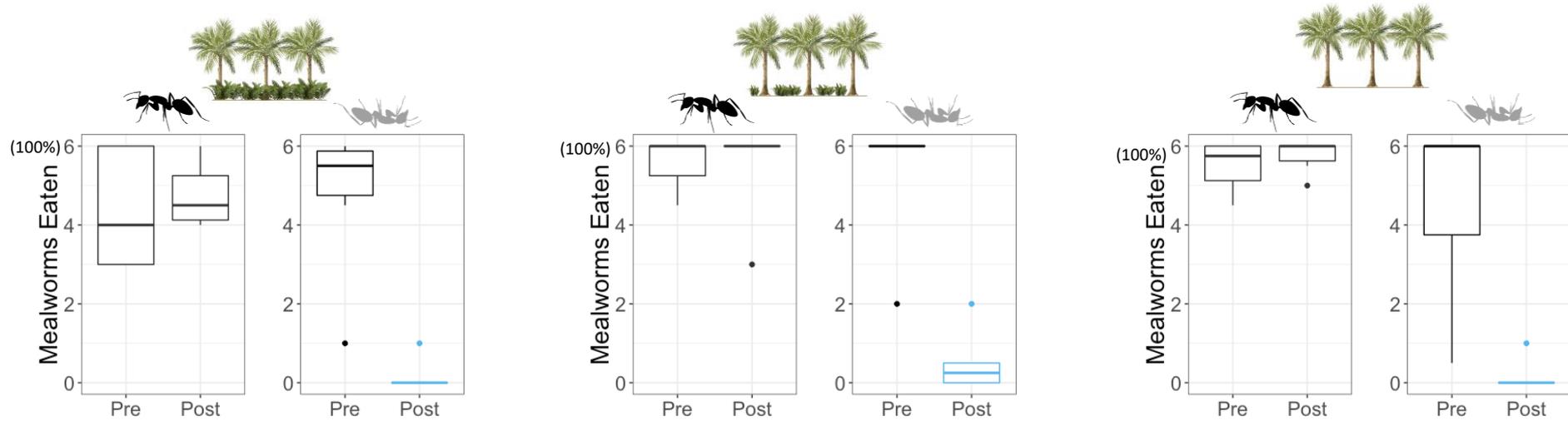
Control & treatment plots x6

Pre- and post-treatment

Ants are the primary predators of caterpillars



Ants are the primary predators of caterpillars

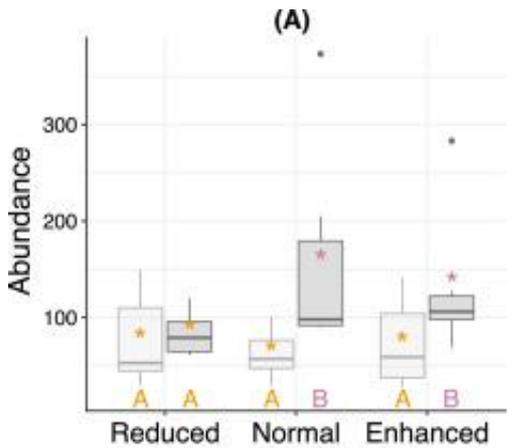




Pitfall traps
Pre- and post-treatment
18 traps per treatment
3 days per trap

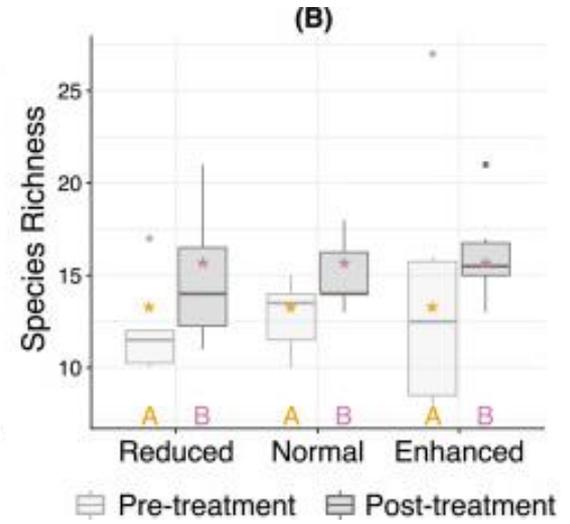


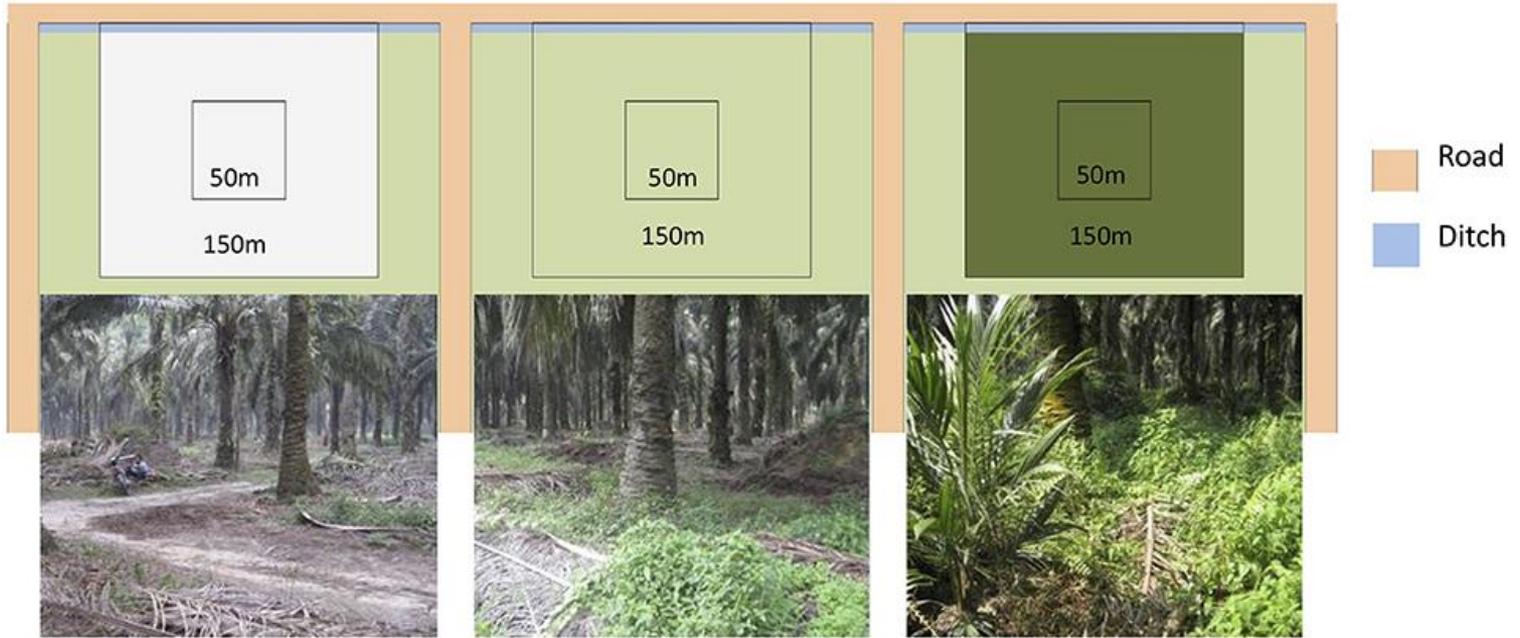
Pitfall traps
 Pre- and post-treatment
 18 traps per treatment
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Removing understory vegetation
 reduces ant abundance

But not species richness





Reduced
All understory removed

Normal
Business as usual

Enhanced
Vegetation allowed to regrow

Better for ants

Better for Leopard Cats

Other predator studies
oilpalmbiodiversity.com



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