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Conservation in a carbon trading world

REDD and biodiversity



Prof. Hugh Possingham Dr. Kerrie Wilson Dr. Richard Fuller Takuya Iwamura Prof. William Laurance Dr. Erik Meijaard

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Tropical forest crisis



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Reduced Emissions from Deforestation and forest Degradation (REDD)

- Provide incentives for developing countries to protect threatened forests
- Carbon markets traded \$126 billion last year, predicted to trade \$700 billion by 2013
- REDD predicted to yield US\$1.2 \$13.5 billion per year
(Niles et al. 2002; Dutschke & Wolf 2007; Stern 2007; Ebeling & Yasue 2008)

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AEDA contributions

1. Argued for the need for novel partnerships
Venter et al. Nature 2008, Bekessey and Wintle Cons Biol 2008
2. Is REDD a financially viable land use?
Venter et al. Cons Letters 2009
3. How might REDD contribute to biodiversity?
Venter et al. Science 2009
4. Decision framework to implement REDD
Venter et al. Cons Biol 2010, other work in progress

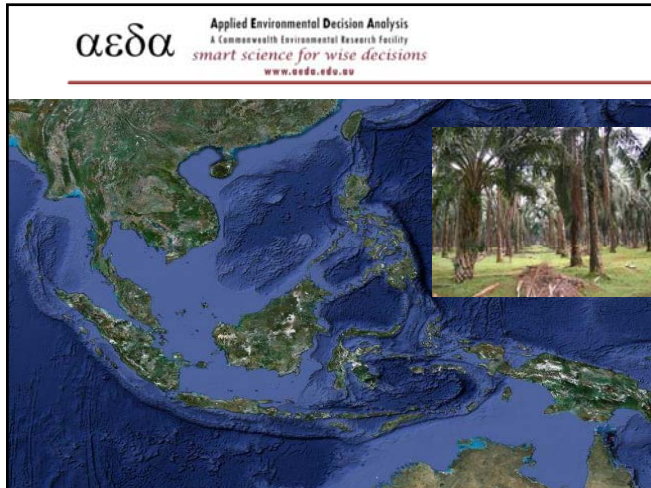
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Can REDD compete financially?



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REDD could compete at CO₂ prices \$10 \$30 per ton

Publications:
Conservation Letters

Talks:
APEX Indonesia
SCB USA
Brisbane Writers festival

Media:
Cover of TIMES
BBC
New York Times
Radio Australia
100+ others

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How might REDD contribute to biodiversity?

- To what extent will cost effective global spending for REDD benefit forest biodiversity?
- Could benefits be increased?

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Approach

1. Model baseline deforestation globally
2. Quantify impacts on forest biodiversity
3. Map realistic agricultural revenues
4. Use decision theory to cost effectively allocate REDD funds
5. Explore tradeoffs in carbon and biodiversity outcomes

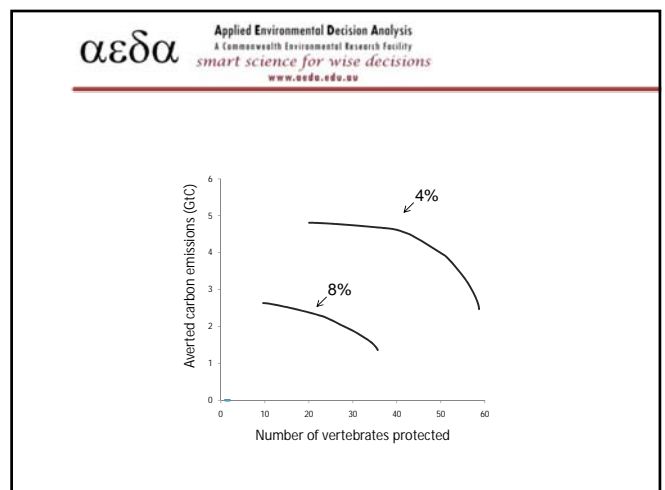
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What we found

0 < 3% 3-7% 7-40% > 40%

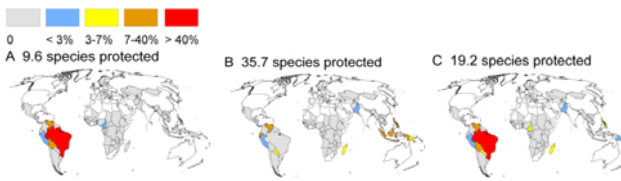
A 9.6 species protected
B 35.7 species protected
C 19.2 species protected

Publications: Science
Talks: SCB China, Diversitas South Africa
Media: ABC Science, Reuters, Radio Australia
Other: ATBC REDD declaration



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Decision framework to implement REDD

- Working closely with Greenpeace and The Nature Conservancy
- Making objective decisions at the national scale in Indonesia
- Regional scale planning in East Kalimantan

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Indonesia wide planning for REDD



Best solution
Not selected
Selected

0 250 500 1,000 Kilometers

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Prioritizing REDD strategies in Berau, East Kalimantan



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Prioritizing REDD strategies in Berau, East Kalimantan

- REDD program across 2 million ha of forest
- Strategies
 - Improve the management of protected areas
 - Establish new protected areas
 - Reduced impact logging
 - Smart planning for oil palm


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What next?

- Conservation strategies with REDD
- Indonesia Integrated Forest Management (KPH) program and 1.6 billion tree program
- Modeling threat in Indonesia

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Thanks for listening



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All in the control variable

$X_{ij}(t)$ = how much money I spend on action i in place j in year t to achieve an outcome considering social and economic constraints

Embraces much of what has been, and is to come

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