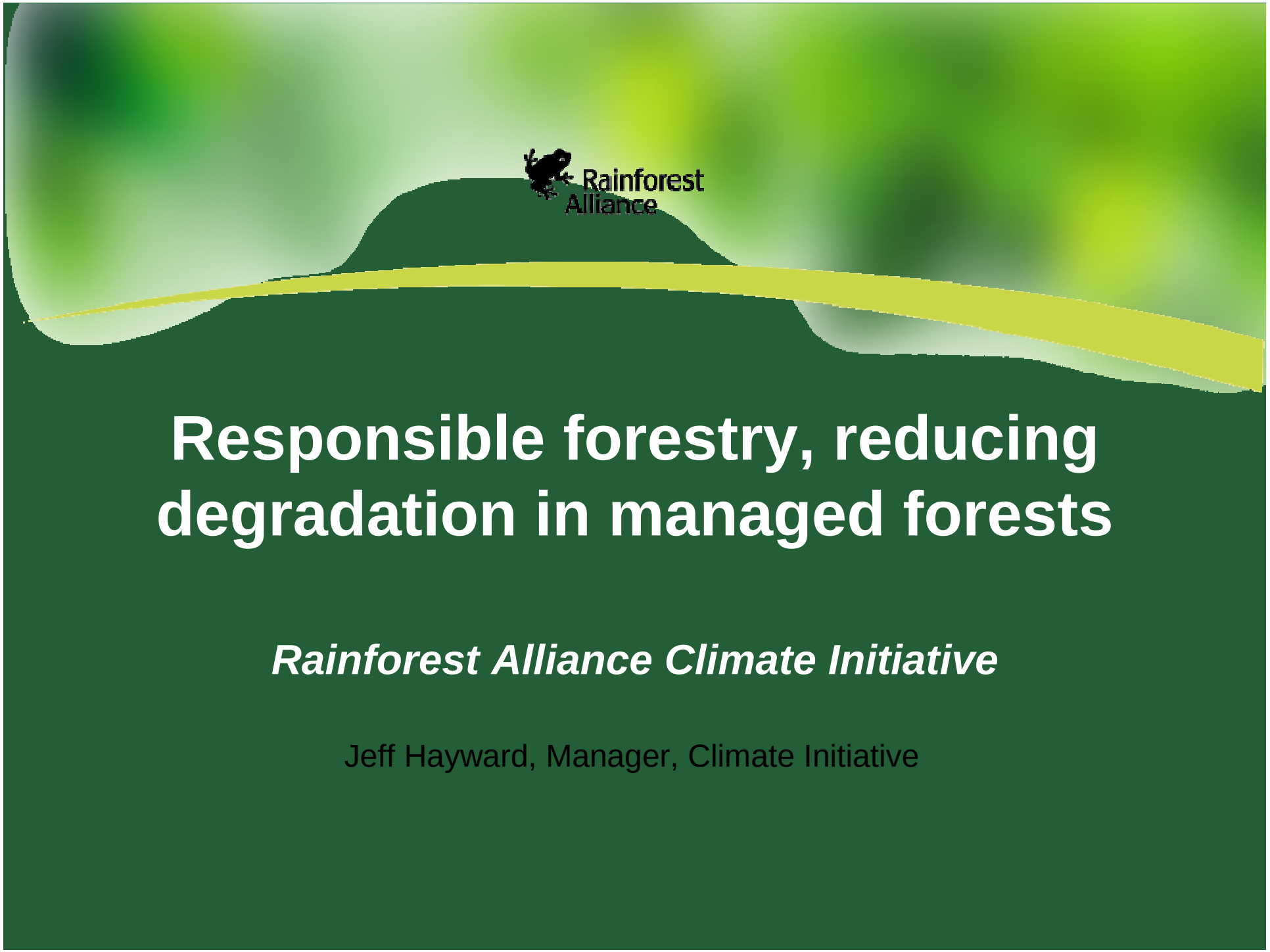


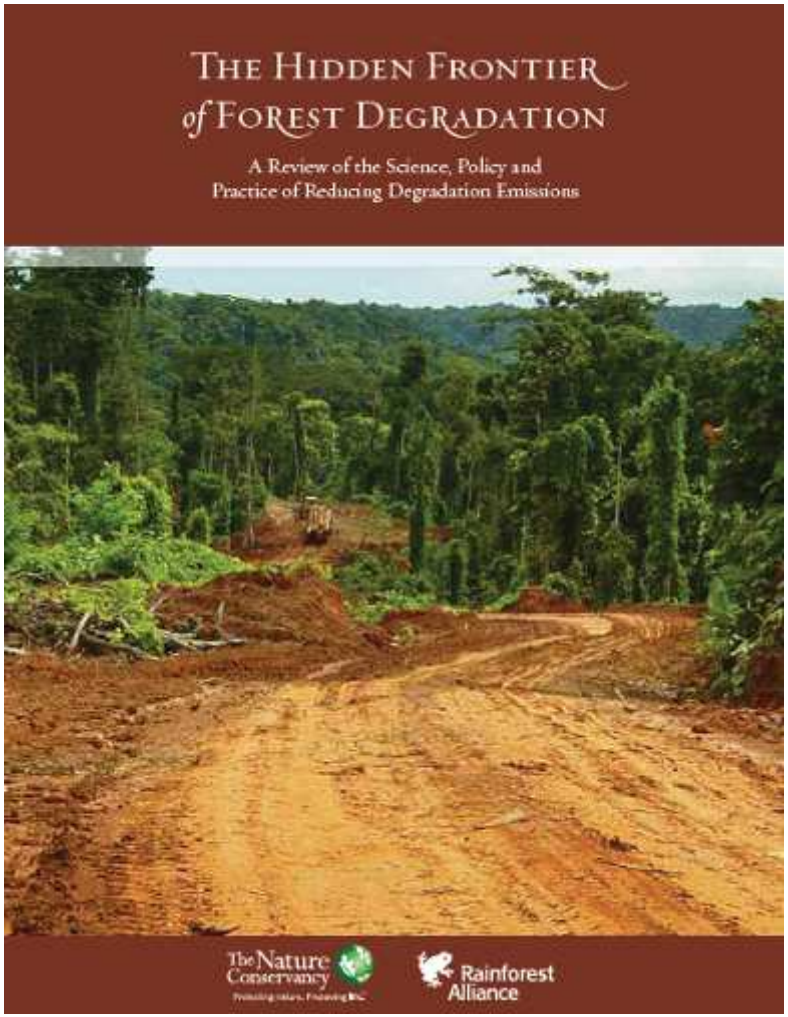

# Responsible forestry, reducing degradation in managed forests

***Rainforest Alliance Climate Initiative***

Jeff Hayward, Manager, Climate Initiative

# Summary of main conclusions

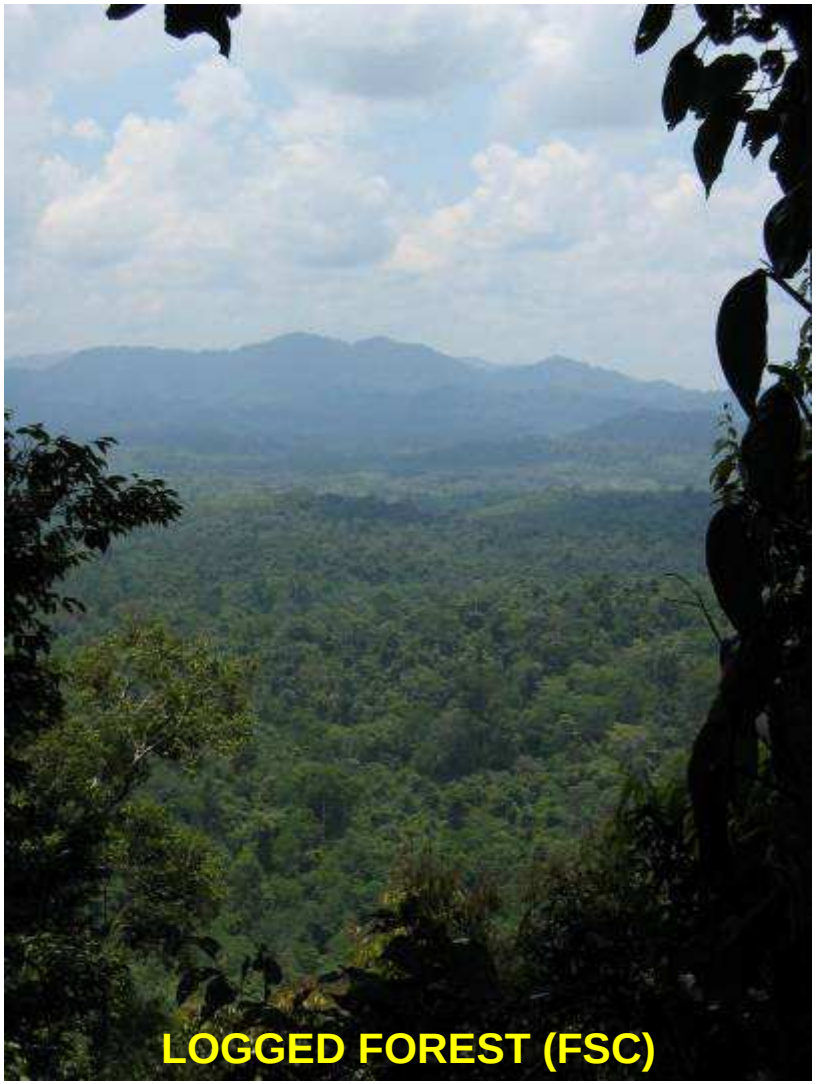
- Data demonstrates the significant emissions from forest degradation
- Effective strategies exist to reduce such emissions
- Improving forest management is an important measure
- Forest certification standards (FSC) promote practices with lower emissions than conventional logging
- FSC systems are existing means to monitoring, verification, and reporting



# Illegal, unsustainable, high-emitting trends

- Illegal forest activities account for more than 10 percent of global trade and a significant portion of total harvest
- Demand for forest products continues to keep pace with growth in average national incomes - expected to increase 1.6 billion m3 to 1.9 million m3 (2010-2015)
- Likely expansion of logging and intensification of harvest
- Likely to open up more frontier forests and re-enter already logged over forest
- Forest degradation often paves way for deforestation

# Improved forest management is a necessary REDD approach



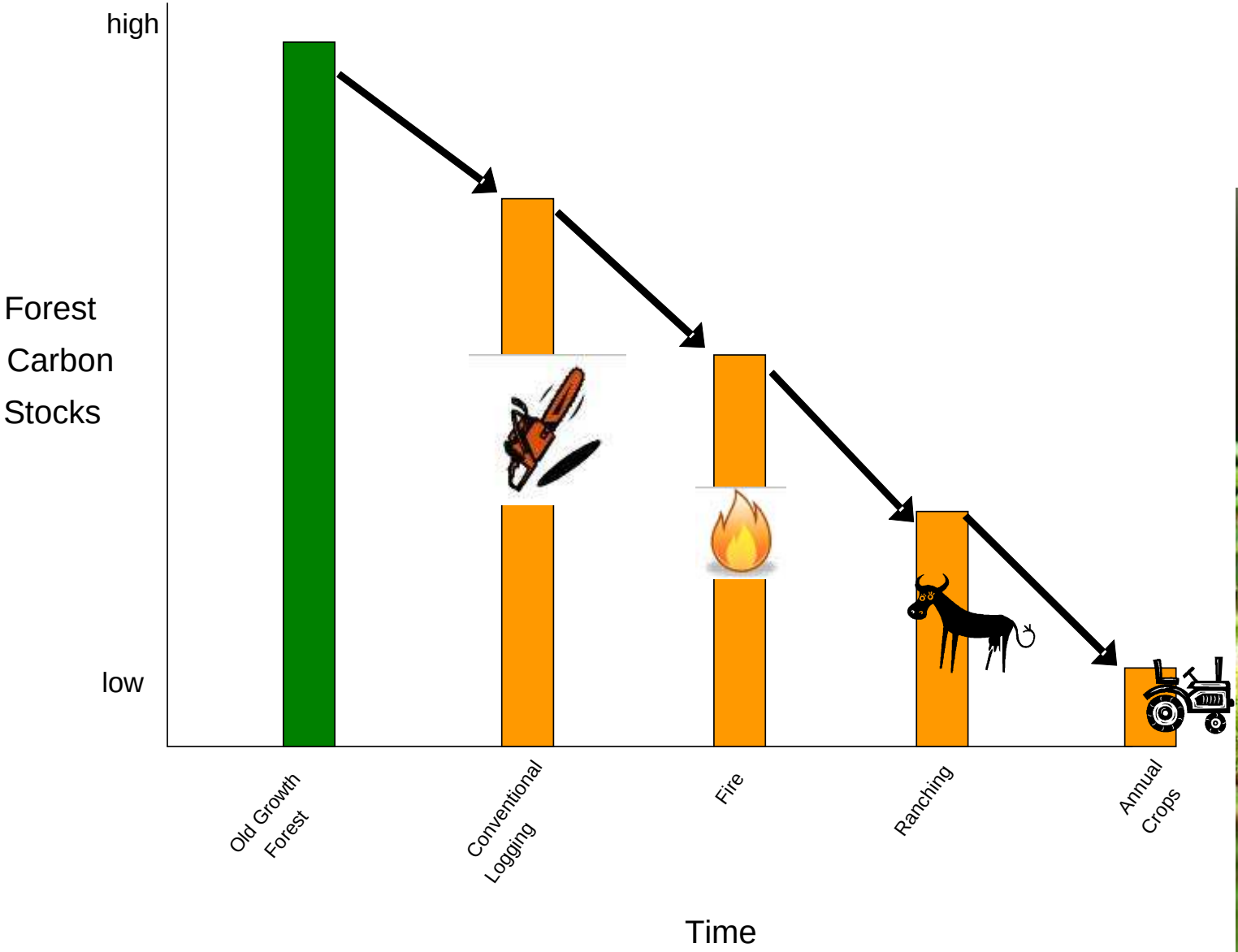

- Logging is inevitable - 350 million hectares of production forest - but doing it responsibly is not
- Strict forest protection is only one tool for reducing emissions from tropical forests
- Responsibly forestry is often less destructive than other extractive industries (i.e., pulp plantations, cattle pasture, extensive soy)
- Responsible forestry represents a means for economic development for an increasing number of community, indigenous, and privately-managed forest lands.

# Extent of degradation emissions from logging

- Forest degradation from timber harvest at least 20% of the emissions from many tropical forests (Neptstad et al 1999, Asner et al 2005, Putz et al, 2008).
- Forest degradation from fuelwood harvest about 57% in forest emissions in Africa.
- Degradation contributes the main emissions from tropical forests in Africa and a magnitude approaching deforestation in tropical Asia.
- IPCC global estimates appear to underestimate emissions. (Referenced studies run from 4.4% to 7 to 9% of total tropical forest carbon).


Source: Woldron (2008)

# Forest degradation – conceptual model (i)



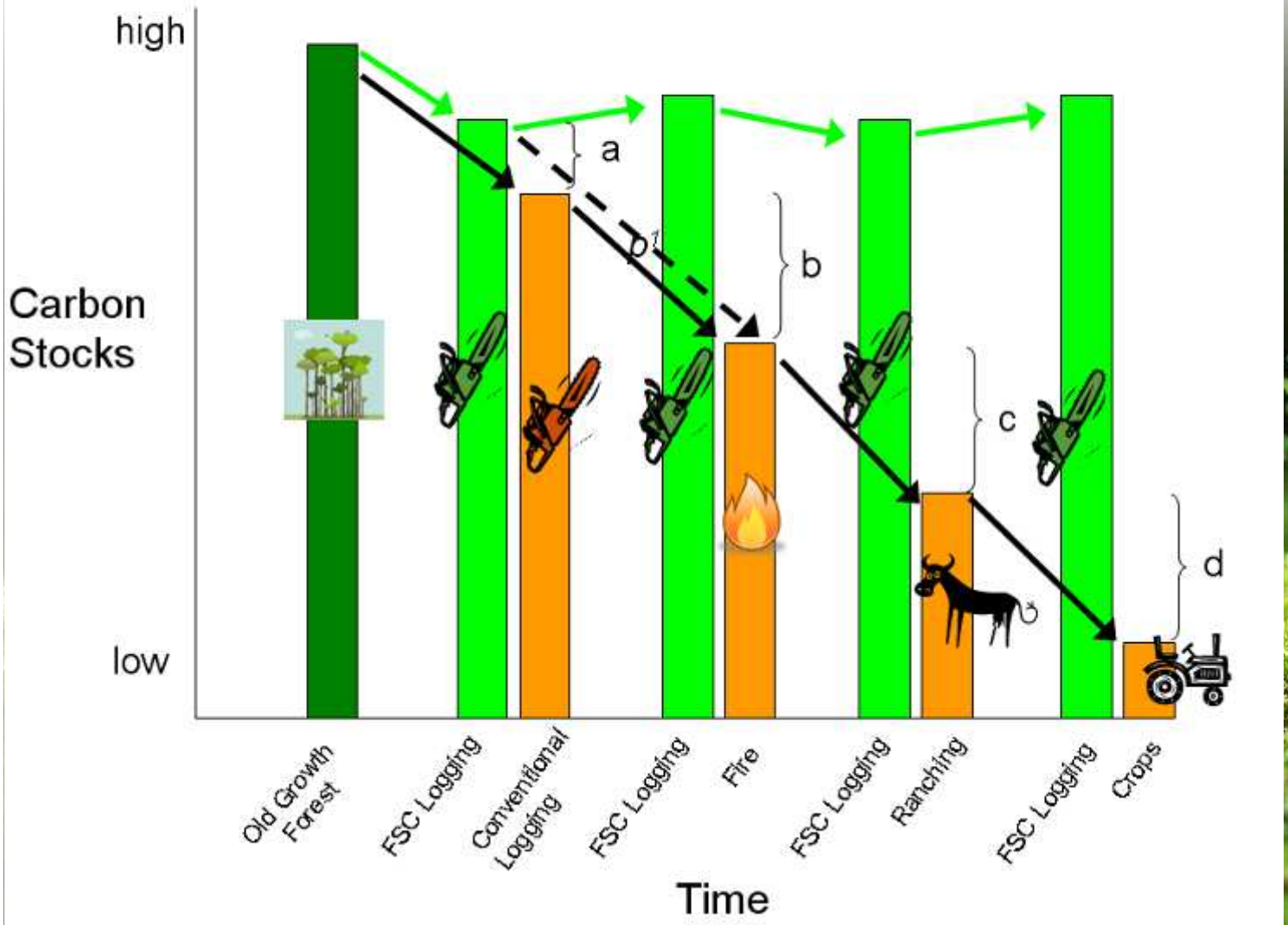



Source: Griscom *et.al*, TNC 2009

# Forest degradation – conceptual model (ii)

Carbon benefits of FSC = $a + b*p^1 + c*p^2 + d*p^3$

Where "*p*" is the difference in probability of transition along each path, for each step.
Note: also need to include discount rate for time lag between each step.



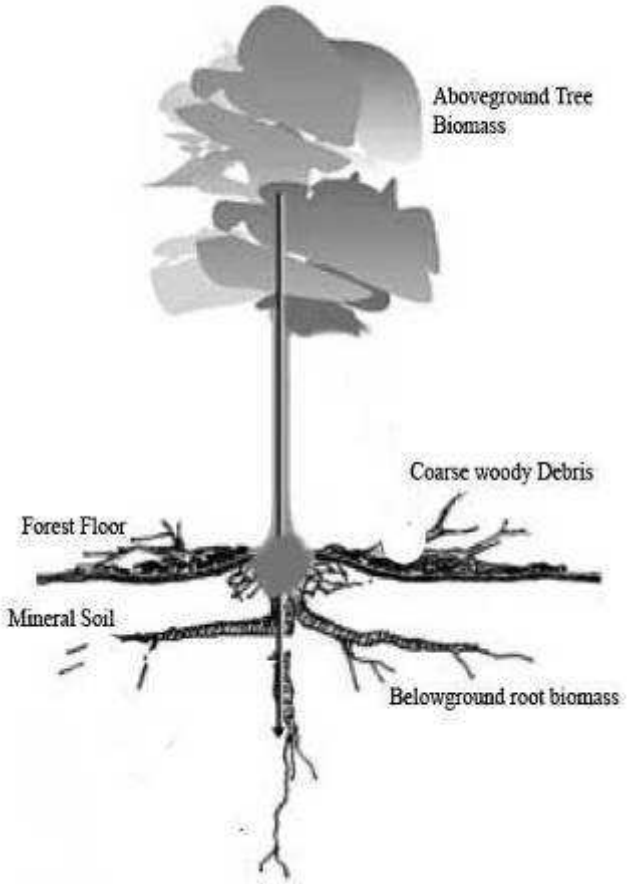



Source: Griscom *et.al*, TNC 2009

# FSC – Practices that reduce degradation

1. **Reduce emissions per unit volume harvested**
2. **Reduce the area logged**
3. **Reduce the chance of future deforestation**

# Reduction of impacts from harvesting




- FSC-certified forests follow Reduced Impact Logging (RIL) as the harvesting method rather than conventional, poor logging techniques.
- RIL is an established set of harvesting procedures that minimize the collateral damage from timber extraction.
- RIL practices may represent possible emissions reductions of at least 10 percent (Putz et. al., 2008).

# Log extraction (skid) trails

# Log extraction (skid) trails vs winch tower


# Log extraction using winch tower


***8 X more people employed***
***10 X less fuel  consumption***

# Primary and secondary roads

# Primary and secondary roads

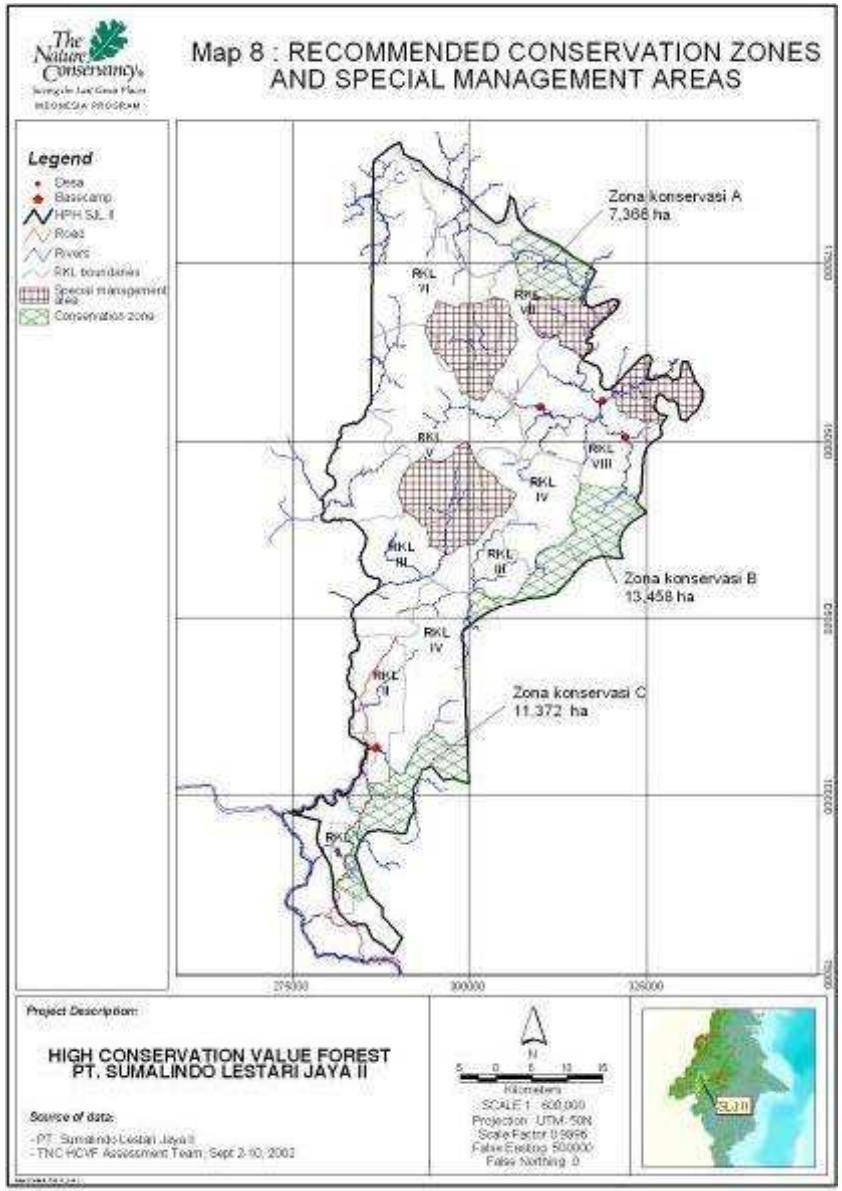
# Reduce soil erosion

# Reduce soil erosion

# Reduction from lower volume removal


- Compared with conventionally logged forests, FSC-certified tropical forests generally harvest lower mean volumes per unit area of logged forest
- More planning goes into setting harvest level (inventory), measuring plots (PSP), and adjusting it (growth modeling).
- Conventional baseline = re-entry logging on 10- to 15-year cycles, resulting in a decrease in living biomass, lack of seed source for regeneration and a decline in carbon storage

# Increased forest area under conservation and restoration




- Retain more biomass through a greater provision of conservation zones, mother trees, and protected riparian areas along streams.
- More areas of protected High Conservation Value Forests
- Active effort (investment) in forest restoration - low productive forests to high productive ones - through enrichment planting, creeper cutting, liberation thinning

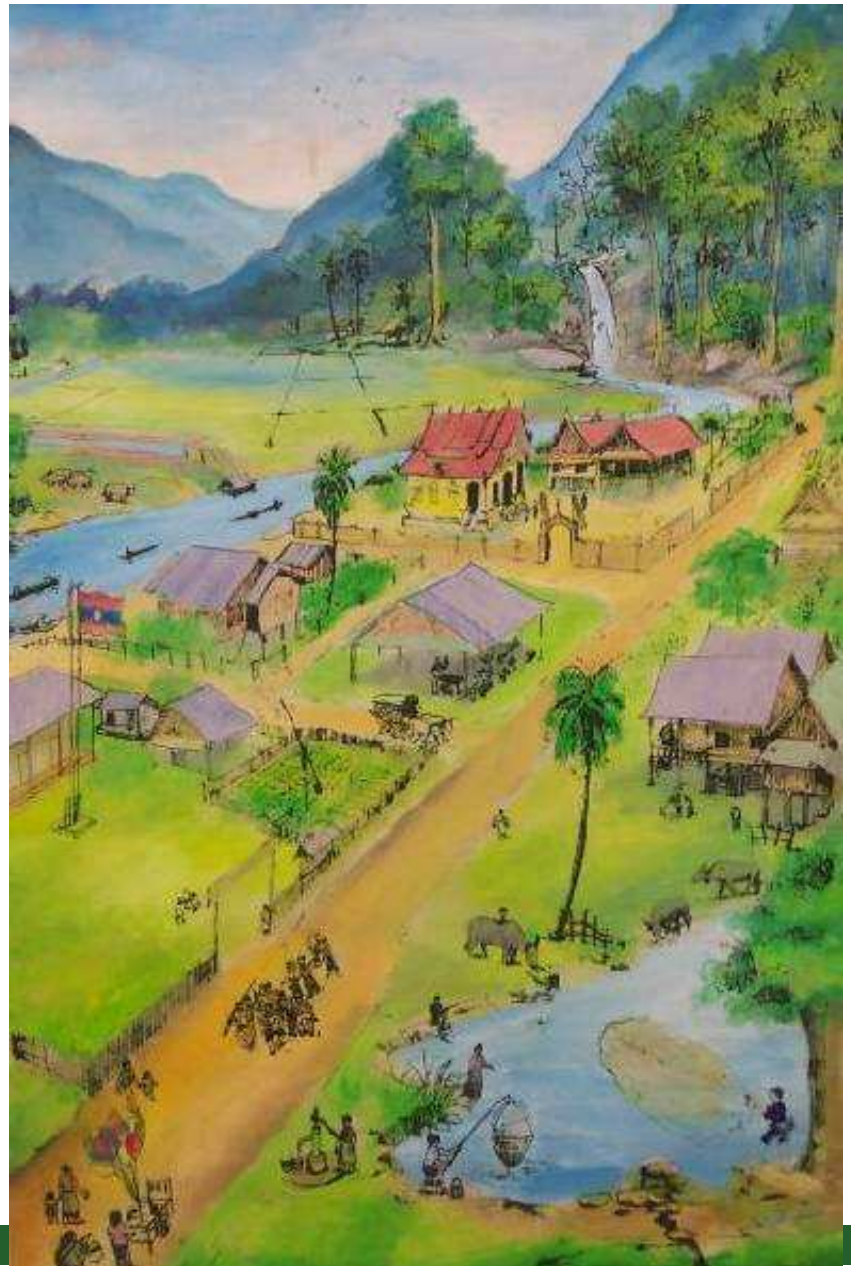
# Measures to prevent unauthorized activities and fire

FSC-certified forests implement preventative management systems:

- personnel training programs
- monitoring and patrols
- fire-brigades
- measures to resolve and reduce unauthorized encroachment and extraction

# Livelihoods, Rights and conflict resolution

- FSC-certified forests strive to address social conflicts (such as tenure disputes, unresolved land claims).
- FSC guidelines a model for community based forest management.
- Create value added economic opportunities.



# Livelihoods, Rights and conflict resolution

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# Wildlife and ecosystem function

- FSC certification places strong restrictions on hunting and poaching.
- Prohibition on hunting and trade by company workers, conservation education, wildlife surveys.
- Moving field camps out of remoter forest harvest blocks and restrictions on road access
- Provision of land areas for local food production (for cows, pigs, chickens, goats, etc.)

# Summary of issues

- Magnitude of emissions from forest degradation represents at least 20% of the total tropical forest emissions, much more than is commonly thought.

- Wide adoption of responsible forestry could reduce emissions by 11% (0.16 Gt C/yr) of those coming from tropical forest degradation and deforestation (Putz et al 2008)

- FSC certified forests generate forest products, which when sustainably produced can provide long-term sources of revenue, employment, taxes, and other contributions to livelihoods, business development, health and welfare.