Addressing Deforestation and Degradation through Sustainable Forest Management in Malaysia

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Malaysia
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Forestry in Malaysia

- Forest sector is an important economic sector
- Contributed about US$5.7 billion in 2005
- Major exporter of tropical hardwood
- Recognise the importance of the resource in conserving biodiversity, mitigating impacts of climate change and conserving soil and water resources
- It is to the country's own interest to manage the resource sustainably
- Malaysia's population and economic condition make it possible to implement SFM

CRITICAL ACTIVITIES OF SFM

- **Strong Policy and legislation**
- **Gazette of Permanent Reserved Forests**
- **Allocate Protection & Production Forests Within PRF**
- **Determine Management/silvicultural systems for different forest type**
- **Prescribe and monitor AAC (*Allowable Annual Cut*)**
- **Implement Reduced Impact Logging**
- **Timber Certification**
- **Research support**

National Forest Policy

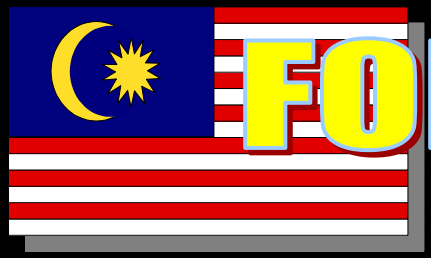
- **Sufficient Areas startegically located to be set aside As Permanent Forest Estate (PFE)**
  - **PROTECTION FOREST**
  - **PRODUCTION FOREST**
  - **AMENITY FOREST**
  - **RESEARCH & EDUCATION FOREST**
- Policy Amended in 1992 to include:
  - Conservation of biodiversity
  - Promote role of local communities in forest development.
  - Sustainable utlisation of genetic materials

National Forestry Act

- Land is a state matter
- Federal > provision of advice, technical asst.
- National Forestry Council – forum for resolving Federal and State issues
- National Forestry Act 1984 > strengthen forest planning and management
- Establish Permanent Reserved Forests and classify into functional classes
- amended in 1993 to curb illegal logging:
  - More stringent fines
  - Mandatory jail sentences
  - Facilitate court prosecutions

Forest Lands in Malaysia

- Forested lands in Malaysia categorised:
  - Permanent Reserved Forests
  - National/State Parks, Wildlife Sanc. Etc
  - Stateland Forests
- Permanent Reserved Forest categorised
  - Production Forest
  - Protection Forest



FOREST RESOURCES

2003

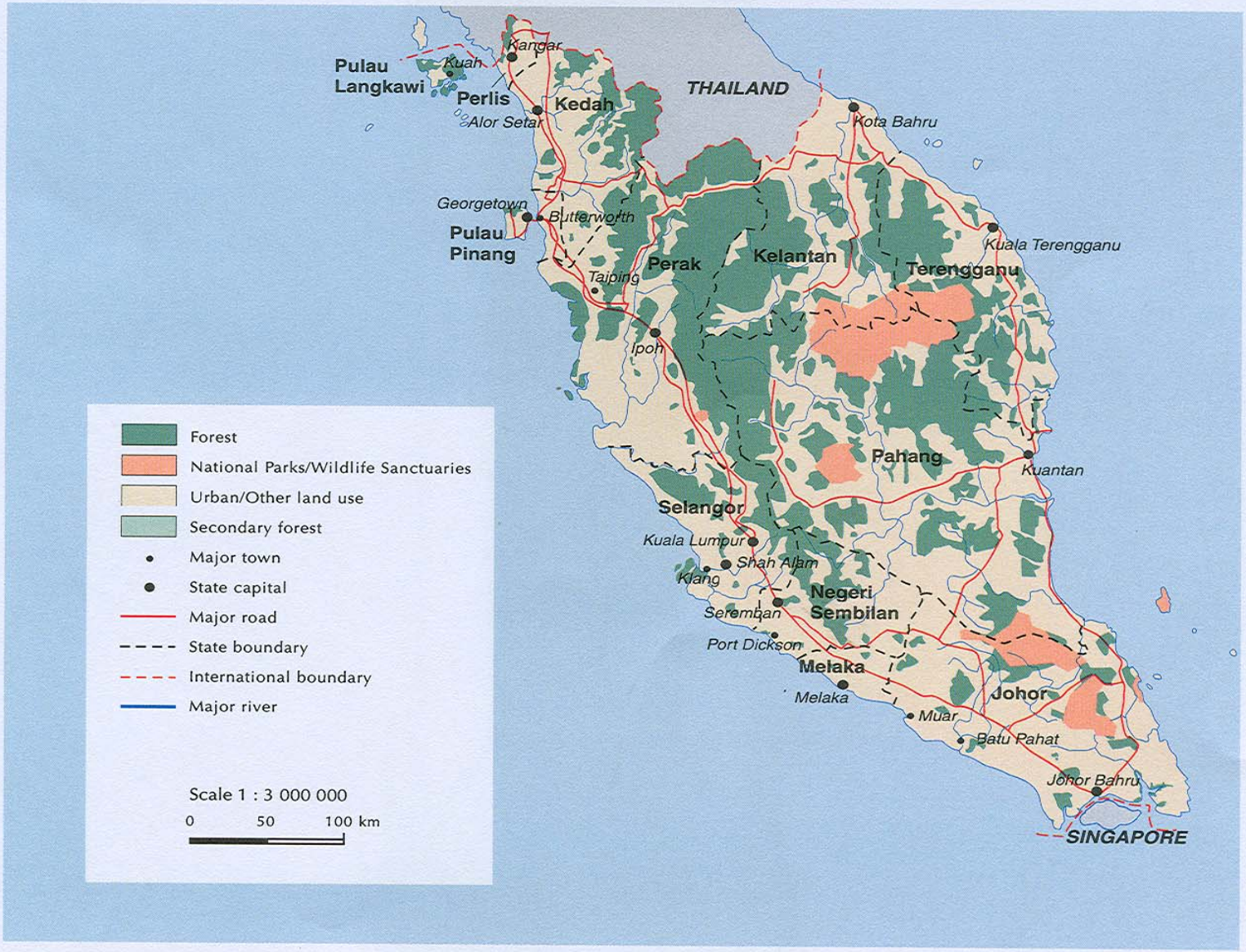
(million ha)

REGION	PENINSULAR MALAYSIA	SABAH	SARAWAK	MALAYSIA
Permanent Reserved Forests	4.70	3.59	6.10	14.39
• Productive	3.18	3.00	5.00	11.18
• Protective	1.52	0.59	1.10	3.21
National & Wildlife Parks	0.89	0.41	1.10	2.40
Stateland Forest	0.29	0.40	2.04	2.73
TOTAL	5.88	4.40	9.24	19.52 (60%)

Total Land Area : 32.86 million ha.

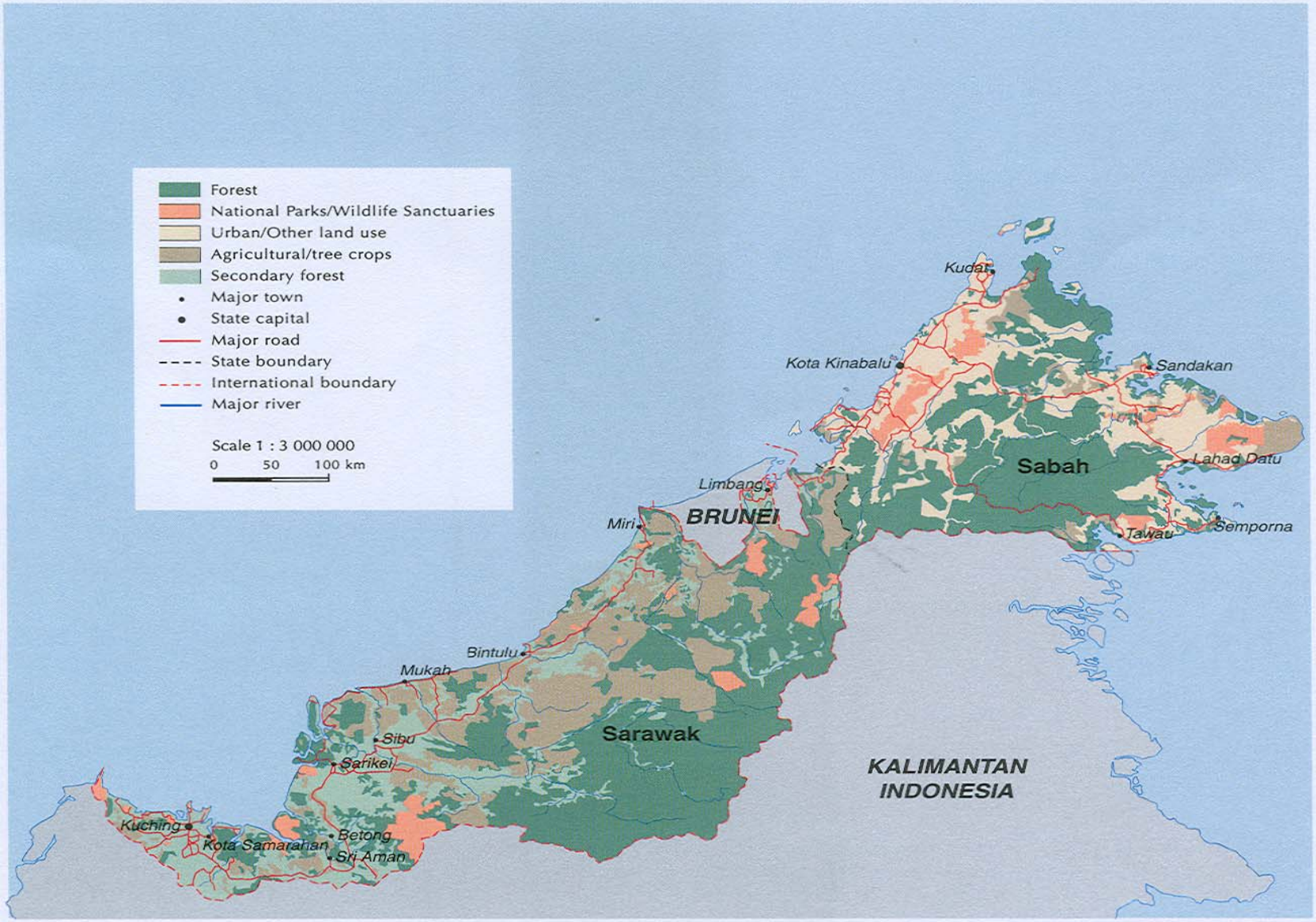
Source: Forestry Department Peninsular Malaysia, Sabah & Sarawak

FOREST COVER IN PENINSULAR MALAYSIA



Source: Forestry Department of Peninsular Malaysia, 2002

FOREST COVER IN SABAH & SARAWAK

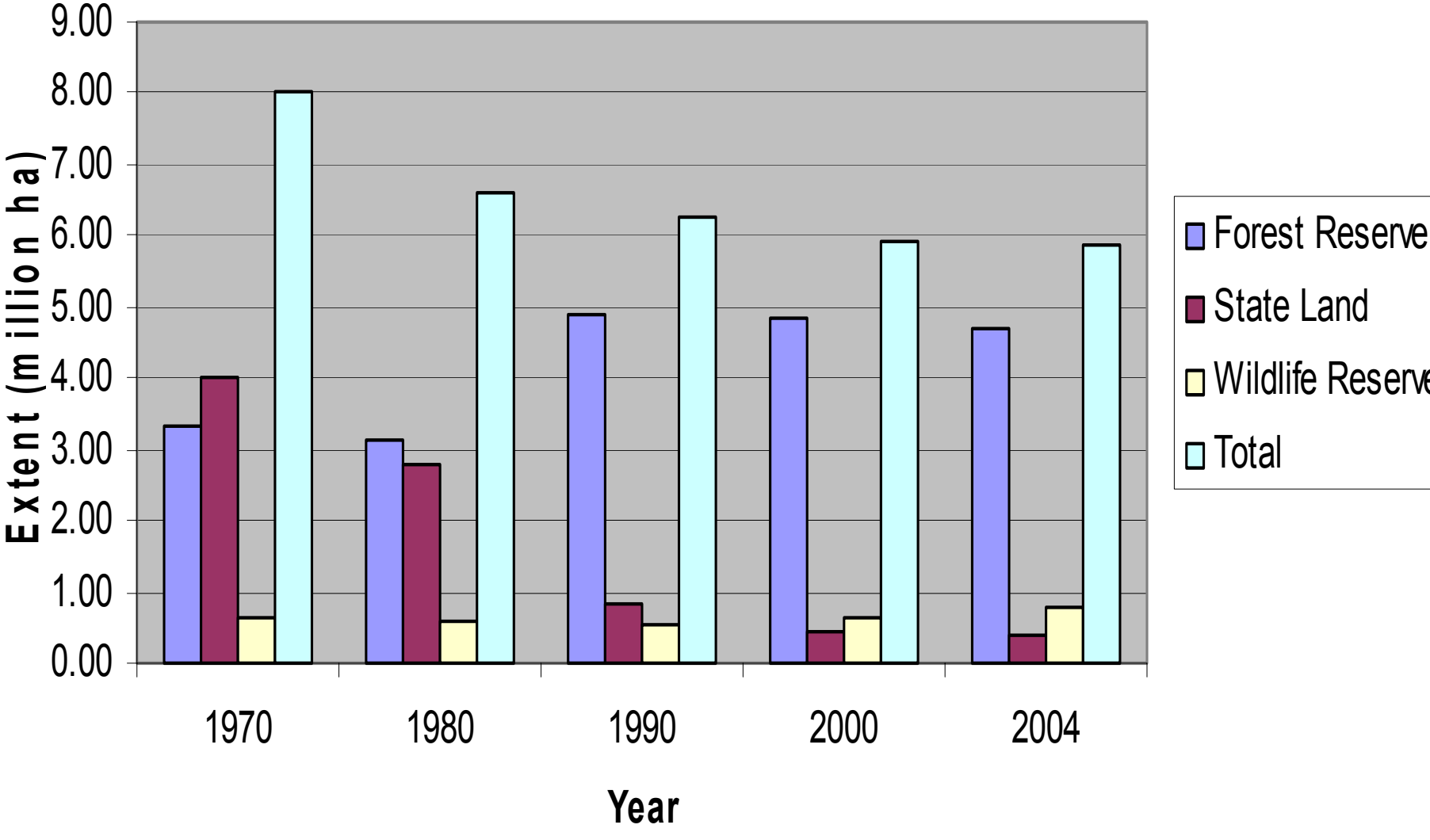


Source: Forestry Departments of Sabah and Sarawak, 2002

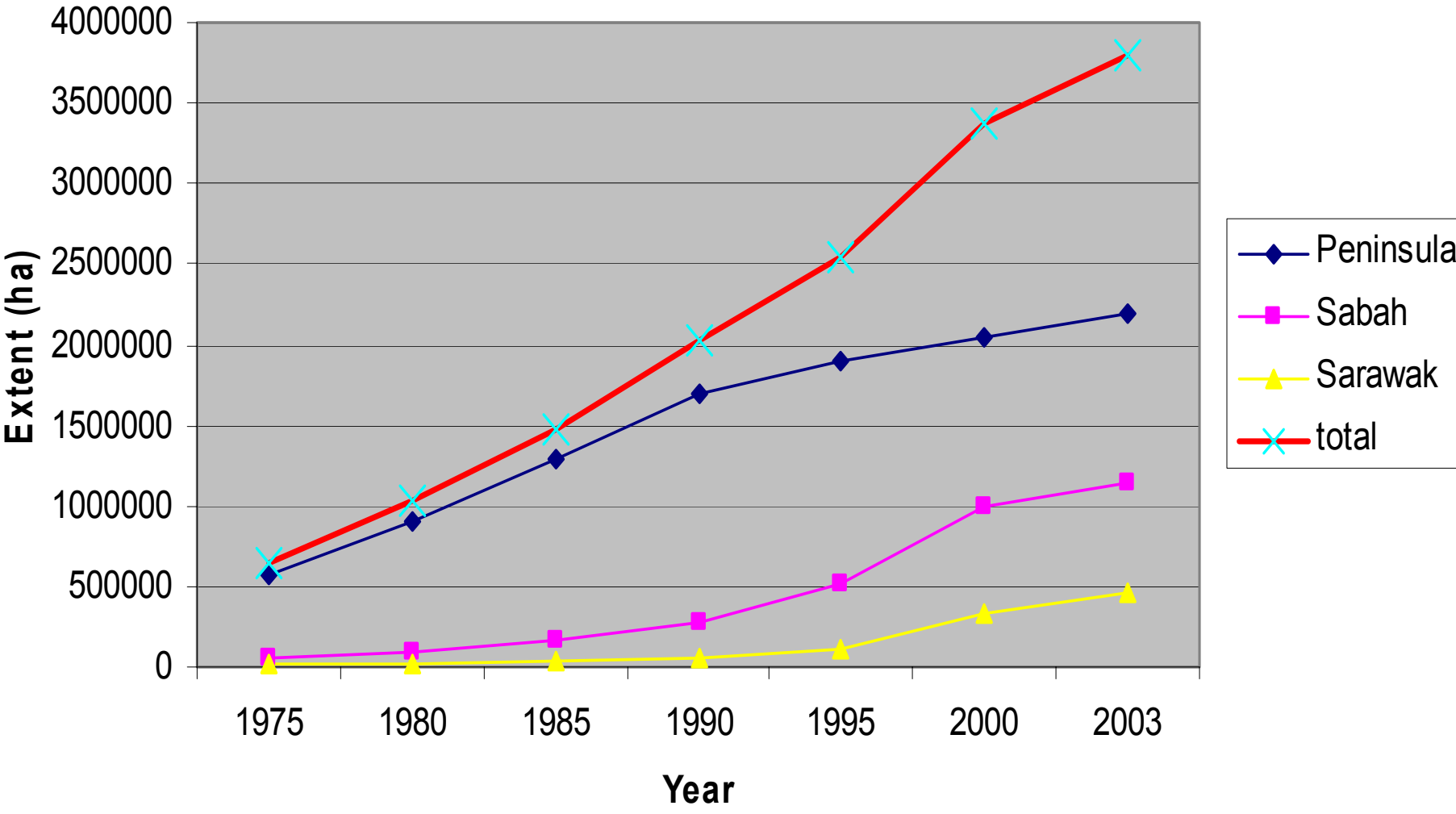
Deforestation

- Occur in Statelands converted into other purposes
- Relatively high in the 70's & 80's but reduced significantly from 90's onwards
- Land development schemes to overcome poverty and enhance standard of living > proven successful
- Necessary process for development
- Mainly converted in agric. crop lands such as rubber and oil Palm

Changes in Forested Area (Pen. M'sia)



Extent of Palm Oil Plantations



Changes in Forest Extent 1970 to 2004 (Pen. Malaysia)

Stateland Forests

4.02 mil ha ← **0.4 mil ha**

Forest Reserves

3.34 mil ha → **4.68 mil ha**

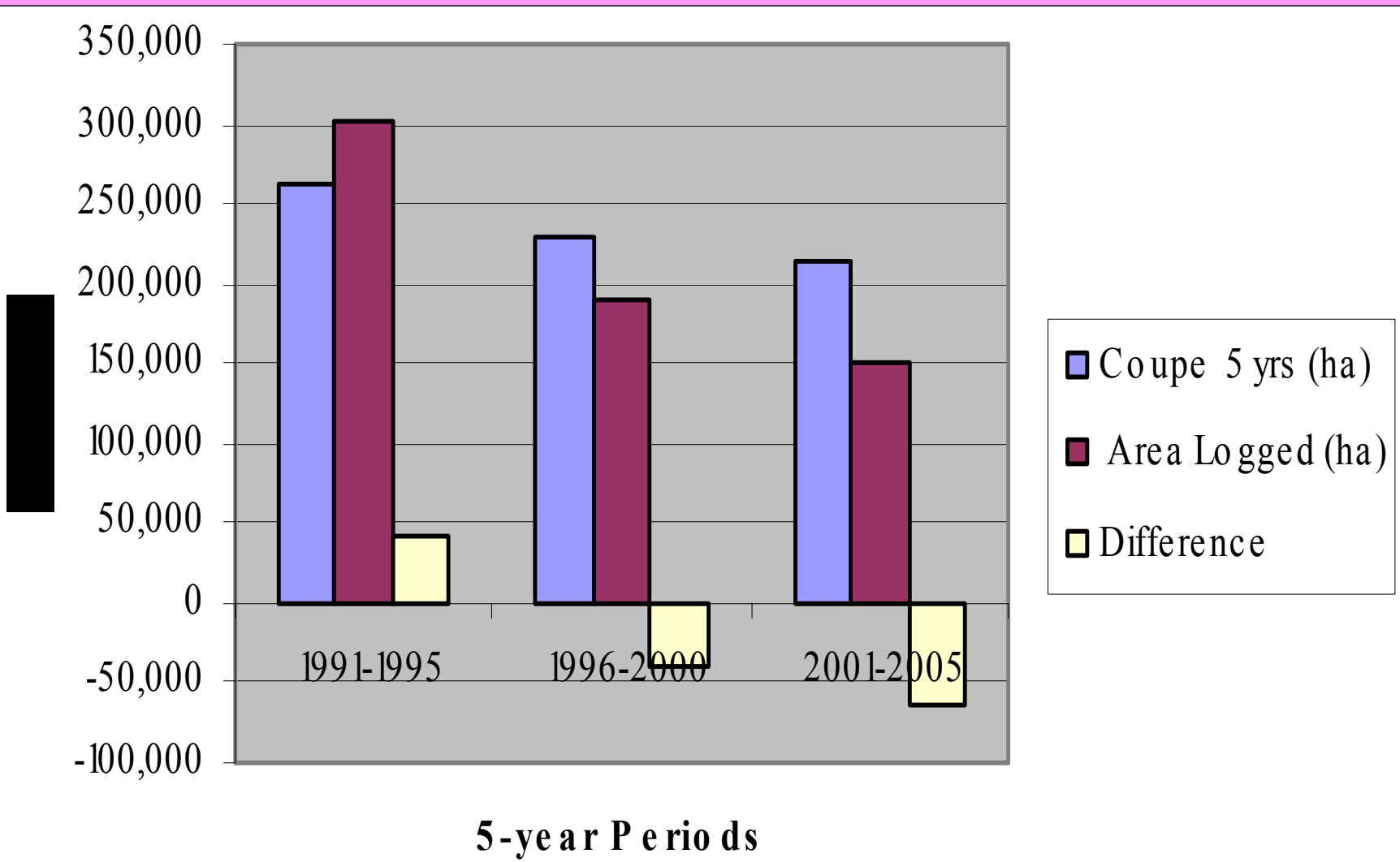
Wildlife Reserves

0.65 mil ha → **0.77 mil ha**

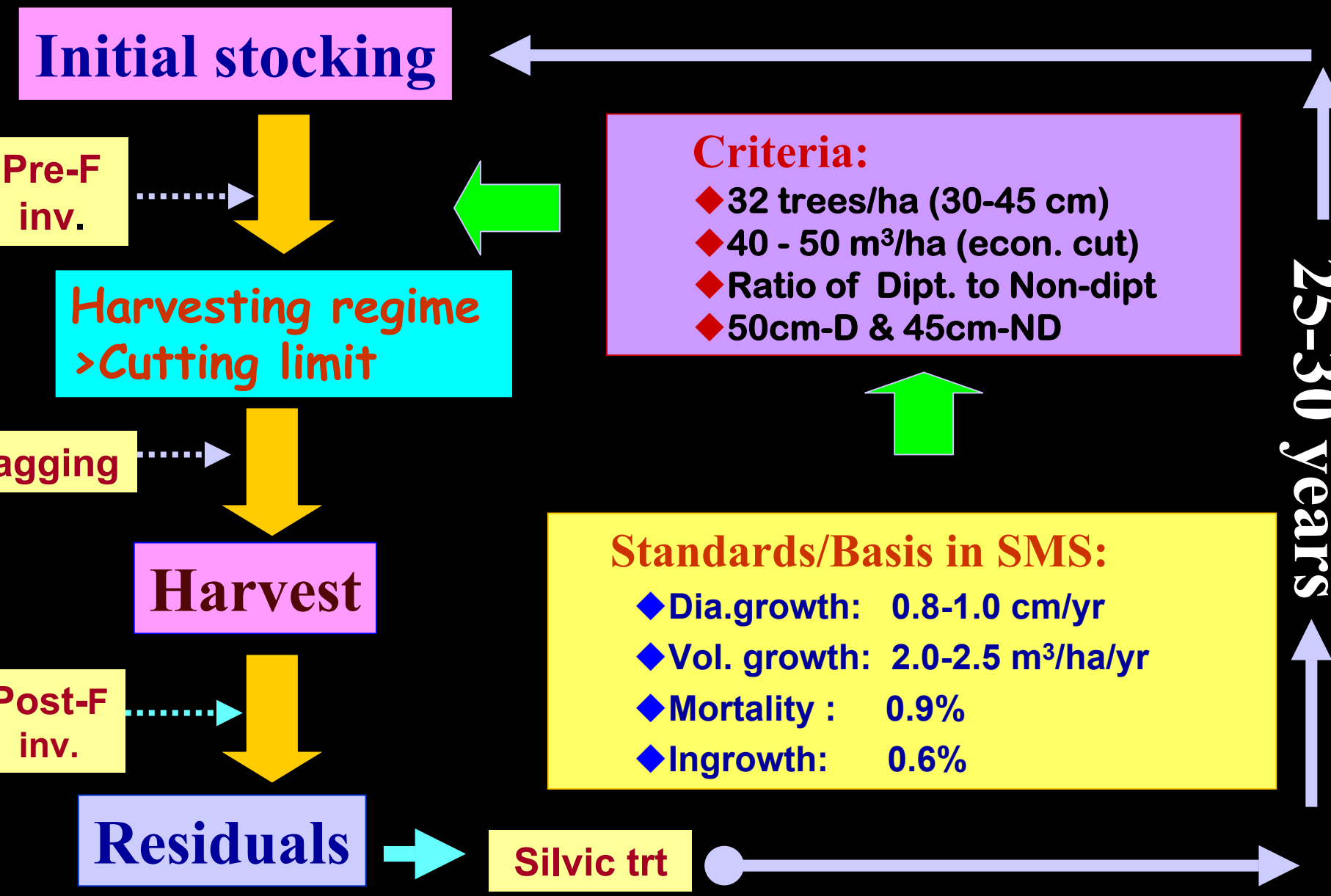
Annual Coupe

- To ensure that the forests are managed on a sustainable basis an AAC is determined every 5 years
- Calculated on an area basis for production forests
- Last 10 yrs total area opened for logging significantly lower than AAC
- Records AAC had been exceeded when country's economic condition is not good

Annual Coupe 1991- 2005



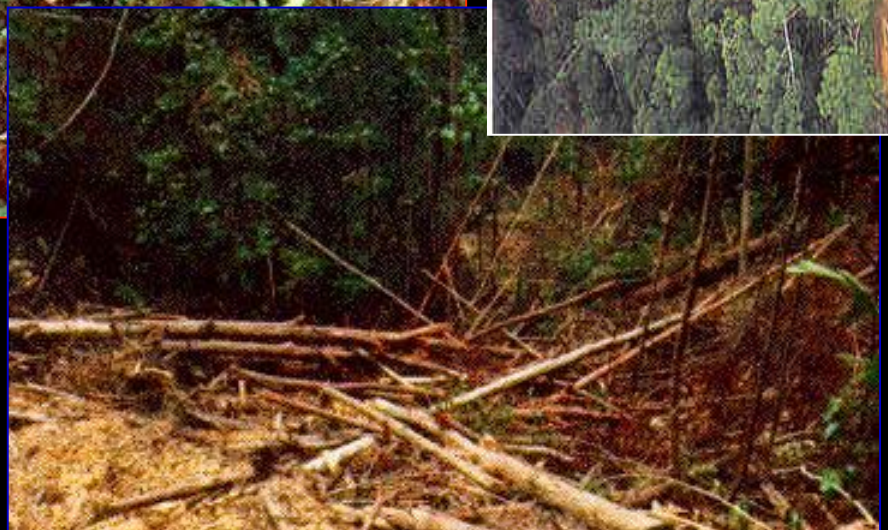
Selective Management System (SMS)



Implementing SMS

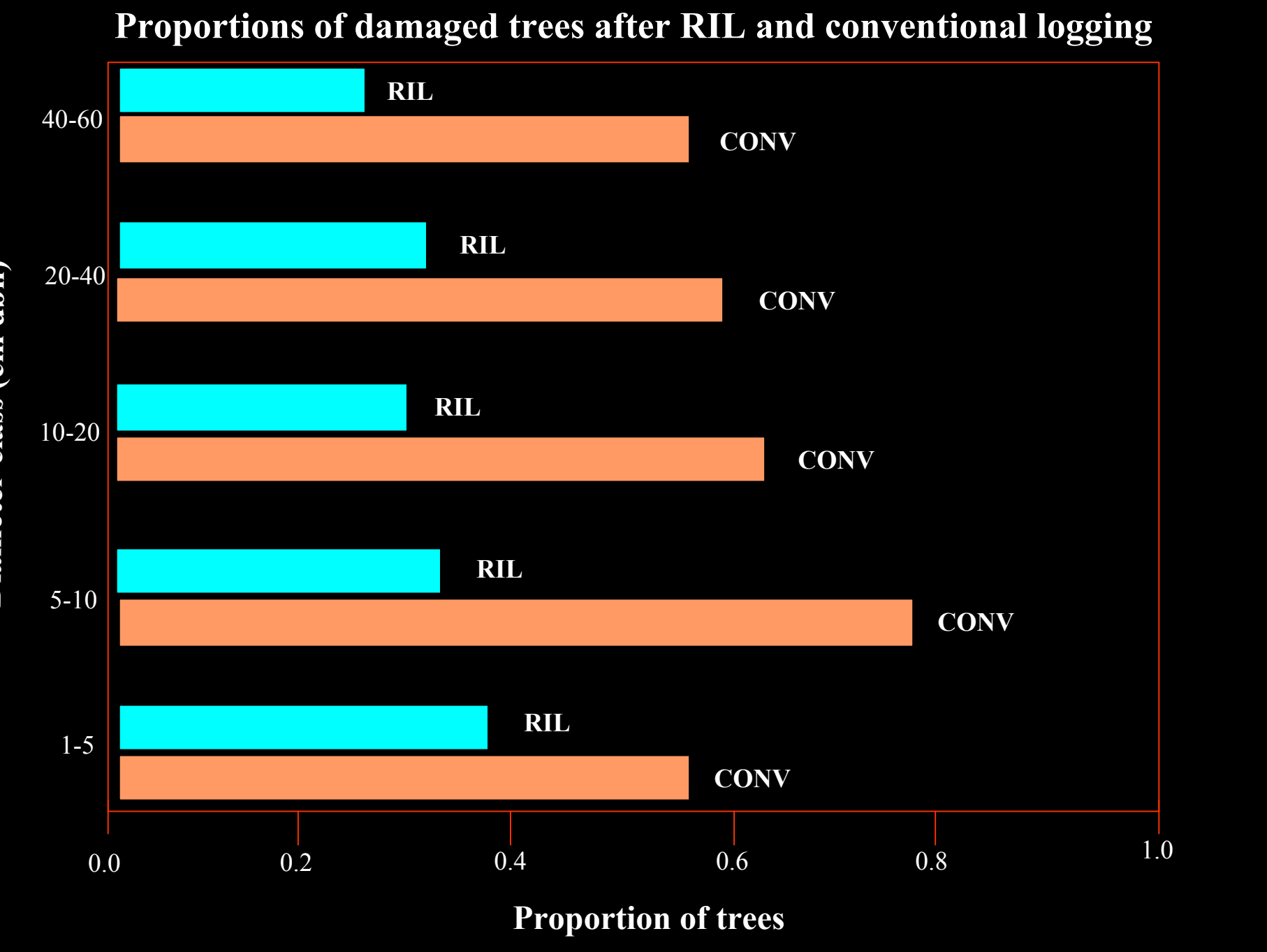
- Generally effective in addressing emissions
- Still being refined > overcome issues with regards to impacts on species composition and recovery rates
- More immediate issue is in improving harvesting systems > minimise damage through Reduced Impcat Logging

Residual Stand Damage

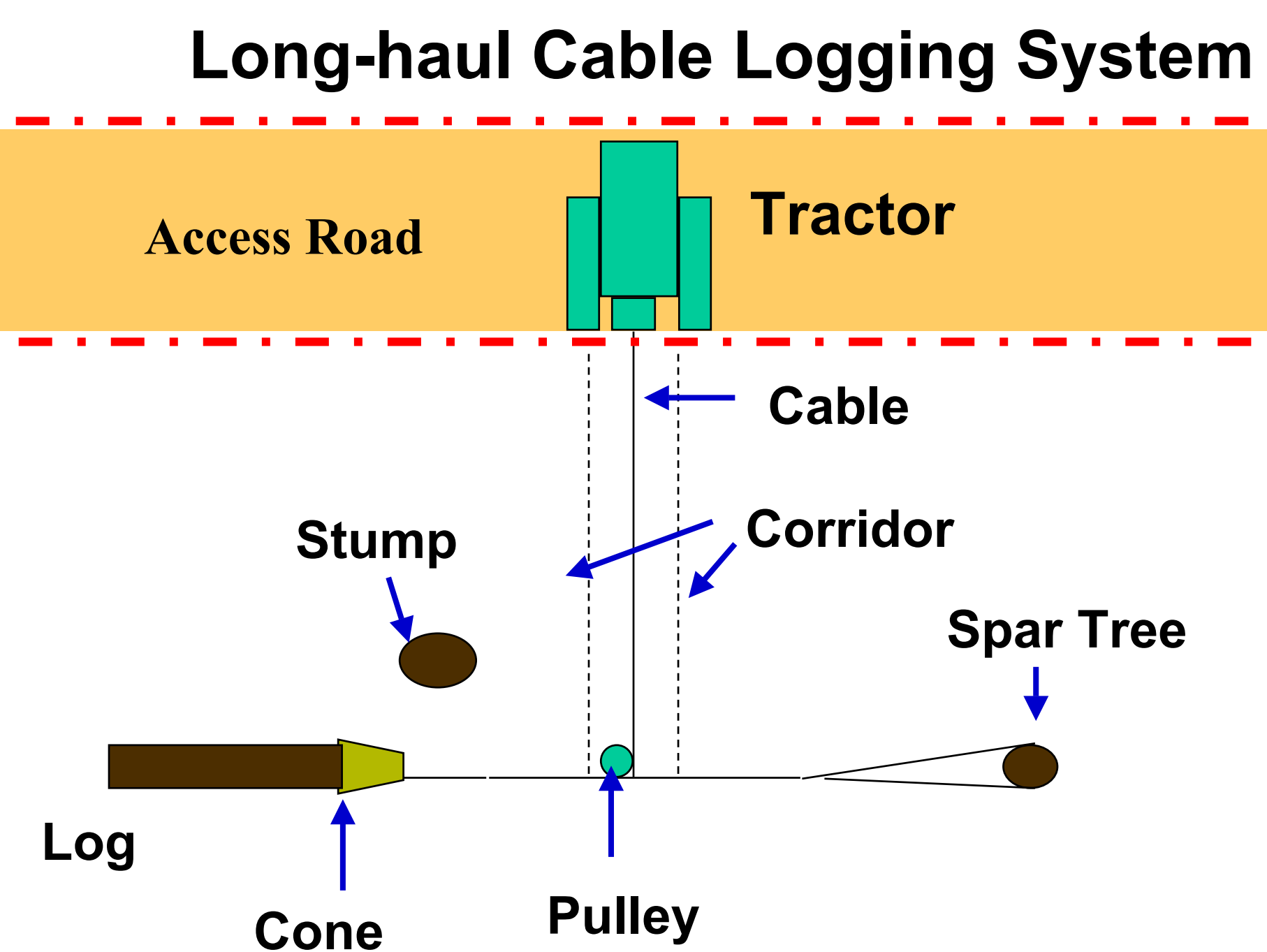


Improve Logging >RIL Specification

- Guidelines for Logging in Hill forests & road specs
- Forest management and harvesting plans
- Areas >1000m and 40^{o} slopes are protected
- Areas with special flora/fauna protected
- Riparian buffers established & marked in the field
- Density of roads, skid trails & landings limited
- Adequate residuals retained
- Volume removed < 85 m^3/ha gross
- Road alignment and skid trails pre-determined and approved by engineer
- Skid trails and log landings planted after logging
- Timber tagging to monitor felling and extraction


Proportions of damaged trees after RIL and conventional logging
40-60
RIL
CONV
20-40
RIL
CONV
10-20
RIL
CONV
5-10
RIL
CONV
1-5
RIL
CONV
0.0
0.2
0.4
0.6
0.8
1.0
Proportion of trees

Long-haul Cable Logging System



Impacts of limiting tractor movements

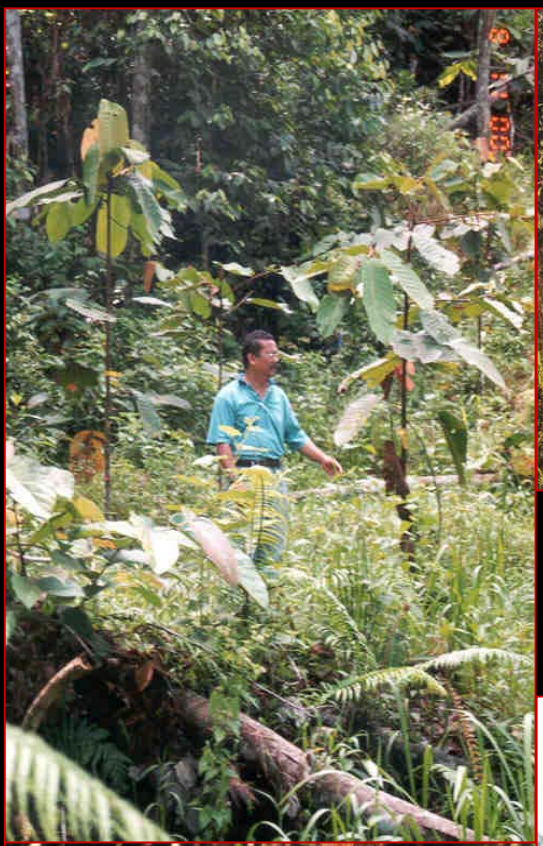
FOREST REHABILITATION

Hopea odorata 30 months after planting

Shorea leprosula 12 months after planting at logging road

Timber Certification

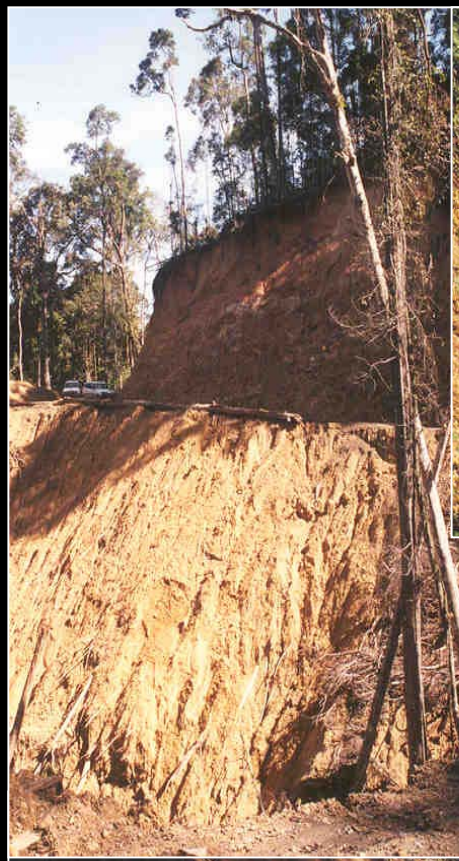
- Important tool to promote & demonstrate SFM
- Ensuring whats on paper is practiced on the ground
- Third party inspection of Forest management unit
- Had resulted in significant improvements in forest management practices
- Criteria, Indicators and Mgt Specs developed under the Malaysian Timber Certification Council
- All states have undergone certification since 1994
- FSC compatible standards developed and currently being implemented in all states



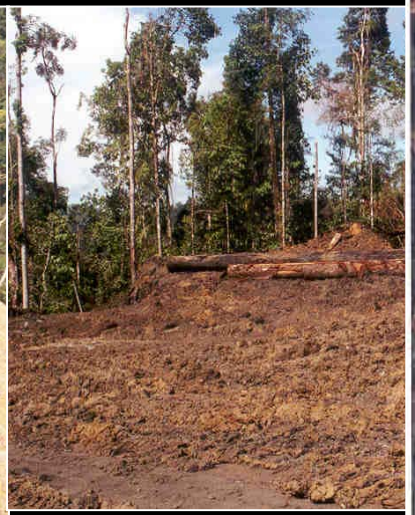

KAWASAN PERHUTANAN
KERAJAAN NEGERI
HUTAN SIMPAN
DERAMAKOT
SLOW
50
km/j

The Good


DERAMAKOT
FOREST RESERVE



The Bad



Peat Swamp forests

- Tropical peat swamp forest is an important forest ecosystem being threatened with deforestation/ degradation in SE Asia
- Stores Up to 6000 tonnes of Carbon /ha compared to 300 tC/ha for tropical rainforest on mineral soil.
- 90-95% of storage is in below ground in peat soil.
- A drained peatland emits 100 tonnes of CO_2/ ha/yr
- A burning peatland emits 1000-2000t CO_2 /ha/yr.
- 90% of persistent forest fires and transboundary haze in SE Asia are linked to peat swamp forests.
- Emission from SEA peatlands is equivalent to about 30% of global emission from tropical deforestation (1.5 billion tonnes) even though SEA PSF represent 2% of area of tropical forests.

Addressing the Challenge

- Malaysia is taking the following steps:
  - all peat swamp forests designated at permanent forest reserves will be retained
  - measures to be taken to reduce the drainage of from peatlands.
  - State governments to classify remaining parts of primary peat swamp forests as PFR
  - developments in peatlands covering > 20ha subject to EIA

- Significant progress has been made to develop techniques for rehabilitation of peat swamp forests However resources are generally not available to support such programmes.
- Given the high storage of carbon , vulnerability, emissions – deforestation in peatland areas should be addressed rapidly
- **Support should be provided to tropical countries to take measures to stop further degradation of peat swamp forests and rehabilitate degraded forests to prevent CO2 emissions**

Conclusion

- Malaysia is committed to SFM
- Global community must appreciate root causes of deforestation > if countries are disadvantaged economically then natural resources will be exploited
- Mechanism developed need to be cautious and should not be disadvantageous to countries like Malaysia who maintains large forest areas and practices SFM
- Peat swamp forest should be given due consideration under any measure to reduce the GHG emissions from deforestation


Thank you
Terima Kasih