

Sustainable Biodiversity Management in ASEAN:

Regional initiatives and the challenges of connecting to
development

Policy Dialogues on the Economics of Ecosystems and Biodiversity

9 February 2012
Bangkok, Thailand



Southeast Asia's biodiversity: a rich natural capital

Tropical Marine and Coastal Ecosystem is a renowned centre of biodiversity

Over **24,000** islands: a coastline of **173,000 km.**;

34% of the world's 284,000 square kilometers of coral reefs.

Coral Triangle, home to **75%** of the world's reef-building corals.

Has **18** out of **60** species of seagrasses; has **33%** of all seagrass areas on earth supporting economically important fisheries

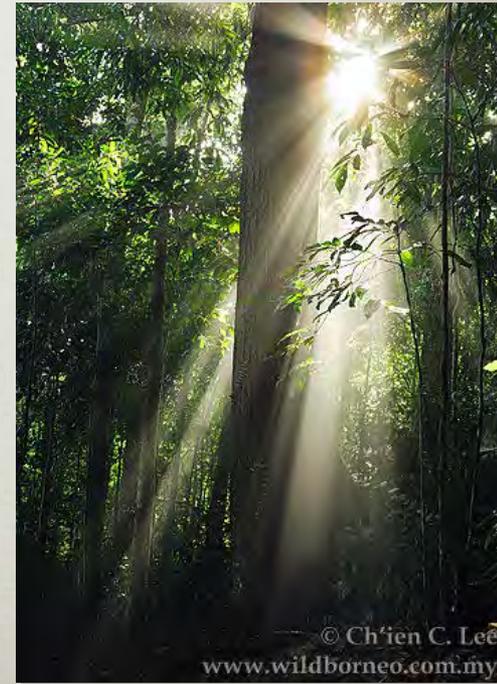


The **Tropical Forest Ecosystems:** established **reservoir of biodiversity**

One of the **oldest** and **most diverse** forest ecosystems in the world - from tropical evergreen, mixed dipterocarps, mountain, hill and evergreen, heath, limestone and mangrove.

Have a **high number of endemic plant and animal species** are dependent on the health of forest ecosystems

Resources from the area directly sustain more than **120 million** people.



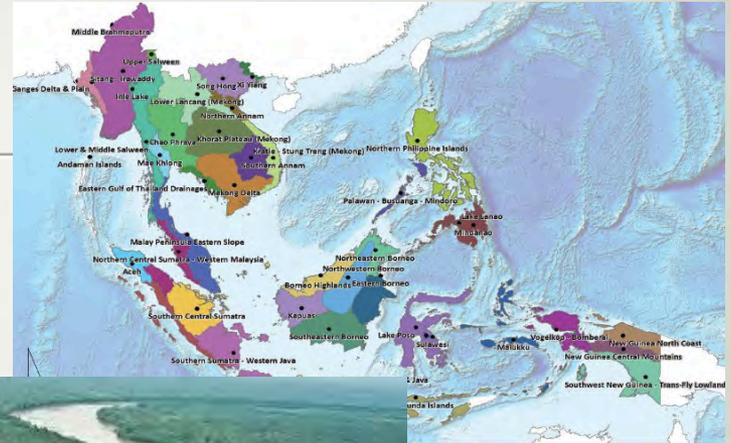
The **Freshwater Ecosystems:** lifeblood for development and community survival

Inland water ecosystems in the ASEAN region are considered to be high value areas. These cover **wetlands, peatlands and freshwater bodies.**

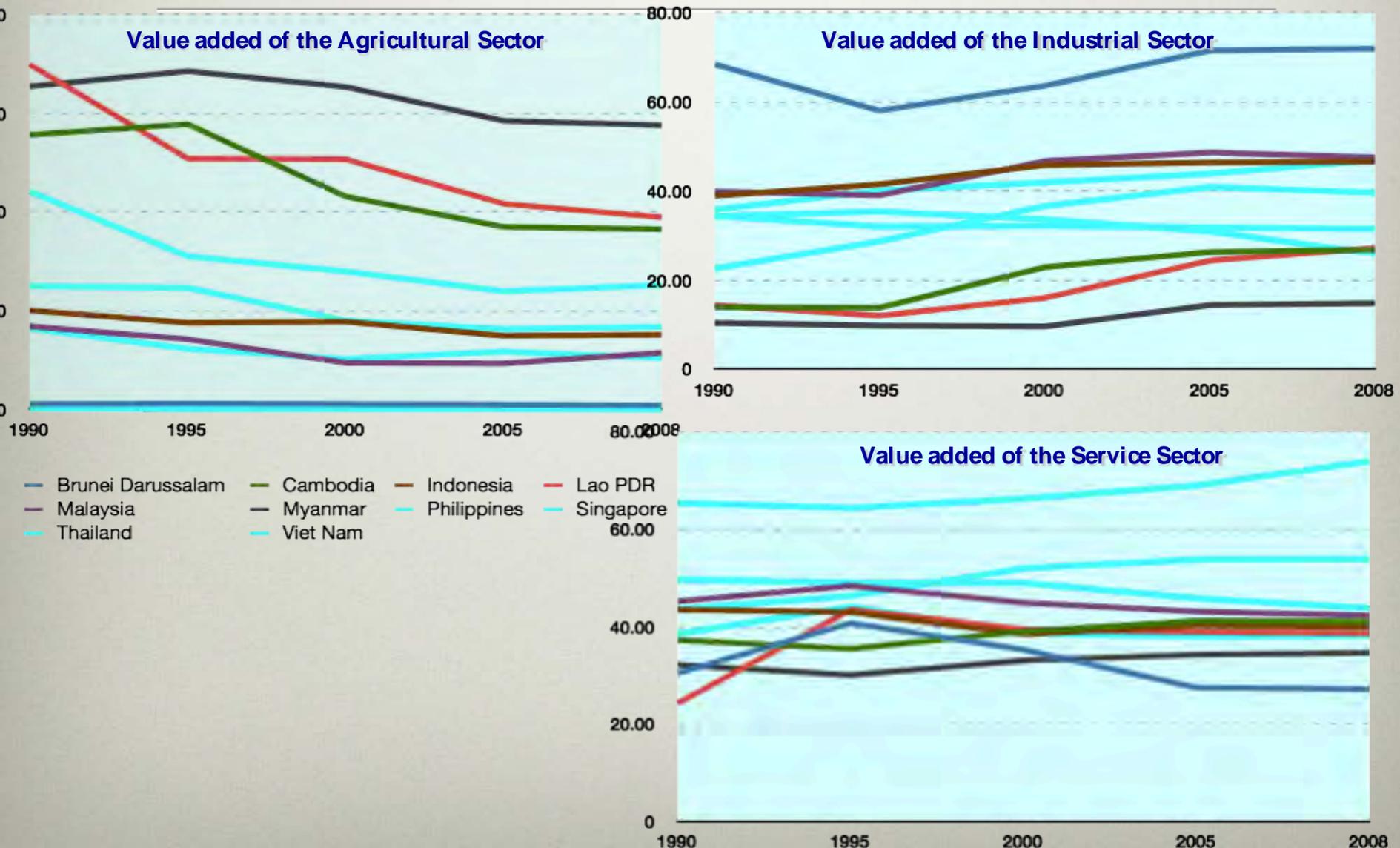
Covers several known freshwater bodies: **Great Mekong, Laguna Lake, Irrawady, Chao Phraya, Salween** etc.

Have a **high number of biodiversity resources, particularly freshwater fish, endemic plant and animal species**

Millions of people, **mostly rural and indigenous communities** draw their life support systems from these ecosystems.



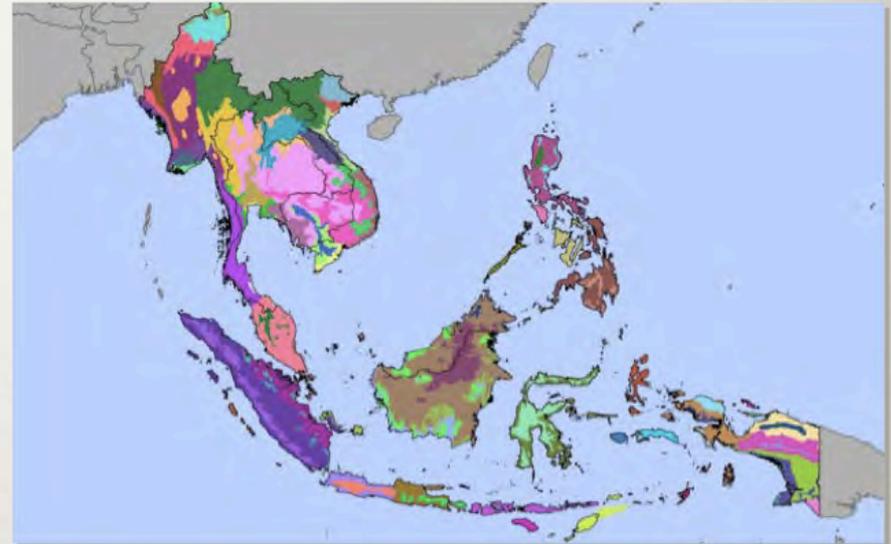
Growth patterns reliance to biodiversity resources and ecosystems services may not always be clear but are evidently established



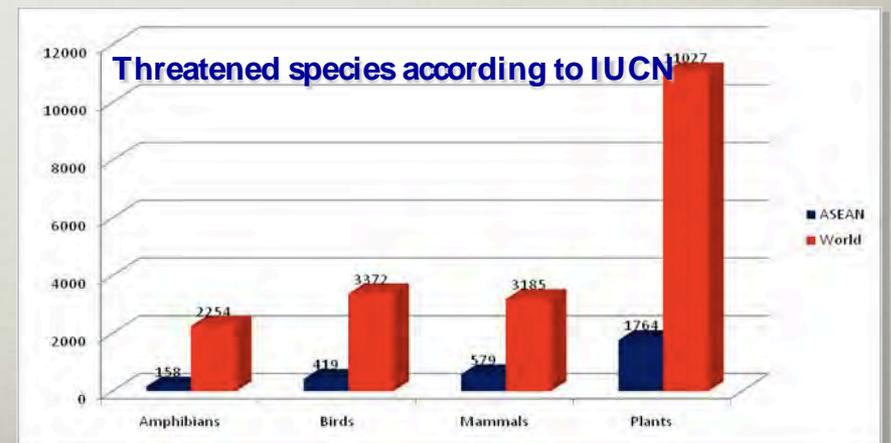
But at what cost to the region's natural capital ?

Of Biodiversity Hotspots and Species Loss

The region has **4 of the world's 34** recognized biodiversity hotspots (Indo-Burma, Philippines, Sundaland, and Wallacea).



The region is confronted with **massive habitat and species loss.**



Shrinking Forests Ecosystems

Primary threats to forests in Southeast Asia has been **deforestation** significantly reducing the capacity of **forest ecosystems to provide its valuable multiple services.**

ASEAN Member States	Land Area ^a (km ²)	Forest Area (km ²)				Annual Rate of Change (2000-2007)
		1980 ^b	1990 ^c	2000 ^d	2007 ^d	
Brunei Darussalam	5,765	4,830	3,130	4,430	4,380	-0.14
Cambodia	181,035	120,300	129,460	115,410	100,094	-1.66
Indonesia	1,890,754	1,246,220	1,165,670	978,520	847,522	-1.67
The Lao PDR	236,800	144,700	173,140	99,332	96,407	-0.37
Malaysia	330,252	217,220	223,760	201,600	196,630	-0.31
Myanmar	676,577	329,290	392,190	345,540	312,900	-1.18
Philippines	300,000	110,260	105,740	79,490	68,472	-1.73
Singapore	710	50	23	23	23	0.00
Thailand	513,120	180,930	159,650	148,140	144,024	-0.35
Viet Nam	329,215	106,380	93,630	117,250	134,134	1.80
ASEAN	4,464,328	2,460,180	2,446,393	2,089,742	1,904,593	-1.11

Sources:

^a Fourth ASEAN State of the Environment Report 2009. Jakarta: ASEAN Secretariat, October 2009.

^b Qiang Ma. 1999. Asia-Pacific Forestry Sector Outlook Study: Volume I - Socio-Economic, Resources and Non-Wood Products Statistics. Food and Agriculture Organization of the United Nations. Asia-Pacific Forestry Sector Outlook Study. Working Paper No: APFSOS/WP/43, accessed on April 21, 2010 at <http://www.fao.org/docrep/x2613e/x2613e0r.htm#TopOfPage>

^c FAOSTAT 2010 accessed on 21 April 2010 at <http://www.faostat.fao.org>

^d Fourth ASEAN State of the Environment Report 2009. Jakarta: ASEAN Secretariat, October 2009.

The same patterns are exhibited in the loss of mangrove forests.

ASEAN Member States	1980 (km ²)	2005 (km ²)	1980 and 2005 Difference		Percentage to ASEAN Total Remaining Mangrove Area
			(km ²)	%	
Brunei Darussalam	184.0	184.0	-	-	0.4
Cambodia	912.0	692.0	(220.0)	(24.1)	1.5
Indonesia	42,000.0	29,000.0	(13,000.0)	(34.1)	61.7
The Lao PDR	-	-	-	-	-
Malaysia	6,740.0	5,650.0	(1,090.0)	(16.2)	12.0
Myanmar	5,555.0	5,070.0	(485.0)	(8.7)	10.9
Philippines	2,950.0	2,400.0	(550.0)	(18.6)	5.11
Singapore	17.9	5.0	(12.9)	(72.1)	0.01
Thailand	2,800.0	2,400.0	(400.0)	(14.3)	5.11
Viet Nam	2,691.5	1,570.0	(1,121.5)	(41.7)	2.34
TOTAL	63,850.4	46,971.0	(16,879.0)	(26.4)	~100%

Source: Food and Agriculture Organization 2007. The World's Mangroves 1980-2005. FAO Forestry Paper 152. Food and Agriculture Organization of the United Nations, Rome, 2007, accessed on 20 April 2010 at <http://www.fao.org/docrep/010/a1427e/a1427e00.htm>.

Deforestation

Extensive fragmentation and degradation of forests, rivers and other ecosystems have led to loss of biodiversity and ecosystems services.



Forest fires (over 10 million hectares lost in forest fires from 1997-2006)

Unsustainable logging practices

Shifting cultivation and agricultural expansion

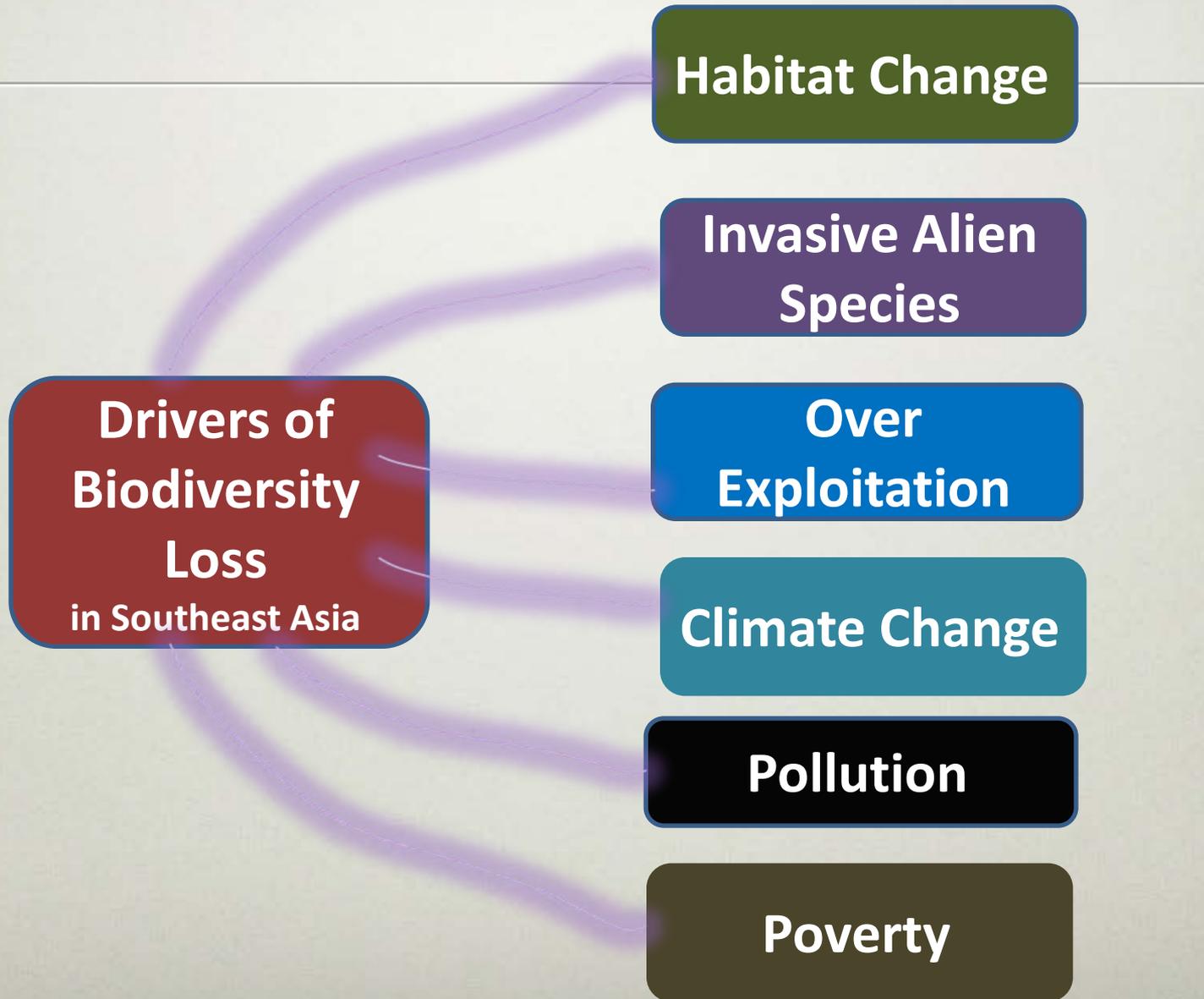
Expansion human settlements to provide for the needs of the growing population.

Coastal and Marine Ecosystems degradation

An estimated **88%** of Southeast Asia's coral reefs are at risk due to human activities such as destructive fishing practices and coral bleaching.



Drivers of biodiversity loss in Southeast Asia



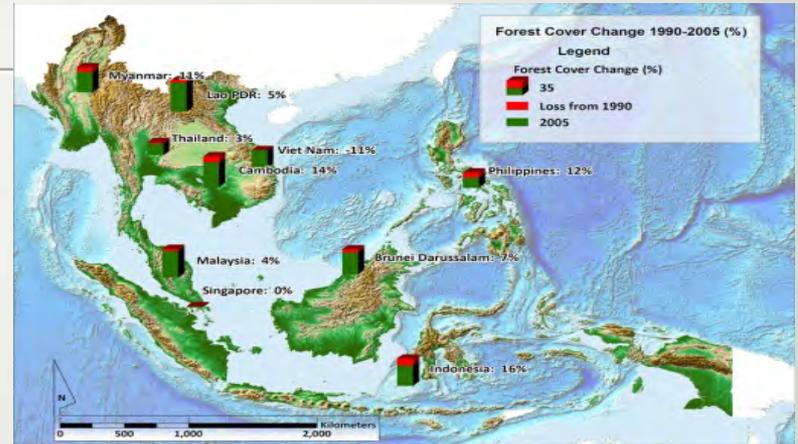
Habitat changes or conversion to other uses

Loss of habitat for many birds, mammals and other animals

Reduced pollinator activity

Decline in species richness and populations

Overall reduction in biodiversity



Invasive Alien Species

The cost of damage caused by invasive alien species (IAS) globally is estimated at **US\$ 1.4 trillion** per annum (*Global Invasive Species Programme, 2008*).

When IAS enter new habitats, the lack of predators and the ability to compete with native species over the food supply can allow them to dominate the local ecosystem.

IAS is one of the major drivers of environmental change in the world, thus placing considerable constraints on environmental conservation, economic growth, and sustainable development.



Overexploitation: Illegal Wildlife Trade

SEA long been targeted by **illegal wildlife traders** as a **hotspot** in the lucrative multi-billion dollar global trade of wildlife. Over 100 million animals are hunted for bushmeat.

Illegal wildlife trade valued at **10 to 20** billion U.S. dollars annually (*ASEAN-WEN*).

Indonesia, Malaysia, and Myanmar are targeted. Smugglers frequently caught utilizing transport links through Thailand and Viet Nam. (*ASEAN WEN*)

13,000 metric tons of turtles shipped into China every year from SEA.

Wild species including illegally cut timber, birds, reptiles, and mammals are traded in SEA. The pangolin is the most heavily traded mammal.



Species endangered by trade (2009)

Taxa	Number
Birds	30
Flowering plants	4
Mammals	60
Reptiles	4
Fishes	7
Total	105



¹Species listed as most endangered and are therefore regulated under Appendix I of CITES. The hotspot countries of Indonesia, Malaysia and Philippines harbor a number of endemic species but also a considerable number of threatened or endangered species of birds, mammals, fishes, flowering plants and reptiles that are being traded for their economic use.

Climate Change



Climate change is likely to become the dominant direct driver of biodiversity loss by the end of the century (*MA, 2005*).



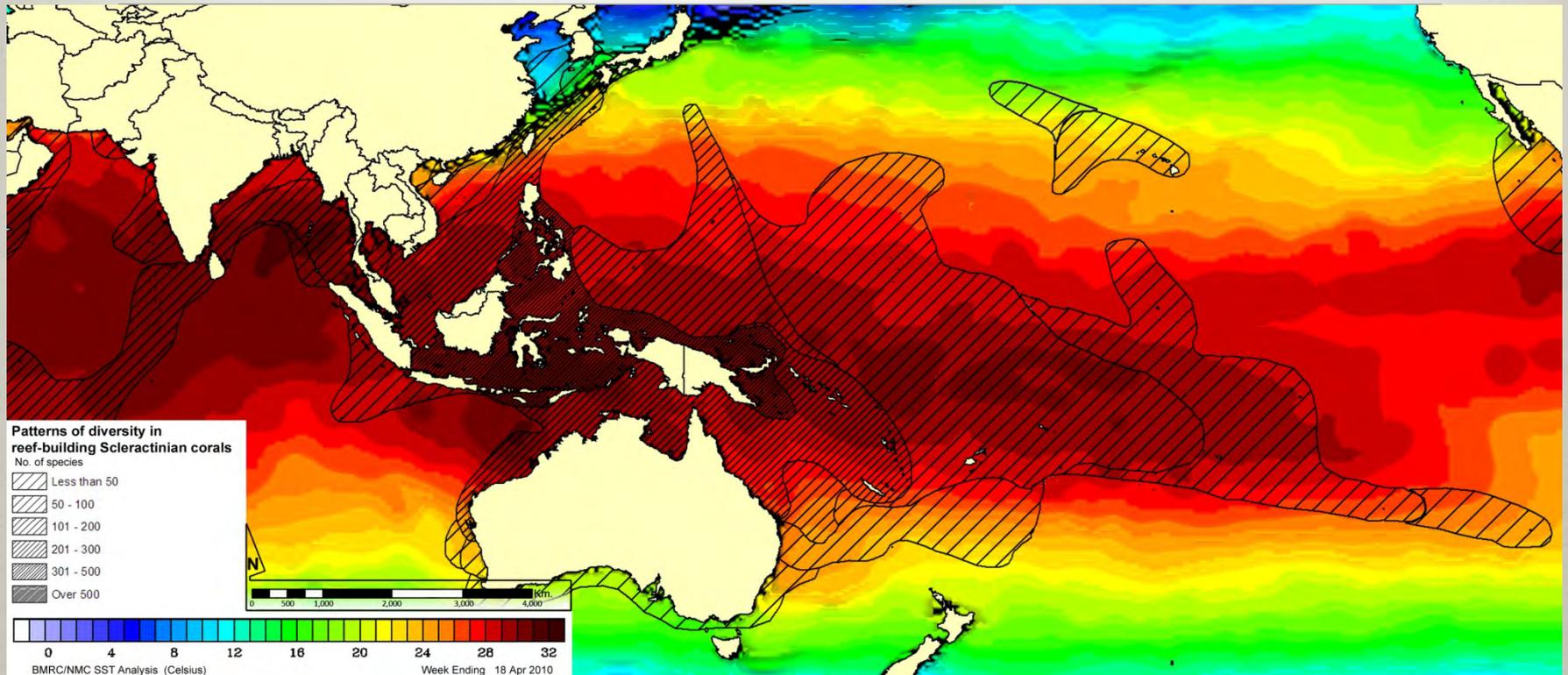
In Asia, up to 50% of biodiversity is at risk

As much as 88% of coral reefs may be lost



The ASEAN region is especially vulnerable to climate change since up to 80% of its population lives along coastlines (*ADB, 2009*).

Information on threats when overlaid on ecosystems and habitats indicate the possible extents of these threats



Example: Map overlay of sea surface temperature on patterns of species diversity of reef-building corals show their possible effects in the Coral Triangle

Other drivers of biodiversity loss

Large scale mining

Population growth

Poverty

Pollution

Demographics – migration from rural to urban areas

Poor protection standards



Genetic erosion

Crops and livestock genetic diversity is an emerging concern. The situation is compounded by less information on the state and condition of tropical agrobiodiversity.



Managing Biodiversity and Ecosystems: The ASEAN Response and Imperatives for Action

ASEAN Heritage Parks



In Southeast Asia, progress has been made mainly on conserving the components of biodiversity i.e., terms of expanding the coverage of terrestrial and marine protected areas.



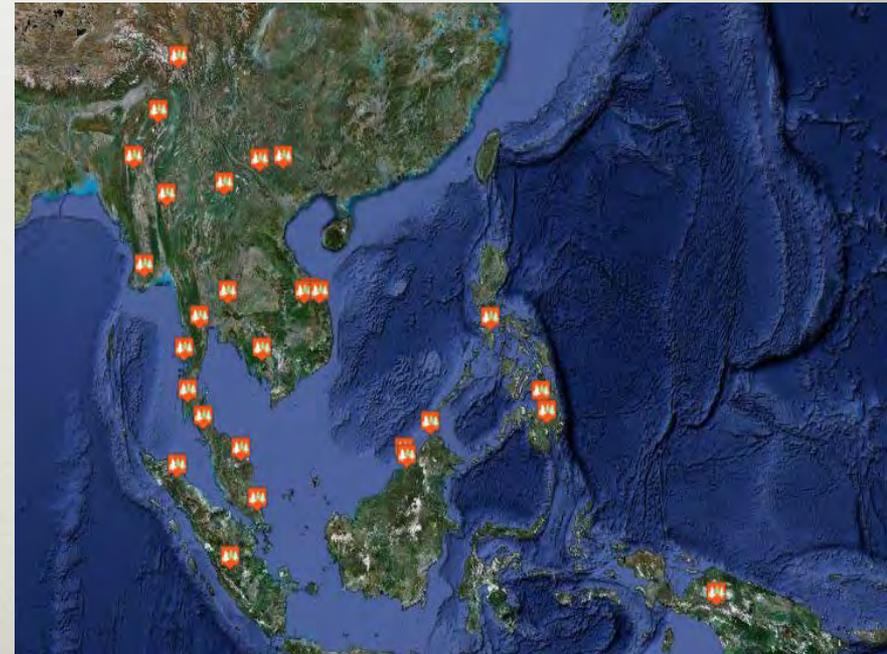
In terms of addressing the drivers and threats to biodiversity loss, the ASEAN region remains challenged in delivering progress

The ASEAN Declaration on Heritage Parks

In 1983 AMS proposed criteria and guidelines for the selection, establishment and management of PAs in the ASEAN Region

In 1984 the Declaration on ASEAN Heritage Parks and Reserves was issued

AMS Established the ASEAN Heritage Parks (AHPs) to generate greater awareness, pride, appreciation, enjoyment and conservation of the ASEAN region's rich natural heritage



Biodiversity Corridor Initiative in the Greater Mekong Areas (GMS)

Poverty reduction through appropriate technology applications

Restoration and rehabilitation of ecosystems connectivity and productivity in the GMS

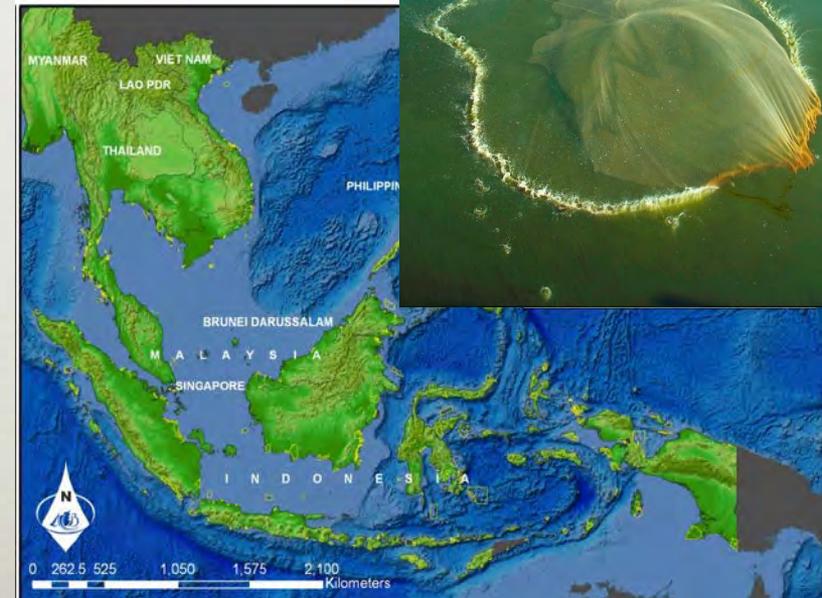
Optimal land use plan and harmonized land management regimes



Protecting Coral Reefs

620 MPAs established in SEA in 2009, with total area of 89,000 sq. km., a 60% increase since 1995. MPAs mostly located in the Philippines (339), Indonesia (129), Malaysia (83), Vietnam (36), and Thailand (23).

Supporting Networks of MPAs in SEA
The Coral Triangle Initiative (CTI)



Imperatives for Action

Targeting efforts to critical areas and ecosystems

Mainstreaming biodiversity in the national development processes

Connecting biodiversity management with climate change efforts

Building on current efforts, political commitments in designing future efforts



Imperatives for Action

Systematic use of science-based indicators

Recognizing the links between ecosystems degradation and persistence of rural poverty e.g., saving and restoring fisheries industry

Promoting better understanding and quantitative measurement of biodiversity and ecosystem (PES, Valuation/ TEEB)



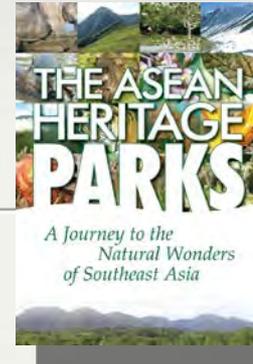
Imperatives for Action

Expand capacity on ecosystem assessment and management and species, habitat and human consumption interaction.

Assist the translation of issues, current and emerging threats and experiences into sound and locally viable policies at all levels

Support the preparation of environment and biodiversity management plans and appropriately communicate these to all stakeholder groups





Thank you for your attention