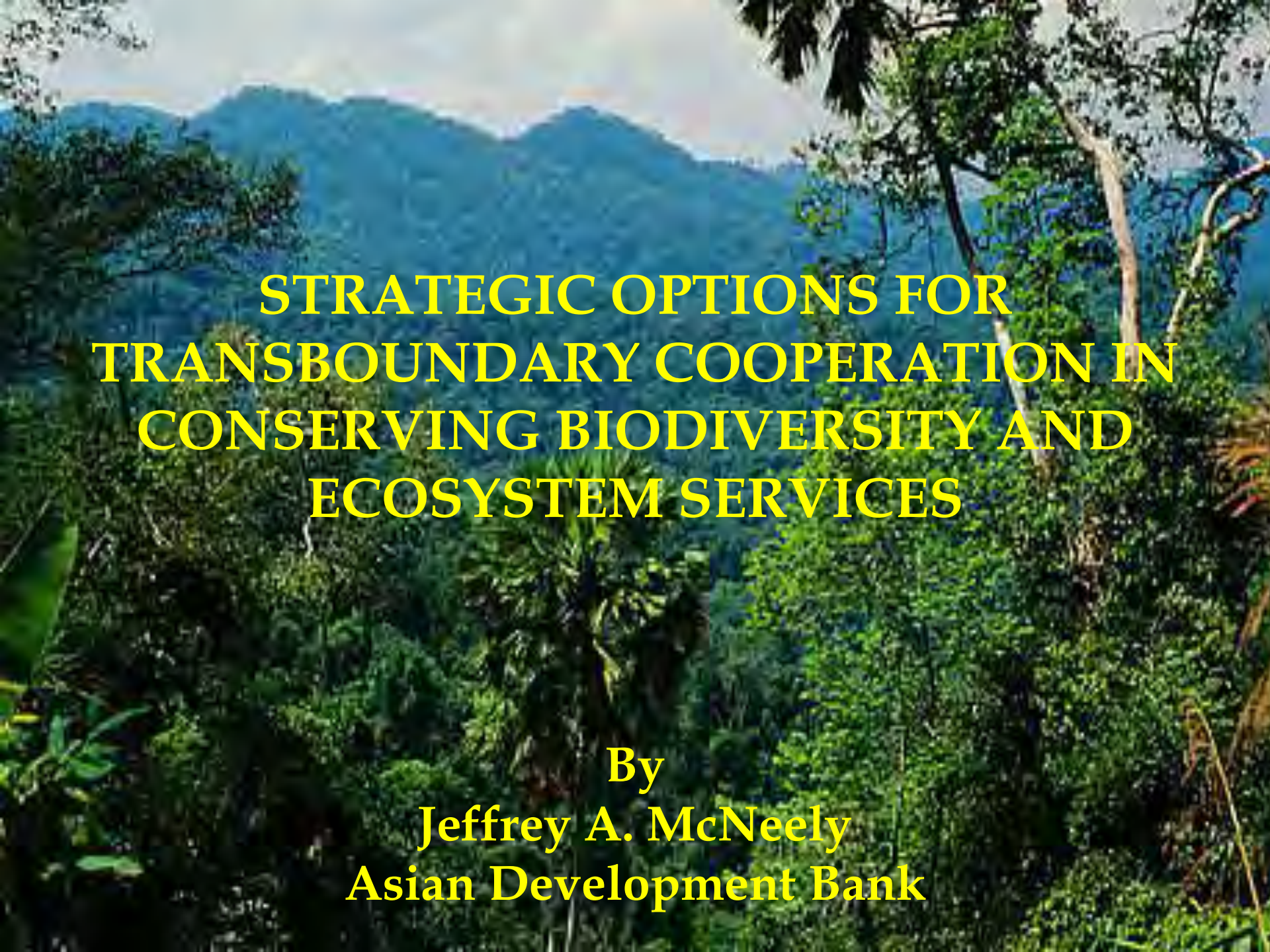




STRATEGIC OPTIONS FOR TRANSBOUNDARY COOPERATION IN CONSERVING BIODIVERSITY AND ECOSYSTEM SERVICES

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GMS Transboundary Biodiversity Landscapes

This map displays the Greater Mekong Subregion, including parts of China, Laos, Myanmar, Thailand, and Vietnam. It highlights transboundary biodiversity landscapes in green and shows the locations of various environment projects marked with colored symbols. Major cities like Kunming, Nanning, Hanoi, Vientiane, Bangkok, and Phnom Penh are labeled. A scale bar indicates distances up to 300 km, and a north arrow is present.

Boundaries are not necessarily accurate. Data sources: GMS Environmental Operations with inputs from CI, FFI and WCS. Map information available as of Dec 2010.

Environment Projects in GMS Transboundary Biodiversity Landscapes

Organization	Symbol
ADB	Blue circle
CI	Green circle
EU	Pink circle
FFI	Blue square
TNC	Green square
UNDP	Pink square
World Bank	Blue triangle
WCS	Green triangle
WWF	Pink triangle
Transboundary Biodiversity Landscape	Green shaded area

Transport corridors Biodiversity landscapes Biodiversity complex pilot sites

This map shows the Greater Mekong Subregion with transport corridors highlighted in various colors (red, green, blue, yellow). It also displays biodiversity landscapes in green and biodiversity complex pilot sites marked with yellow stars. Major cities and geographical features are labeled. A scale bar indicates distances up to 300 km, and a north arrow is present.

Transport Corridors, Biodiversity Landscapes, and Biodiversity Complex Pilot Sites in the Greater Mekong Subregion

Category	Symbol/Color
Transport Corridor	Red line
Biodiversity Landscape	Green shaded area
Biodiversity Complex Pilot Site	Yellow star

Scale bar: 0 100 200 300 km. North arrow.





Human infrastructure





Nature's infrastructure



Human infrastructure is a fact of life in the transboundary regions between southern China and its neighboring countries. Highways are part of the GMS Economic Corridors, and of China's "One Belt, One Road" strategy. The Economic Corridors need to be balanced by Transboundary Ecological Corridors.

An aerial photograph of a lush green landscape, likely a mountainous region. The terrain is covered in dense vegetation, with terraced fields visible in some areas. A winding river or stream flows through the landscape, and small clusters of buildings are scattered throughout. The overall scene is vibrant and natural.

The critical challenge for GMS countries is finding ways for human and natural infrastructures to be mutually supportive

The CBD's Aichi Biodiversity Targets provide strategic direction to GMS countries

Target 11 states: 'By 2020, at least 17 per cent of terrestrial and inland water areas ..., especially areas of particular importance for *biodiversity and ecosystem services*, are conserved through *effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures*, and integrated into the wider landscape.'

CONSTITUENTS OF WELL-BEING

ECOSYSTEM SERVICES

Supporting

- NUTRIENT CYCLING
- SOIL FORMATION
- PRIMARY PRODUCTION
- ...

Provisioning

- FOOD
- FRESH WATER
- WOOD AND FIBER
- FUEL
- ...

Regulating

- CLIMATE REGULATION
- FLOOD REGULATION
- DISEASE REGULATION
- WATER PURIFICATION
- ...

Cultural

- AESTHETIC
- SPIRITUAL
- EDUCATIONAL
- RECREATIONAL
- ...

LIFE ON EARTH - BIODIVERSITY

Security

- PERSONAL SAFETY
- SECURE RESOURCE ACCESS
- SECURITY FROM DISASTERS

Basic material for good life

- ADEQUATE LIVELIHOODS
- SUFFICIENT NUTRITIOUS FOOD
- SHELTER
- ACCESS TO GOODS

Health

- STRENGTH
- FEELING WELL
- ACCESS TO CLEAN AIR AND WATER

Good social relations

- SOCIAL COHESION
- MUTUAL RESPECT
- ABILITY TO HELP OTHERS

Freedom of choice and action

OPPORTUNITY TO BE ABLE TO ACHIEVE WHAT AN INDIVIDUAL VALUES DOING AND BEING

Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Ecosystem services support sustainable development

How biodiversity helps support the “natural infrastructure”

Air quality

Pest & disease control

Watershed protection and regulation

Conservation of biodiversity

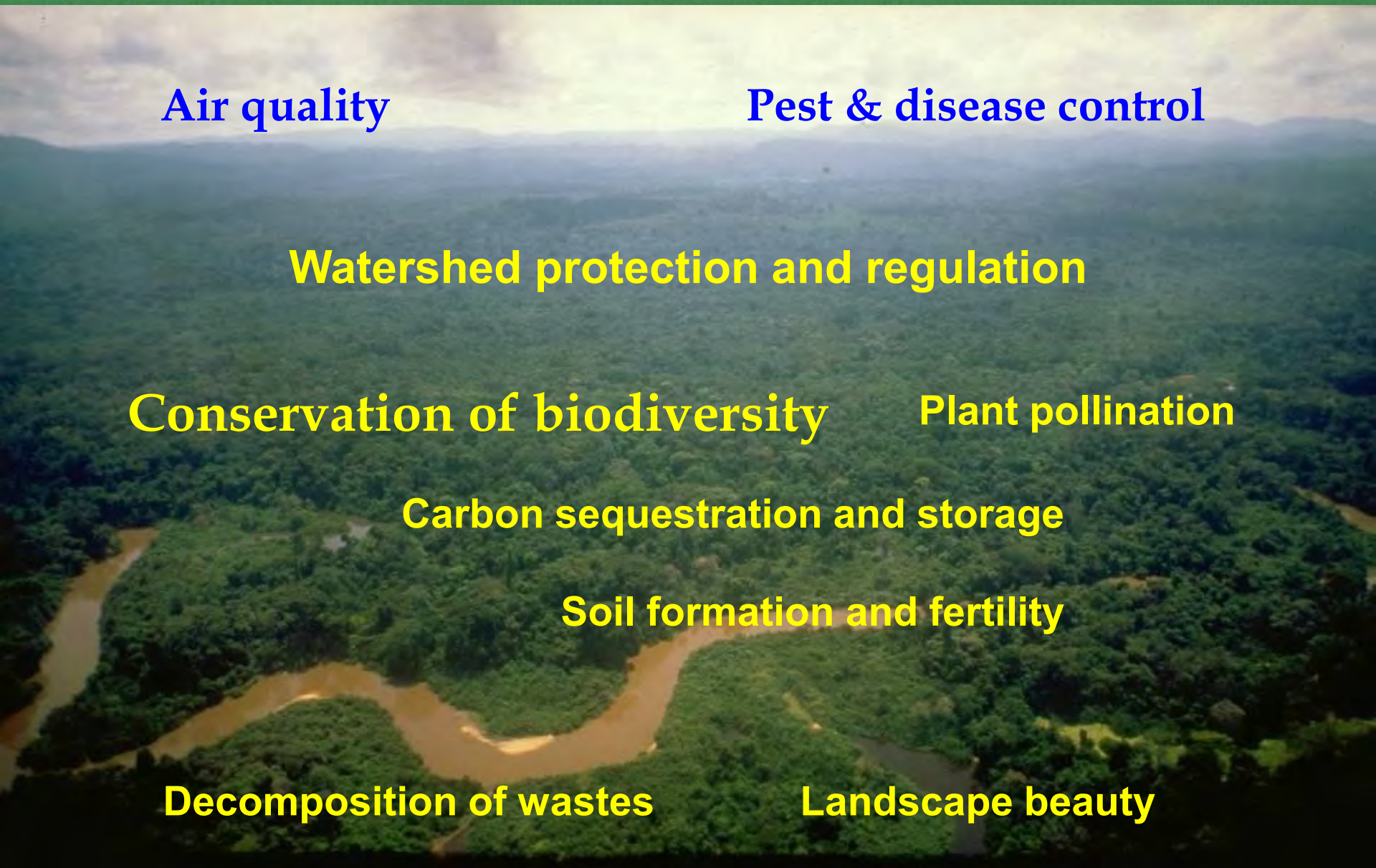
Plant pollination

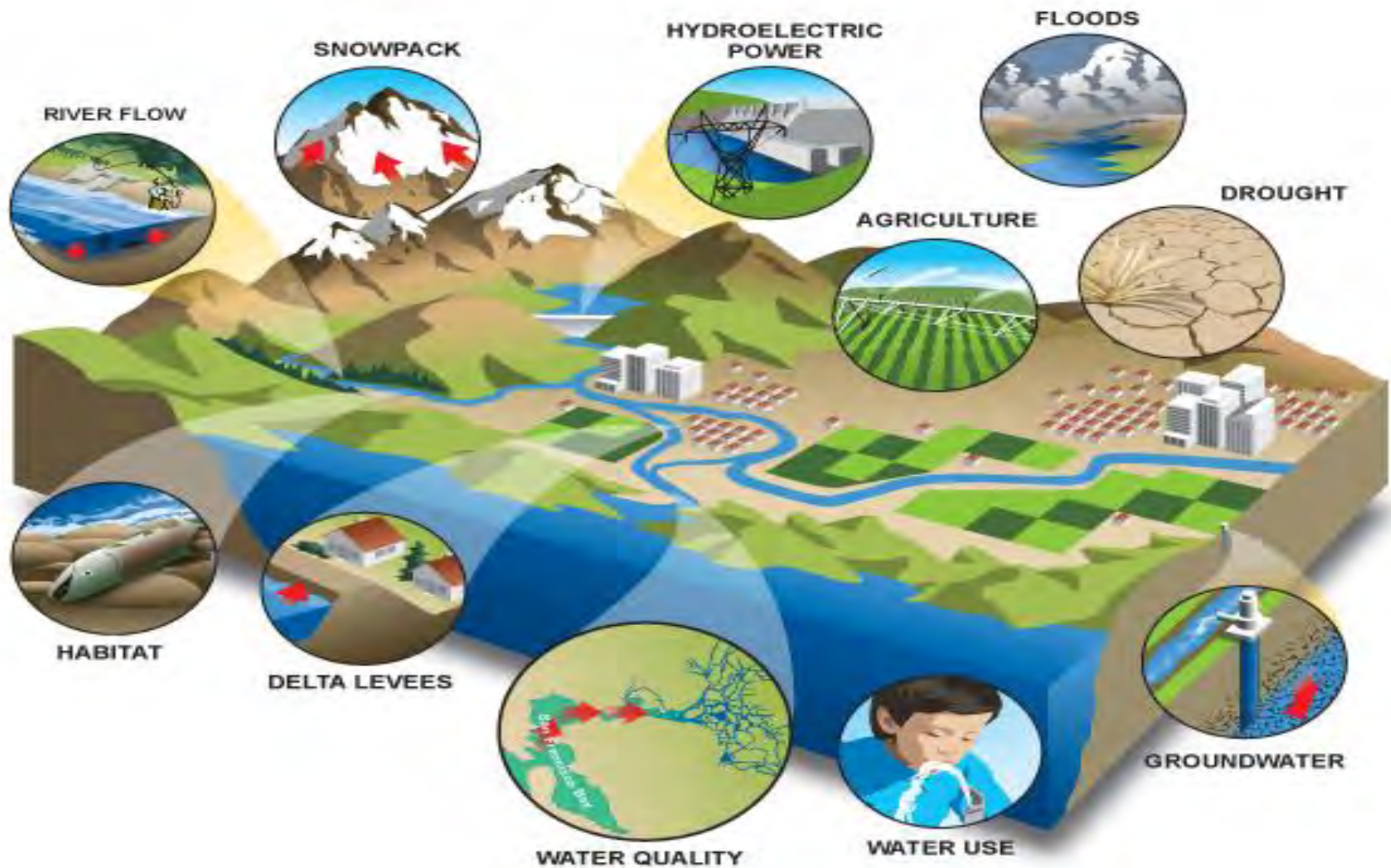
Carbon sequestration and storage

Soil formation and fertility

Decomposition of wastes

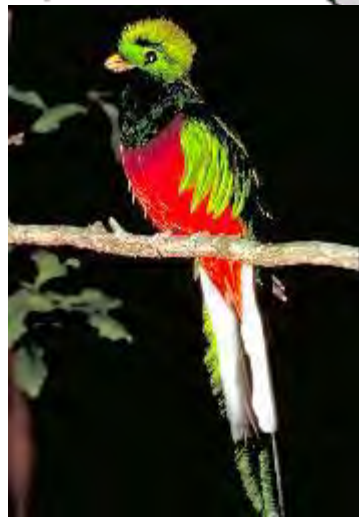
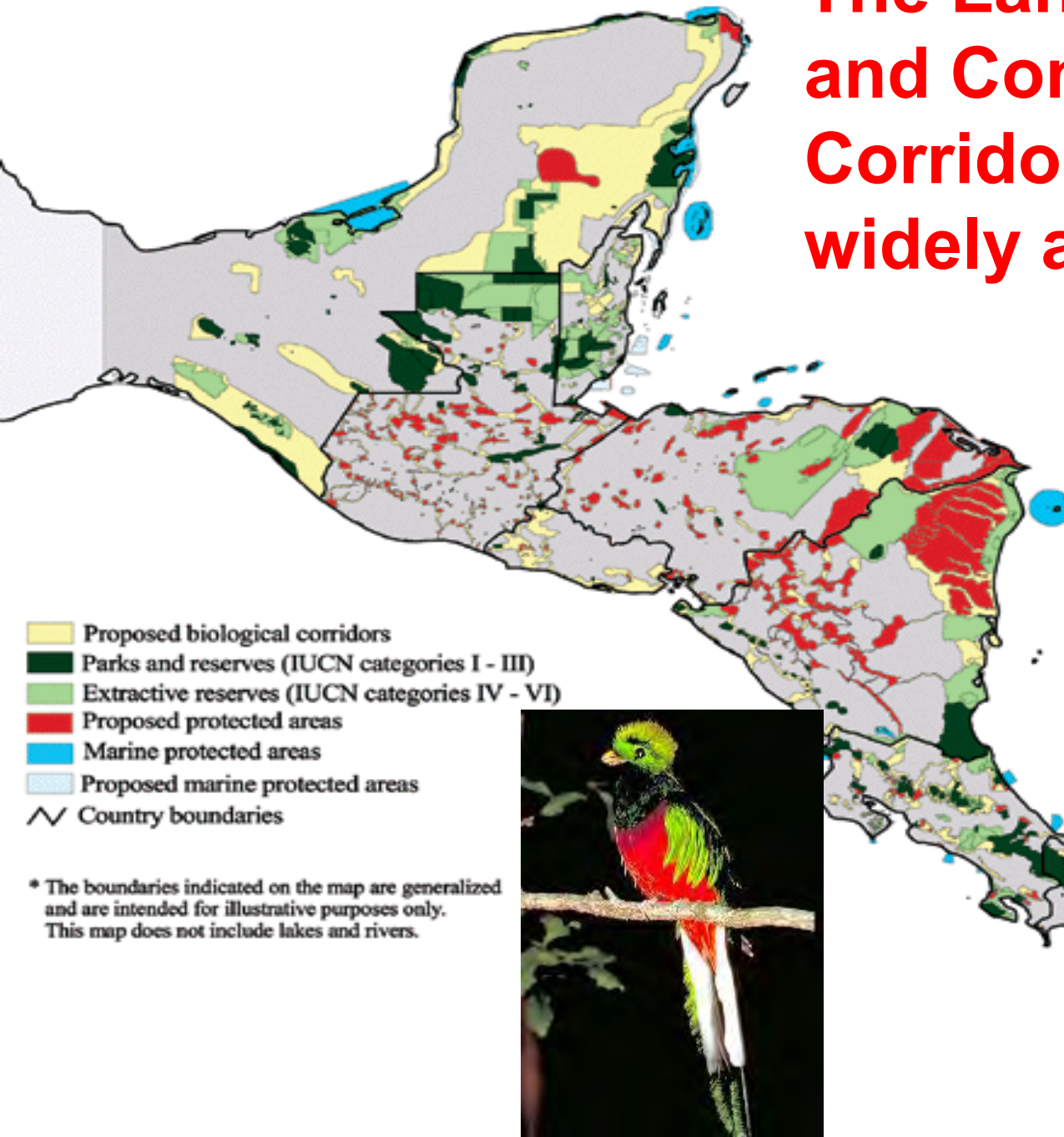
Landscape beauty





The benefits to people from ecosystem services can best be assessed at the landscape scale, and often transboundary too.

**The Landscape scale
and Conservation
Corridors are now
widely accepted**



Australia



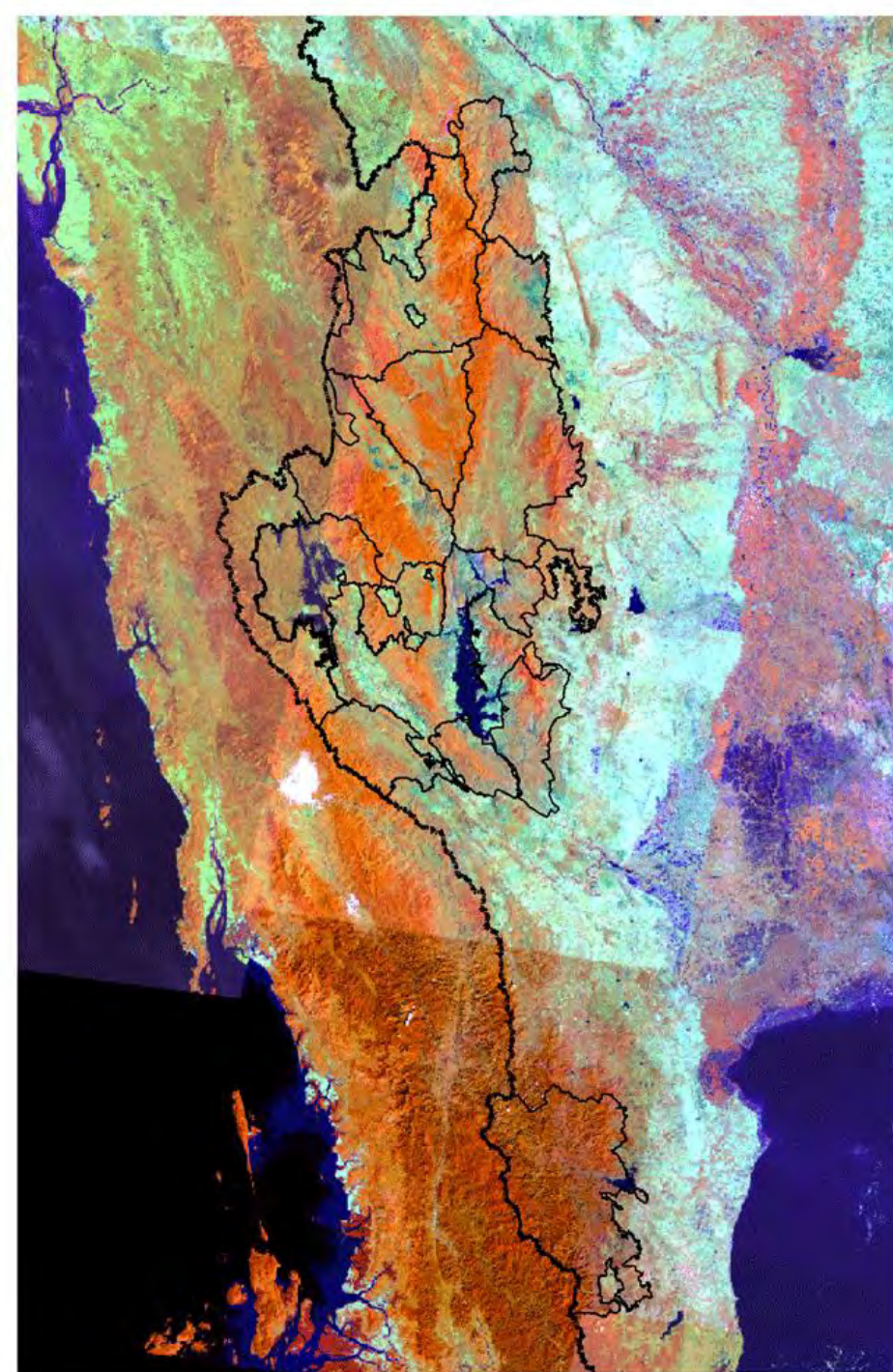
USA and Canada

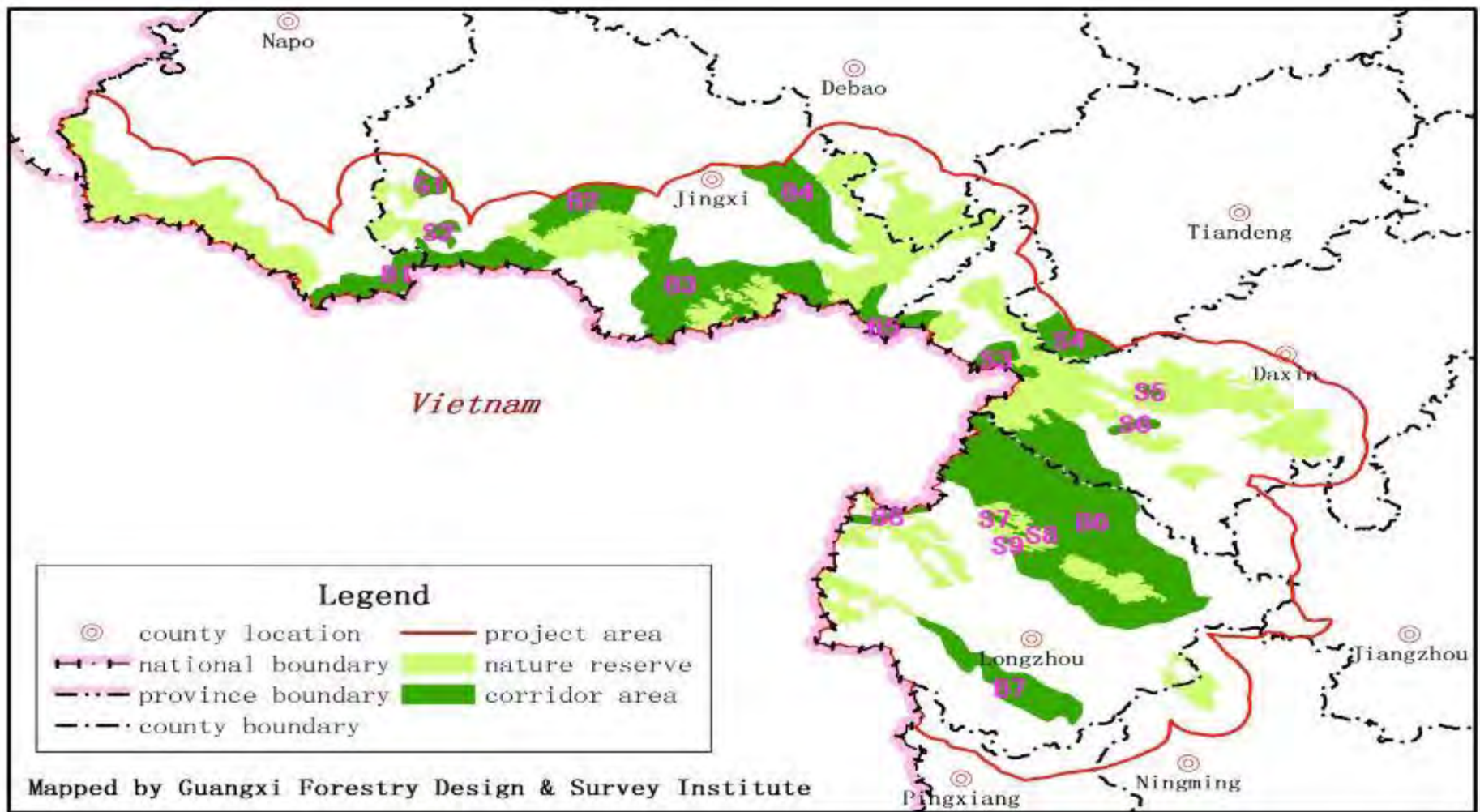


A black bear cub in Yellowstone, at one end of the planned wildlife corridor.

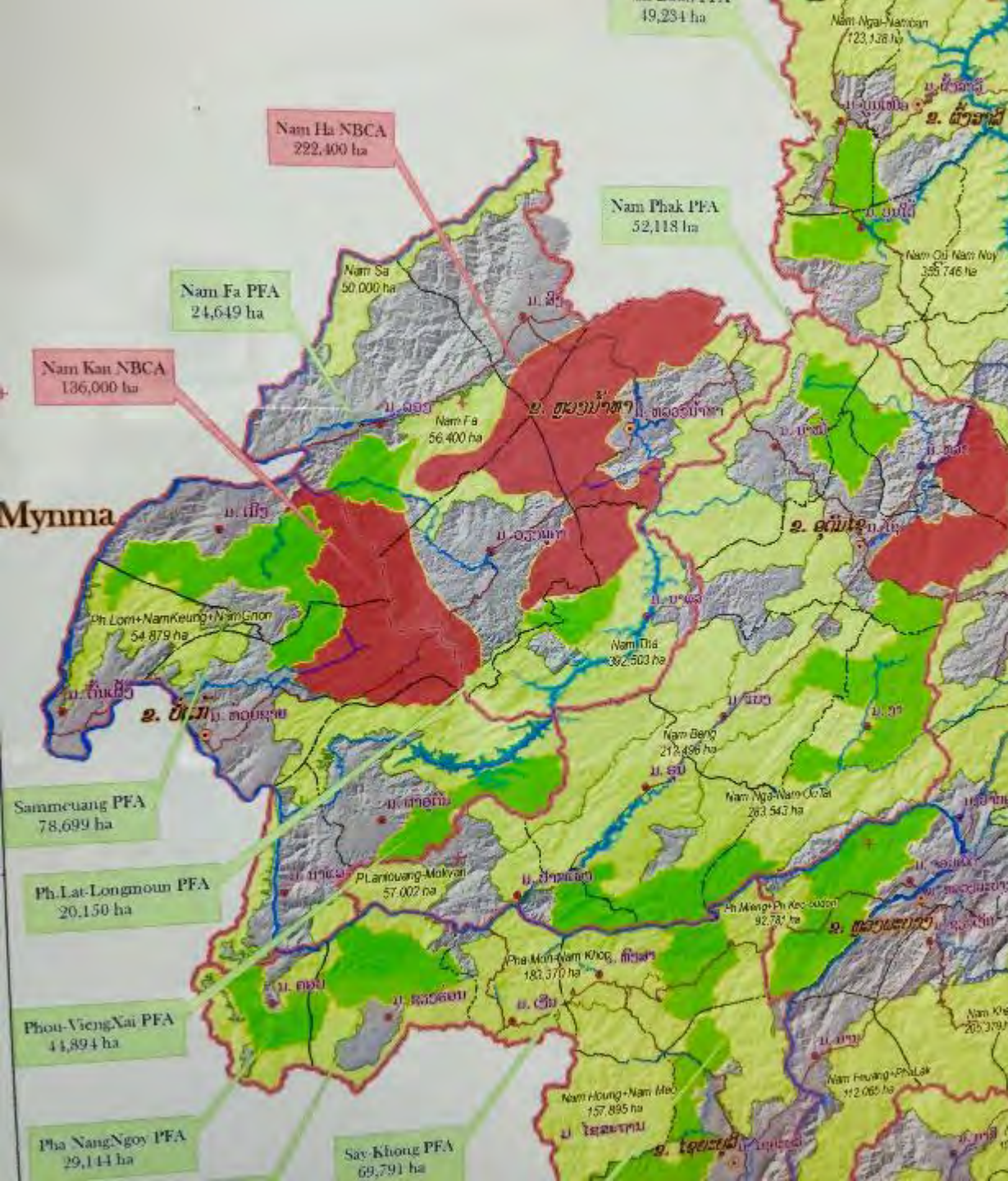
The Great Limpopo Peace Park







Protected areas provide the core of landscapes, and corridors connect them



In Lao PDR, Nam Ha NBCA is only part of the the provincial forest conservation efforts of Luang Namtha province. The Transboundary Biodiversity Landscape could extend well beyond the protected area.

Many ecosystem services are related to water.
Transboundary Biodiversity Conservation Corridors at
the landscape scale provide many of these services at
local to international scale.





ໂຮງງານ ນ້ຳດື່ມ ນ້ຳຫ້າ Nam Ha Drinking Water Factory

ກອຍ / ຜູ້ບ: 1038425
ໃສ່ ສະອາດ ບໍລິສັດ ໄດ້ຈາກພື້ນທີ່ມະຊາດແທ້

ນ້ຳດື່ມ ຄຸນນະພາບ ຈາກພື້ນທີ່ມະຊາດ



ຫະກິດນ້ຳໄຊແມ້ດທິ 17, ເສັ້ນທາງເລກທີ 17 ເອ
ເຂດພື້ນທີ່: ໂພນລະພື້ນ: +856-86-212 388, ແຟັກ: +856-86-212 389

www.namhadrinkingwater.com

**Local level benefit: Clean drinking water.
This has a price, but is the profit invested in
conserving the PA that provides the service?**

National level: Watershed protection



This provides significant economic benefits, though the PAs are seldom compensated for their contribution to providing these benefits.

An exception is the Nam Theun Dam in Lao PDR

The Development Project



- Protection of the 4000 km² catchment area (National Protected Area)
- Resettlement of 1,240 families on the Plateau and commitment to increase their revenues
- Activities with 200 villages in downstream areas to compensate for and mitigate the impacts of the project





**The China-Vietnam
border is also a
watershed,
demonstrating another
benefit of protecting
the transboundary
forest habitat.**



Ban Gioc (Cao Bang, Vietnam)- Detian (Guangxi, China) is a transboundary waterfall on the Quay Som-Guichun River that is an important tourist attraction for both countries and provides a demonstration of transboundary cooperation.



Protected areas provide destinations for tourists, an important ecosystem service that could benefit from transboundary cooperation.

Other valuable ecosystem services provided by forests include carbon sequestration and adaptation to climate change.



Protected forests are especially valuable, and payments for their ecosystem services are becoming available.



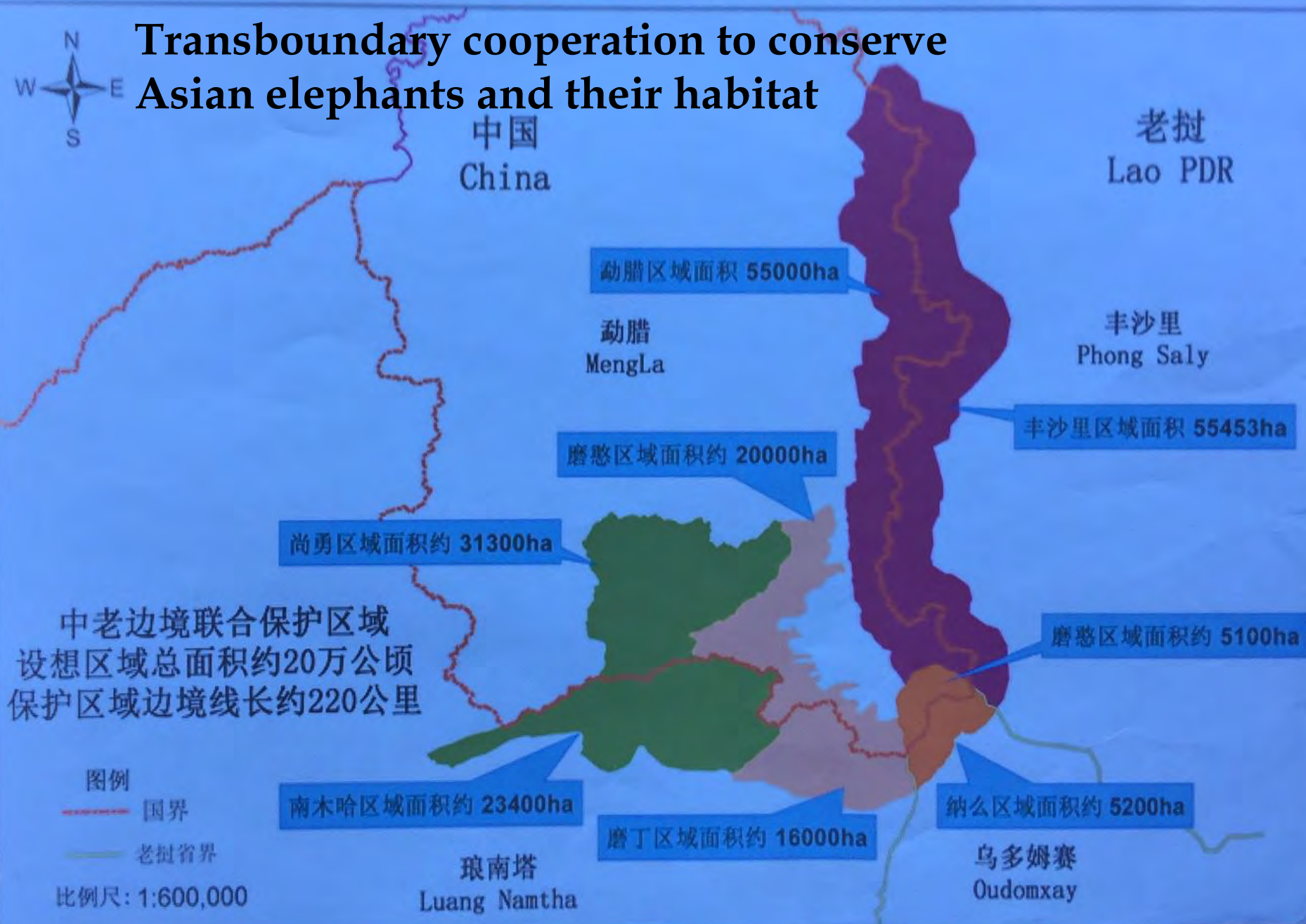
Transboundary conservation corridors give migratory species room to roam, adapt to change, and establish new populations



This can also help reduce conflicts with local people

中国—老挝跨境联合保护区域情况示意图

Transboundary cooperation to conserve Asian elephants and their habitat



ຫ້ອງການຮັກສາປ່າສ້າງລະດັບແຫ່ງຊາດກິ່ງແຂວງສິບສອງພັນນາ
西双版纳国家级自然保护区管理局
Xishuangbanna National Nature Reserve



ແຜນທີ່ເຂດຮ່ວມມືຮັກສາຂ້າມແດນລະຫວ່າງສານຢອງ.ສປ ຈີນ ກັບ ນ້ຳຫ້າ .ສປປ ລາວ
中国尚勇——老挝南木哈跨边境联合保护区域
Shangyong, China—Namha, Lao Transboundary Joint-Protected-Area



ເນື້ອທີ່ : ເຮັກຕາ
面 积 : 54,700 公 顷
Area : 54,700 hectare



Yunnan and Luang Namtha transboundary protected area is part of this effort.



The Cao Vit Gibbon *Nomascus nasutus* is a Critically Endangered species found only in Bangliang NR (Guangxi) and the Cao Vit Gibbon Conservation Area (Trung Khanh, Cao Bang). It has been a powerful stimulus to transboundary cooperation in conservation.



The gibbon lives in remote parts of the forested karst mountains on both sides of the border, with villages in the lowlands.

This ecological corridor supports the communities whose participation is an essential part of conservation.



People will support conservation if they are provided economic benefits, for example through payment for ecosystem services





The Nong Li VDF plants seedlings
for habitat restoration



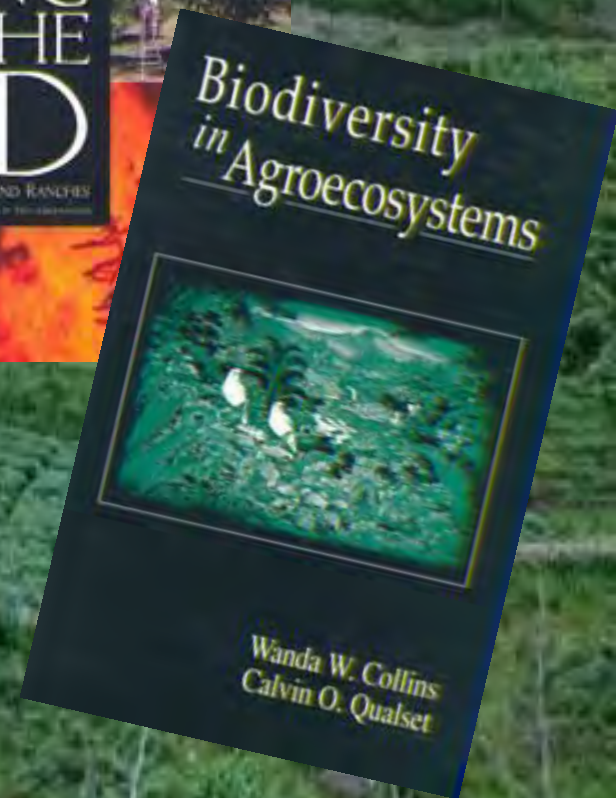
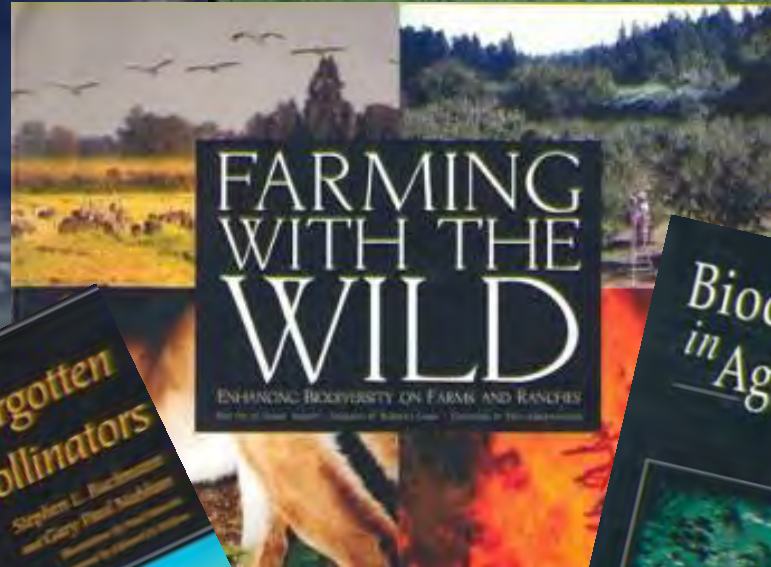
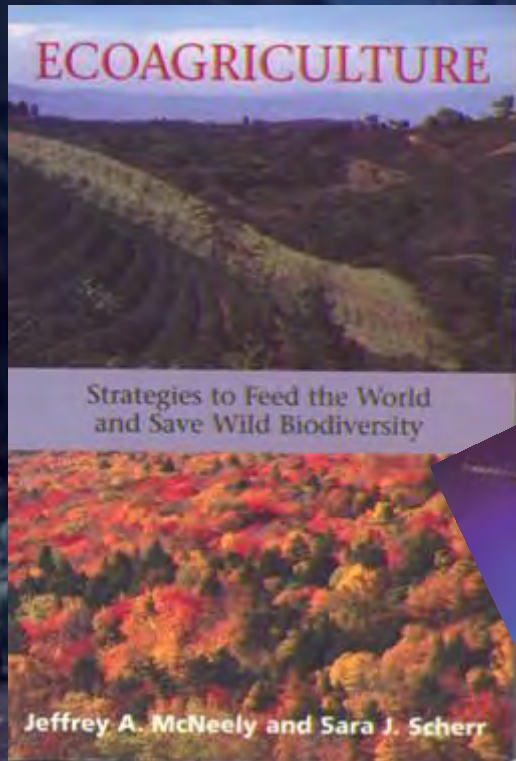
Villages in transboundary landscapes may support important genetic diversity of important crops.





They are also esthetically attractive for visitors

Build ecosystem services into agriculture at the landscape scale





Rubber plantations could be managed for multiple ecosystem services and biodiversity, becoming part of conservation corridors.



CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

ỦY BAN NHÂN DÂN HUYỆN NGUYỄN BÌNH
TẶNG

GIẤY KHEN

lương Y: Bàn Mùi Chuồng

Xã Quang Thành, huyện Nguyễn Bình, tỉnh Quảng Bình

Có thành tích xuất sắc trong hoạt động Đông y cơ sở

Đã vào sổ khen thưởng
Số: 2596/QĐ-UBND, Ngày 30/12/2008



In Vietnam, qualified village people are given permits to collect medicinal plants for sale.



In Guangxi, Qunan village hosts visitors from cities, and holds conservation camps for students, earning income and providing support to Chung Zuo NNR.

Participatory Biodiversity Monitoring

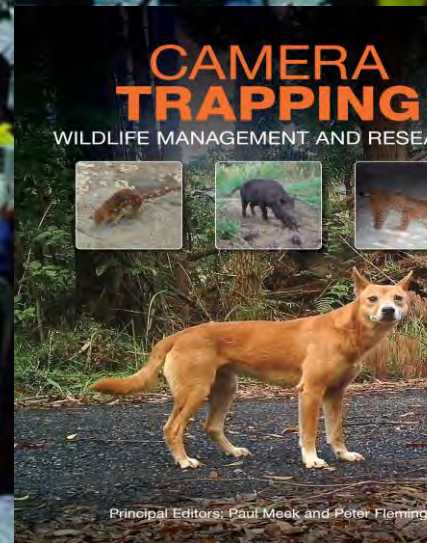
IN COMMUNITY MANAGED FORESTS



**The key elements in
strategic management**



**Inventory of reptiles
in Ha Lan-Ban Doc,
Vietnam**



Harness the best available technology to support effective management of protected areas.

International PA Designations can also help support transboundary cooperation

	World Heritage Natural	Biosphere Reserves
Cambodia	0	1
China	8 + 3 mixed	33, including Xishuangbanna
Lao PDR	0	0
Thailand	2	4
Vietnam	2 + 1 mixed	9

The three functions of biosphere reserves

CONSERVATION

of biodiversity
(ecosystems,
species, genes)

DEVELOPMENT

Association
of environment
with development

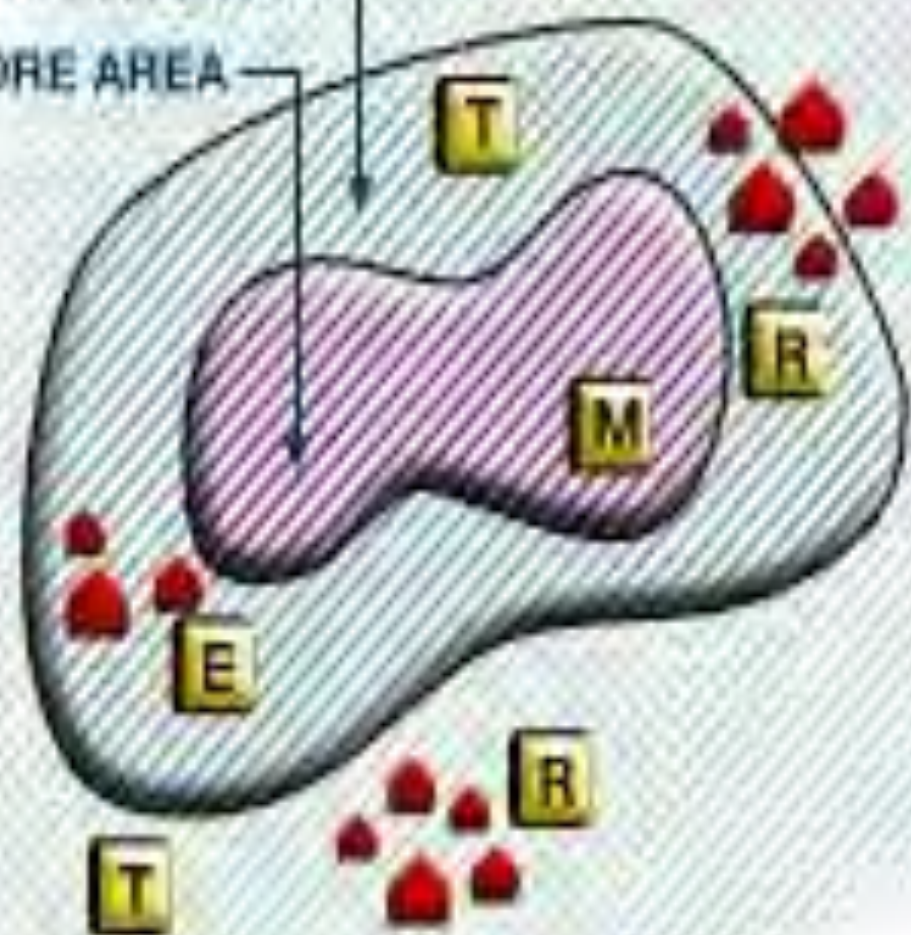
LOGISTIC SUPPORT

International network
for research
and monitoring



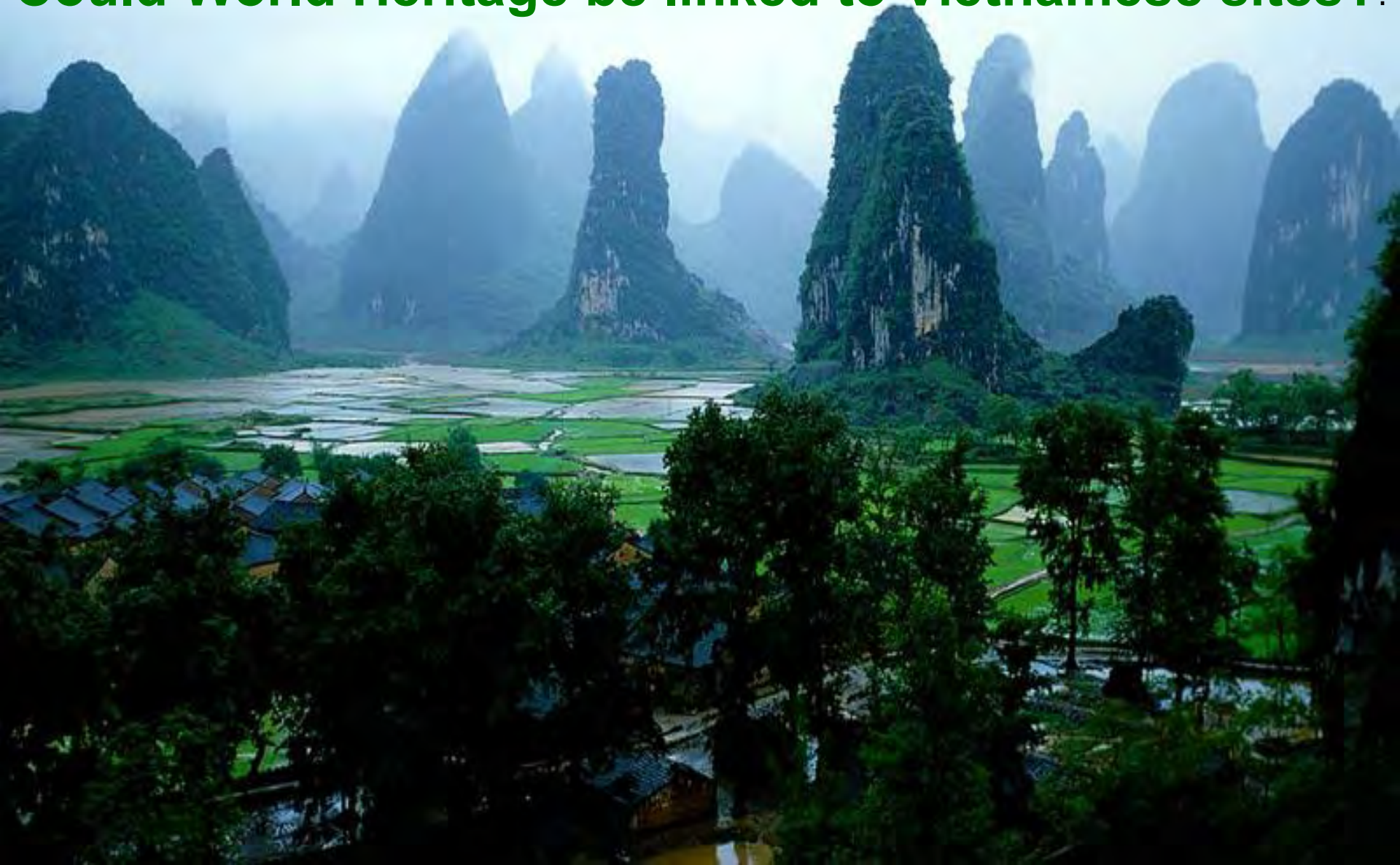
Biosphere reserve zonation

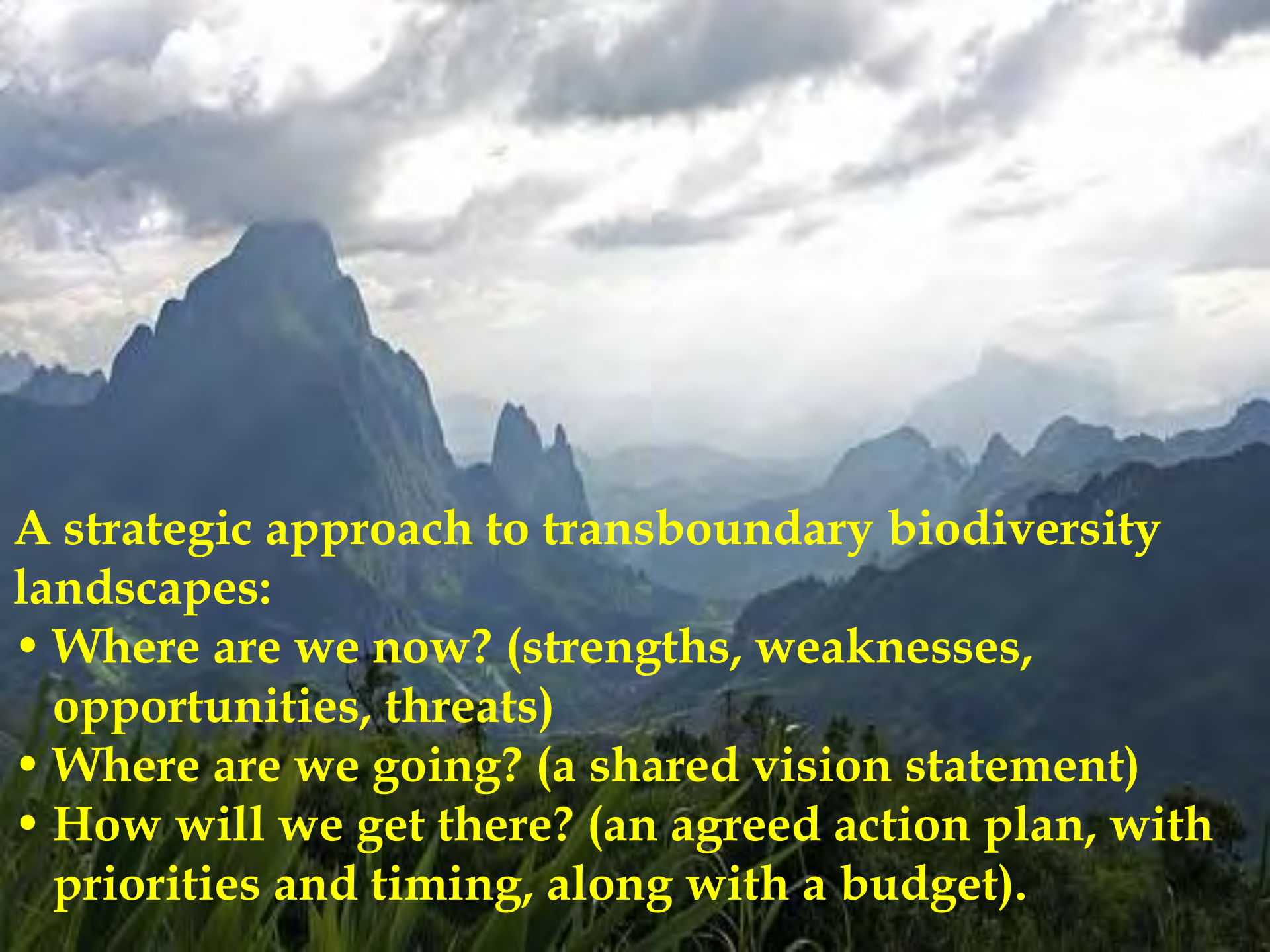
TRANSITION AREA
BUFFER ZONE
CORE AREA



- Human settlements
- R Research station or experimental research site
- M Monitoring
- E Education and training
- T Tourism and recreation

South China Karst World Heritage includes sites in Yunnan, Guangxi, Chongqing, and Guizhou. Could World Heritage be linked to Vietnamese sites?



- 
- A strategic approach to transboundary biodiversity landscapes:**
- **Where are we now? (strengths, weaknesses, opportunities, threats)**
 - **Where are we going? (a shared vision statement)**
 - **How will we get there? (an agreed action plan, with priorities and timing, along with a budget).**

An aerial photograph of a rugged, brown, volcanic landscape. In the foreground, a steep, dark brown hillside slopes down towards a sandy beach. A winding river or stream flows through the middle ground, its water a muddy brown color. The river eventually meets the ocean, where white waves are visible. In the background, more rolling hills and mountains are visible under a clear sky. The overall scene is desolate and dramatic.

Do people want
this?

Or this?

The choice is in our
hands.

