

Cross-cutting solutions

This section presents interventions which take place across a landscape. They include: participatory ecosystem-based spatial planning, integrated watershed management and expanded and strengthened protected area networks. These interventions respond to challenges that cannot be solved through sector-specific approaches. The cross-cutting solutions discussed below are capable of providing substantial benefits to natural capital and thereby providing important contributions to the economy and to society.

Participatory ecosystem-based spatial planning

Current spatial planning processes in national and sub-national contexts face a number of issues which complicate and often undermine their efforts: institutional changes, decentralization, cross-border and transnational planning, vertical and horizontal integration, mainstreaming of bottom-up approaches and involvement of multiple actors on different levels with different interests and intentions. These processes also rarely take the full value of ecosystems and biodiversity into account. Lack of stakeholder involvement is one reason for this outcome. Land tenure conflicts, particularly where traditional community rights remain unclear vis-à-vis the conventional legal system, further complicate matters. Finally, sectoral planning is not done in a holistic manner and no consideration is given to climate change mitigation and adaptation.

Participatory ecosystem-based spatial planning is a tool for landscape management that uses ecosystem boundaries as the delineating factor, rather than district, state or other administrative boundaries. It targets the harmonious co-existence of all living organisms (human being, plant, animal, and microorganism) and the abiotic environment¹²—aiming to guide, arrange and balance a wide range of activities associated with resource use. It represents a holistic approach to spatial planning for human activity and balances this with the needs of ecosystems. As such, it gives fair consideration to development needs while also securing natural capital.

Coherent ecosystem-based spatial planning also provides greater predictability for investment decision making. By avoiding development in flood prone areas, for example,

investment risks can be minimized. Hence, it is an excellent tool for development planning and for ensuring sustainable economic growth. A spatial planning approach can also enable more efficient land-use. It can be used to support the efficient use of degraded land by allocating new forest plantations, e.g. for pulp and paper or wood for commercial construction, on deforested or degraded lands. This may be combined with measures to protect remaining HCVF in areas that are being developed. In this manner, the most ecologically valuable land is conserved, e.g. through the creation of new protected areas, and less ecologically valuable lands become economically productive. Finally, the approach may be critical for climate change mitigation and adaptation by guiding development to avoid high-carbon stock areas and sustain ecosystems vulnerable to climate change.

An effective process of participatory ecosystem-based spatial planning requires appropriate legislation, which needs to be adhered to, along with appropriately trained personnel to implement and monitor the process. Finally, the process must be adequately funded. For example, in some cases the legal mandate may need improved procedures for stakeholder participation. By mapping information about ecological and environmental conditions, and conducting analyses which rightly recognize the values of ecosystems and biodiversity, effective plans can be negotiated. Ideally, degraded or abandoned lands should be included in the analysis, for they may have important trade-off value. Responsible institutions may require enhanced capacity to implement and enforce spatial plans. Monitoring and evaluating performance and adapting plans as needed are additional, integral elements of a coherent, ecosystem-based spatial planning cycle.

The conservation of ecosystems and biodiversity through protected areas plays a significant role in a green economy.

Box 5.4: Indonesia's Heart of Borneo as a Strategic National Area

The HoB landscape in Indonesia, covers an area of 16 million ha of Kalimantan, has been designated as a Strategic National Area (KSN) under PP 26 (2008) for its natural capital value. The Heart of Borneo Working Groups at national, provincial and local levels has been actively engaged in an ecosystem-based spatial planning process (between 2008 and 2011). The Indonesian HoB National Working Group is currently working with agencies across sectors to integrate ecosystem and biodiversity values into government land use plans and policies. The ecosystem-based spatial planning process considers HoB's value for livelihoods of local impoverished communities, as a source of water for the majority of people in Kalimantan, to support global climate change mitigation efforts and as a global biodiversity hotspot. A presidential decree for this HoB specific spatial plan (scale 1:50,000) is in the process of approval.

Integrated watershed management

Integrated watershed management aims to promote the coordinated development and management of water, land and other resources in a watershed in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment¹³. Since watersheds and river basins are also ecosystems, watershed management makes use of ecosystem-based spatial planning (see preceding subsection) as a tool.

Integrated watershed management is critical to sustaining economic welfare in the long term.

Responsibility for management of river basins, watersheds, freshwater sources, water quality, and land-related resources is typically spread across several different ministries and districts, all of which have different management systems. This diffusion of authority greatly hinders effective management. In some cases, institutions may have overlapping mandates. As institutional issues are too complex to tackle within the scope of this study, the solution brought forward aims at harmonization among different entities, starting with the harmonization of indicators. This can form the basis for information exchange and eventually harmonization of management and joint planning.

If governments want to reform current water resource management structures, they may consider/explore the implications of establishing a Ministry of Watersheds (e.g. as in China), which is on equal footing with other Ministries,

in order to enable spatial planning on a watershed basis.

An active coordinating body can provide a forum for multiple stakeholders dealing with a specific watershed. This body can facilitate, or broker, negotiations regarding division of responsibilities and development rights within a watershed. A process of this kind can help to safeguard water resources for the population at large but also for the use of industry and other economic sectors.

Expanding protected area networks and improving connectivity

Protected areas (PAs) are areas that receive official protection because of their recognized natural, ecological and/or cultural value and are essential for biodiversity conservation and the provision of ecosystem services. They are areas set aside for their vital role in maintaining the functions of natural ecosystems that humans depend on, to act as refuges for species and/or to maintain ecological processes that cannot persist within more actively utilized areas. Increasing the size of protecting areas and enhancing their connectivity helps to preserve their ecological integrity while facilitating gene flow and promoting ecosystem resilience against the impacts of climate change. These are all important elements in a green economy.

Current PA systems in Borneo suffer from numerous problems, including insufficient funding and lack of capacity for sustainable management. Current PA size and distribution (see Table 5.1 below) does not protect a sufficiently representative set of habitat types or viable populations of threatened and endemic species over the long term, and spatial plans do not incorporate connecting corridors allowing for migration. This is becoming increasingly important as climate change starts to affect the

range and distribution of species. Participatory ecosystem-based spatial planning can help stakeholders define which areas are most important for protection and for connectivity. It can also ensure that stakeholders whose livelihoods depend on the forest or on related ecosystems are involved in the planning process and decision making regarding these lands.

Urgent attention is required to improve the situation, including building capacity and ensuring financial sustainability of PA systems. Key steps include exploring ways to increase and retain revenues—through mechanisms such as ecotourism levies, payment for ecosystem services, and environmental exit taxes on visitors—while reducing costs through improved efficiency and specifically through innovative partnerships with indigenous communities, private landowners, tourism companies, etc.¹⁵.

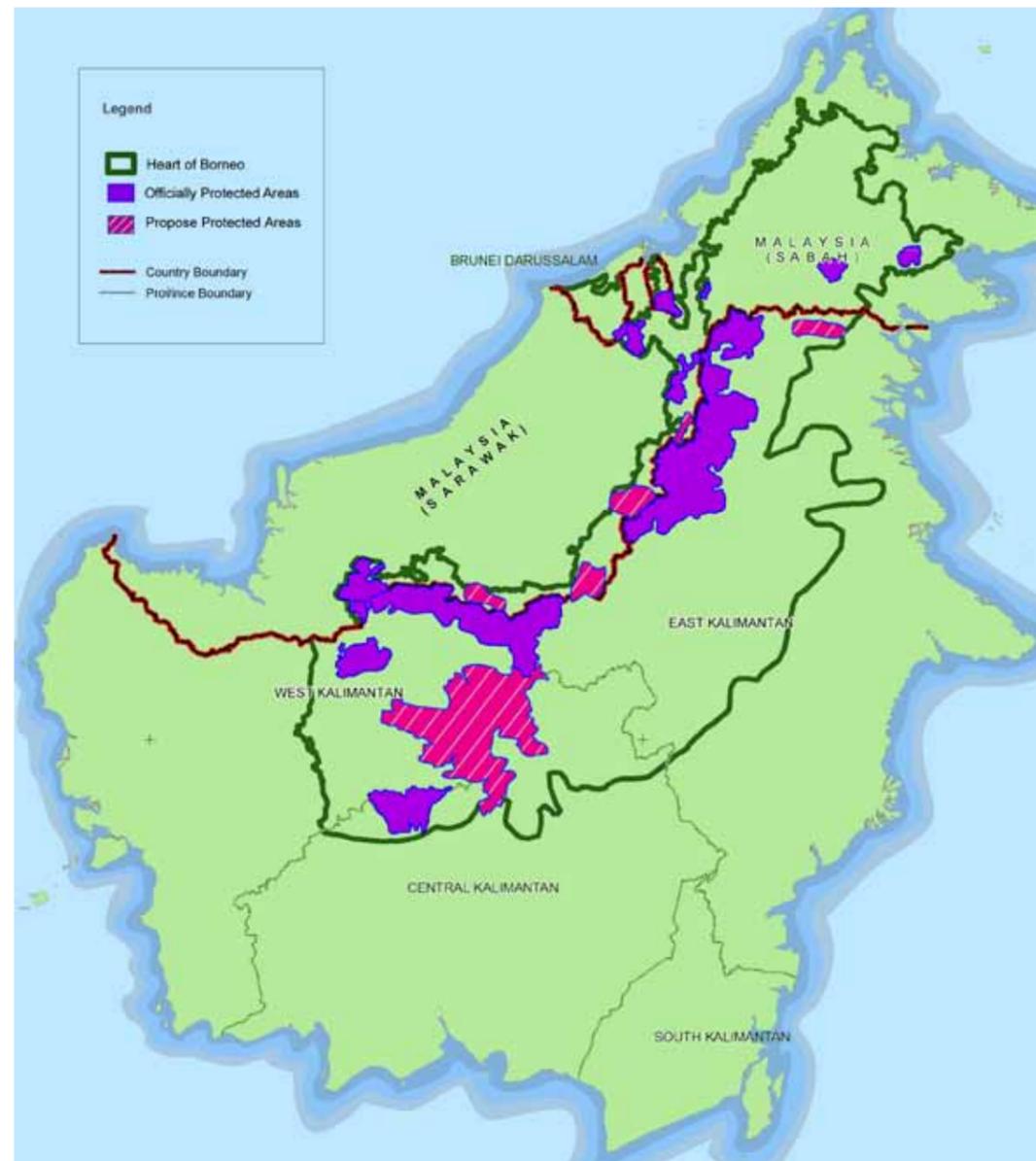


Figure 5.3: Protected areas and proposed connectivity corridors

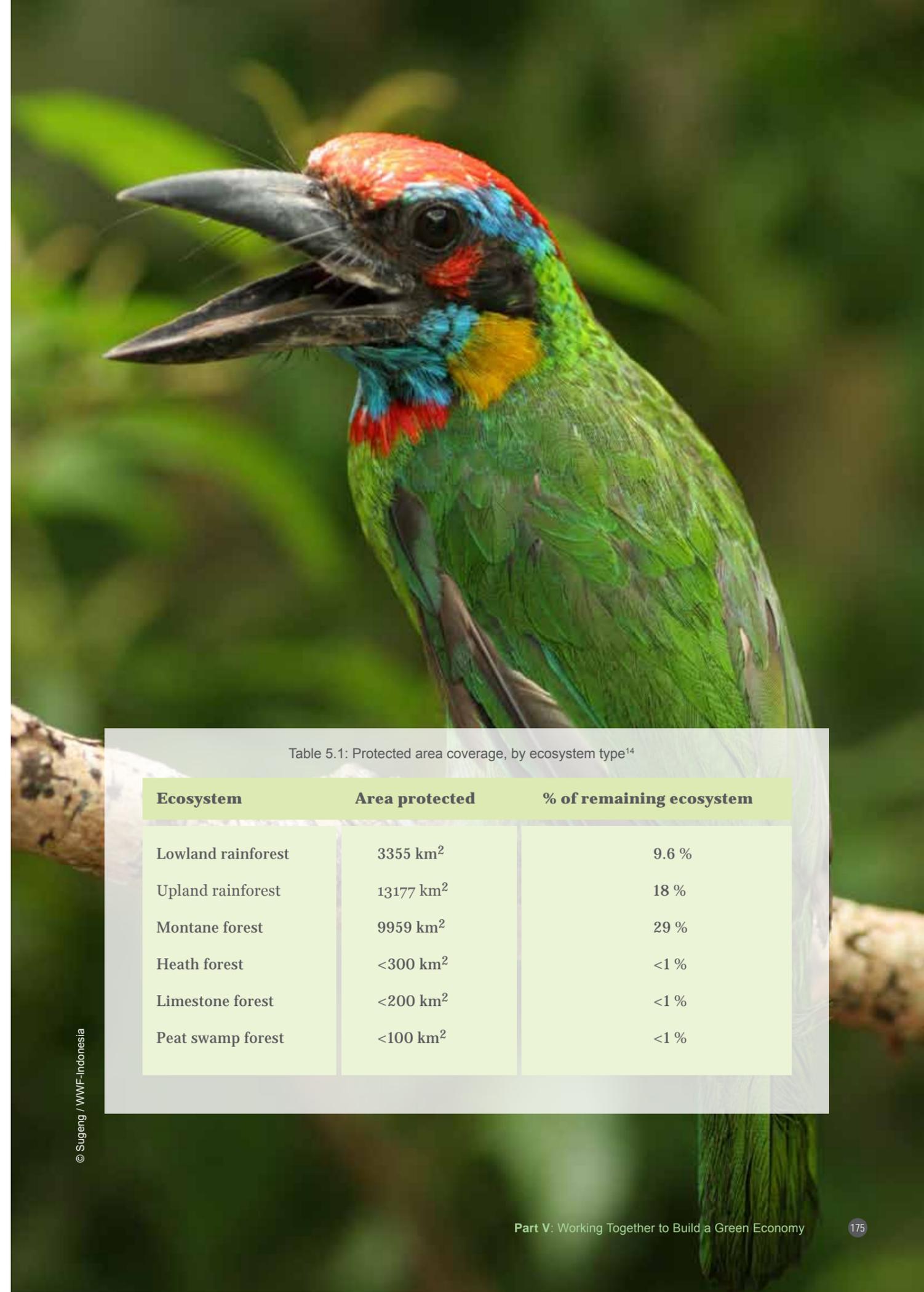


Table 5.1: Protected area coverage, by ecosystem type¹⁴

Ecosystem	Area protected	% of remaining ecosystem
Lowland rainforest	3355 km ²	9.6 %
Upland rainforest	13177 km ²	18 %
Montane forest	9959 km ²	29 %
Heath forest	<300 km ²	<1 %
Limestone forest	<200 km ²	<1 %
Peat swamp forest	<100 km ²	<1 %

© Sugeng / WWF-Indonesia