

# Protected areas

Cornerstones of biodiversity conservation

## Goal 4.4: To ensure that scientific knowledge contributes to the establishment and effectiveness of protected areas and protected area Systems

**Target:** Scientific knowledge relevant to protected areas is further developed as a contribution to their establishment, effectiveness, and management.

### Suggested activities of the Parties

4.4.1 Improve research, scientific and technical cooperation related to protected areas at national, regional and international levels.

4.4.2 Promote interdisciplinary research, to improve understanding of the ecological social and economic aspects of protected areas, including methods and techniques for valuation of goods and services from protected areas

4.4.3 Encourage studies to improve the knowledge of the distribution, status and trends of biological diversity.

4.4.4 Encourage collaborative research between scientists and indigenous and local communities in accordance with Article 8(j) in connection with the establishment and the effective management of protected areas

4.4.5 Promote the dissemination of scientific information from and on protected areas including through the clearing-house mechanism.

4.4.6 Promote the dissemination of, and facilitate access to, scientific and technical information, in particular publications on protected areas, with special attention to the needs of developing countries and countries with economies in transition, in particular least developed countries and small island developing States.

4.4.7 Develop and strengthen working partnerships with appropriate organizations and institutions which undertake research studies leading to an improved understanding of biodiversity in protected areas.

### Learn more about Goal 4.4:

#### Key activities include:

- Improve technical and scientific cooperation related to protected areas
- Promote interdisciplinary research
- Encourage studies to improve knowledge on the distribution, status and trends of biodiversity
- Encourage collaborative research between scientists and communities

#### What is scientific knowledge?

Within a protected area, there is typically a wealth of scientific knowledge, including ecological knowledge about the species, ecosystems and their interactions within a protected area; the social and cultural views, beliefs and practices of indigenous and local communities; and the economic benefits of the many services provided by a protected area.

#### Why promote interdisciplinary research?

Interdisciplinary research involves collaboration between researchers from different disciplines, such as economics, political science, anthropology, and geography. Interdisciplinary research is increasingly required for effective protected area management because the pressures facing protected areas

increasingly stem from multiple sectors of society, and because the expectations of protected area benefits and services are increasingly complex and multi-faceted. For example, protected area managers may want to work with economists to assess the range of benefits provided by the protected area; work with anthropologists to identify potential forms of innovative governance; and work with political scientists to assess the policy environment.

### **What does it mean to study the distribution, status and trends of biodiversity?**

An assessment of the distribution, status and trends of biodiversity typically starts by identifying the key species and ecosystems that will be included in the assessment. The assessment then typically assesses:

- Size -- the patch of an ecosystem, and the population of a species;
- Condition -- the ecological integrity of the ecosystem, and the age distribution within a species population;
- Threat status -- the extent and severity of impacts from a range of threats on ecosystems and species, such as poaching, illegal logging, invasive alien species;
- Distribution -- the location of each of the ecosystem patches, and the potential habitat range for key species;
- Landscape context -- the surrounding land and water uses for ecosystems, and the degree of fragmentation and connectivity for ecosystems and species;
- Trends – how the size, condition, threat status, distribution and landscape context change over time

### **What are some key documents that can help in the implementation of Goal 4.4?**

Resources on the use of scientific knowledge establishment and effectiveness of protected areas and protected area systems can be found at: <http://www.cbd.int/protected/tools/>