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The role of targets in conservation

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1.1 Introduction

At the time that the subject for this seminar was decided, the use of measurable targets in conservation strategies was not common practice. Only a limited number of targets were applied, especially those referring to the extent and coverage of Protected Areas. Subsequently, however, global goals and targets, some general but others more precise, have been adopted by various UN and international conferences, such as the Millennium Development Goals, the 2010 target to halt biodiversity loss and the Global Strategy for Plant Conservation of the Convention on Biological Diversity, the significant reduction in the rate of biodiversity loss proposed in the Plan of Implementation of the World Summit on Sustainable Development in Johannesburg, 2002 and the set of targets of the World Parks Congress in the Durban Accord and Action Plan 2003. A meeting of the Global Biodiversity Forum (GBF) held on 3-4 April 1997, was a 'Dialogue on biodiversity indicators and targets: Exploring Options for Setting Concrete Targets and Achieving Measurable Progress in Implementing the Biodiversity Convention'.

In addition several countries or states have included various conservation targets in their biodiversity action plans and strategies referring to particular biomes, habitat types, forest cover, protected areas, threatened species and recovery plans (e.g. Australia, China, UK).

A summary of the role of targets in conservation, especially of recent developments in this area, is presented to provide a context for the outcomes of the seminar discussions.

1.2 History of targets in conservation

Definition and nature of targets

Conservation planning has not until recently been practised in a systematic manner and the majority of protected area systems, which form the cornerstone of most conservation strategies, have not been planned in such a way as to conserve an adequate sample of the country's or region's biodiversity (Scott *et al.* 2001; Balmford *et al.* 2001). Often, the choice of areas to set aside as reserves has been determined by the availability of the land, its remoteness, the lack of economic value or the presence of some particular species (as in game reserves) or landscape value, rather than on the presence of significant levels of biodiversity.

Systematic conservation planning, as defined by Margules & Pressey (2000), has several characteristics, one of which is that it is based on explicit goals which preferably are capable of being translated into quantitative, operational targets. Similarly, Faith (1997; Faith *et al.* 2001) considers that there are three issues that have to be addressed in developing any conservation plan: (1) How to measure diversity; (2) the role of biodiversity targets against which the success or failure can be judged; and (3) how to achieve these targets in the light of real world costs and constraints. Faith sees biodiversity targets as providing an important comparative benchmark for whole country or regional studies and argues that while the effective use of such targets is possible, it depends on the interplay between of biodiversity surrogate, targets and costs.

In general, biodiversity targets have not been proposed because of the notorious difficulty of measuring biodiversity in a precise and consistent manner. As Sarker & Margules (2002) comment 'Biodiversity has acquired such a general meaning that people now find it difficult to pin down a precise sense for planning and policy-making aimed at biodiversity conservation'.

A distinction may be made between long-term goals and more immediate or short term targets. It has been suggested that if targets are set too far into the future, it will be difficult to maintain political motivation or societal interest if no results can be seen within a reasonable timeframe (James & Saunders 2001). Moreover we do not have sufficient information to be able to plan with any confidence over a period of time such as 50 or 100 years nor can we predict what the circumstances within which we will be operating will be. Targets may be general (although desirable) aspirations such as 'reducing the amount of biodiversity loss' or unquantified goals even though a time-frame is given, as for example in WWF's 'Forests For Life' targets where the protection target is the establishment and maintenance of viable, representative networks of protected areas in the world's threatened and most biologically significant forest regions by 2010 (WWF undated).

The main focus today, however, is on time-bound, quantitative targets for biodiversity conservation. Thus targets can be defined as measurable or quantifiable estimates of the amount of particular elements or features of biodiversity to be included in strategies or action plans. In terms of coverage, they may be global, regional, national, subnational or local. The UK Biodiversity Action Plan (HMSO 1994), for example, included a commitment to produce costed targets for key species (and habitats) by the end of 1995 and three types of Action Plans have been developed which set priorities for nationally important and locally important habitats and wildlife, including Species Action Plans which include Priority Species Action Plans, Grouped Species Action Plans and Species Statements.

Other examples are the targets of the World Bank/WWF Forest Alliance that aim to bring about by 2005, 50 million hectares of new forest protected areas and 50 million hectares of existing, but highly threatened forest protected areas secured under effective management (WB-WWF Alliance 1998) and WWF's forest targets for Asia-Pacific over the next five years, in

line with WWF's global targets, including the establishment of 5 million ha of new forest protected areas by 2005 (WWF 2002).

The targets of conservation range from genes, populations and species to communities, habitats, ecosystems, landscapes and bioregions. Following The Nature Conservancy (Noss 1987; Norse & Copperider 1994; Noss *et al.* 1997), the conservation of genes, populations and species is known as the 'fine filter' approach whereas the conservation of communities and habitats is known as the 'coarse filter' approach. Another approach is to adopt **multiple biodiversity targets** as in the case of the species-and endemic-rich Cape Floristic Region of South Africa where Cowling & Pressey (2003) produced a plan that achieved conservation targets for biodiversity pattern and process.

Species may be targeted not for conservation but for control or eradication as in the case of invasive alien species. For example, the objectives and outcome targets for biodiversity conservation in Australia include, 'By 2005: programs are in place to manage invasive species that are major threats to biological diversity at sites of national environmental significance' and 'By 2001, no new non-native species are deliberately introduced into Australia unless assessed of being of low risk to the environment' (Environment Australia 2001).

Targets can be regarded as a means by which the success or failure of previously established conservation actions or strategies can be measured, monitored and reported. They provide a guide for our actions and a means of measuring progress towards achieving agreed outcomes or goals (James & Saunders 2001). They allow the contribution of existing mechanisms for biodiversity protection and regional sustainability goals to be clearly identified and provide the means for measuring the conservation value of different areas relevant to priority setting and trade-off processes (CSIRO 2003-4). They provide an explicit purpose for conservation decisions (Pressey *et al.* 2003). They may stimulate action that would not otherwise happen and provide a focal point for that action. In some cases they may even lead to the releasing of resources by government and provide a focus for funding agencies. Medium and long-term targets are a useful tool in the development and implementation of international treaties or agreements (Boere & Rubec 2002) which would otherwise call for open-ended commitments without a particular time-frame.

Most targets refer to those species/populations or habitats which have been identified as deserving priority action. Targets referring to the genetic level of biodiversity are less common and have been applied mainly in agricultural or forestry biodiversity.

National versus internationally agreed targets

In practical terms, a distinction must be made between internationally agreed targets (coming out of various multilateral environmental and biodiversity agreements, as discussed below) and national targets. National targets may be associated with, or stem from, the former or may be quite independent of them. Achieving global targets depends of course upon action being taken at national or local levels and in many cases of numerical or quantified targets it is to be expected that developing countries will be less likely than developed ones to reach the required level, thus putting a greater burden on the former if the overall goal is to be reached.

It may be possible to relate national targets to the relevant line items in the national budget. How far the targets will be achieved may well depend to a large degree on the resources that are committed to reaching them. There is a line of reasoning in economics which suggests that many (if not all) internationally agreed targets merely reflect what the signatories would have done anyway (Sandler, 1997). If this is so, then some of the recently agreed global targets would seem to be an exception in that it is difficult to believe that many countries would spontaneously have proposed taking on such onerous commitments as some of those of, say, the Global Strategy for Plant Conservation (GSPC 2002)

The distinction between global targets and national action is not, on the other hand, as clear as just indicated. For example, the achievement of Target 1 of the Global Plant Conservation Strategy, 'A widely accessible working list of known plant species, as a step towards a complete world flora' is more likely to be met by the multilateral actions of a small number of major institutions in a few countries rather than by aggregating the efforts of individual countries.

Targets for habitats/ecosystems: conservation and reservation/retention

Conservation targets for protected area coverage are widely applied: as Sarker & Margules (2002) observe 'Because biodiversity is rooted in place, the task of conserving biodiversity should target places for conservation action'.

Wright (2002) distinguishes between targets for **retention** and **reservation** of native vegetation. Retention refers to native vegetation that is not to be cleared or cropped although it may be subject to other uses such as logging or grazing which are less destructive than bulldozing or ploughing. He gives examples of such targets from New South Wales, Australia. Reservation targets, on the other hand, refer to areas set aside for their conservation value. Other activities such as grazing for weed control or to encourage the regeneration of native grasslands may be permitted in such reserved areas but the primary objective of their management is conservation.

Perhaps the best known reservation targets are those referring to protected area coverage, such as the 10-12 per cent targets (discussed below), and a similar target of 10 per cent of all forest types under protection agreed by twenty countries (Kanowski *et al.* 1999).

Targets for species

Species are used as conservation targets because they are the common currency of biodiversity and because usable and comparable data about them are often available. Those selected may be threatened or endangered native species, focal species such as keystone, umbrellas or flagships, species of special concern such as declining species, those with disjunct distributions, migrant bird species, tree species of economic importance, CITES-listed species and so on.

In many countries threatened species are targets for conservation and information on them is included in national, subnational or local Red Lists or Red Books. Targets may be based on not just single species but on groups of species that have similar conservation requirements. Thus the UK Biodiversity Action Plan (HMSO 1994) includes 'Grouped' Species Action Plans where a range of common policies and actions are required for a

number of similar species, and in the USA the St Louis River Citizens Action Plan (St Louis 2002), includes major groupings of species that share common natural processes or have similar conservation requirements such as marine turtles or commercial fish, and aggregations of globally significant migratory shorebirds.

The selection of target species for conservation is a critical step. It is a complex multi-faceted process and Mace & Collar (2002) provide a review of the scale, scope and objectives involved in priority-setting for species conservation while Maxted *et al.* (1997), Maxted & Hawkes (1997) consider the issues and factors involved in determining target species for genetic resource conservation.

Criteria for selecting target fish species in Alaska

BOX 1

- Species has noticeably declined in abundance or productivity from historical levels outside the range of natural variability.
- Species has an unusual incidence of deformity, disease, malnutrition, or pollutant-caused mortality.
- Species is rare (i.e., small/low overall population size/density).
- Species is designated as at risk (threatened, candidate, or endangered under ESA; state endangered or species of concern; depleted under MMPA).
- Species is endemic (i.e., occurs primarily in Alaska or occurs entirely within an ecoregion found in Alaska).
- Species makes seasonal use of a restricted local range (breeding, wintering, migration).
- Species is sensitive to environmental disturbance.
- Species is disjunct (i.e., isolated from other populations or occurrences in adjacent ecoregions).
- Species status is unknown (e.g., population information is unknown, or taxonomy is questionable).
- Species is representative of broad array of other species found in a particular habitat type.
- Species is important internationally (e.g., targeted for cross-jurisdictional action and/or recognised in bi- or multi-lateral agreements; or useful for cross-jurisdictional monitoring).

Source: Alaska Department of Fish & Game Wildlife Conservation Statewide Strategy
<http://www.sf.adfg.state.ak.us/statewide/ngplan/nghome.cfm>

An example of the criteria used for selecting target species of native wildlife and fish species with pressing conservation needs is given in Box 1.

Targets for biodiversity patterns and processes

Targets are not restricted to areas and species but also extend to maintaining the patterns, key ecological processes and functions of biodiversity that operate within the habitat units or populations selected.

Targets for agricultural or forestry biodiversity (including genetic resources) A range of targets is used in agricultural and forestry diversity. These include percentage of land used for various crops, pasture, forests, reforestation, set-aside and so on. Apart from such land-use targets, targets at the species or genetic level are widely employed.

Targets for genetic resources include the number of samples of land races and wild relatives maintained in gene banks, the number of landraces of particular crops maintained effectively on-farm, the number of wild relatives of animals and crops and other target species maintained effectively *in situ*, and reduction in the extent of genetic erosion.

1.3 Recent global targets

Convention on Biological Diversity

The *Convention on Biological Diversity* (CBD) provides a framework of open-ended goals for conserving biodiversity. Most of its articles set out policy guidelines that Parties can follow within the limits of their capabilities and resources, rather than establishing precise obligations or setting of targets. Recently, however, some time-related targets have been introduced such as the 2010 target to limit biodiversity loss. Decision VI/26 of the Conference of the Parties adopted the *Strategic Plan for the Convention* in which the Parties commit themselves to a more effective and coherent implementation of the three objectives of the Convention so as to 'achieve by 2010 a significant reduction the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth'. This was reinforced by the Ministerial Declaration

of the sixth meeting of the Conference of the Parties to the CBD in which the Ministers resolved to 'strengthen ... efforts to put in place measures to halt biodiversity loss ... at the global, regional, subregional and national levels by the year 2010' (UNEP/CBD 2002).

The NGO Statement² on the Strategic Plan of the CBD went further in wanting the target of the Strategic Plan to be 'bringing biodiversity loss to a halt by 2010'. The EU Biodiversity Strategy has a similarly ambitious aim.

The CBD in its Decision VI/9 also adopted a Global Strategy for Plant Conservation at the Sixth Conference of the Parties in April 2002 (GSPC 2002) which included 16 specific outcome-orientated global targets aimed at safeguarding the world's plant diversity, to be achieved by the year 2010. They are grouped under four headings: (a) Understanding and documenting plant diversity, (b) Conserving plant diversity, (c) Using plant diversity sustainably, and (d) Promoting education and awareness about plant diversity. The conservation targets are:

- (iv) At least 10 per cent of each of the world's ecological regions effectively conserved.
- (v) Protection of 50 per cent of the most important areas for plant diversity assured.
- (vi) At least 30 per cent of production lands managed consistent with the conservation of plant diversity.
- (vii) 60 per cent of the world's threatened species conserved *in situ*.
- (viii) 60 per cent of threatened plant species in accessible *ex situ* collections, preferably in their country of origin, and 10 per cent of them included in recovery and restoration programmes.
- (ix) 70 per cent of the genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated local and indigenous knowledge maintained.
- (x) Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems.

² Biodiversity Conservation Center; Birdlife International; CEEweb; Coastwatch Europe; European Environmental Bureau (EEB); Green Balkans; Fern UK –Brussels; Forest Peoples Programme; Friends of the Earth France; Friends of the Earth Netherlands; Friends of the Siberian Forests; Greenpeace International; International Fund for Animal Welfare (IFAW); KWIA, Flemisch Support Group for Indigenous Peoples; LatvianFund for Nature; Natur og Ungdom (Nature and Youth), Norway; Netherlands Committee for IUCN; Robinwood, UK; Tisza Ecocentre, Ukraine; Voice, Ireland; WWF Russian Programme; WWF European Policy Office.

The date of 2010 was chosen so as to coincide with the Convention's Strategic Plan.

National Governments are invited to adopt their own targets within the framework of this Strategy and to work in a coordinated manner so as to achieve the goals by 2010. At a regional level, the GSPC and its targets are mirrored in the European Plant Conservation Strategy developed by Planta Europa and the Council of Europe (Planta Europa 2002).

Millennium Development Goals

The key development goals and targets that had been agreed upon during United Nations conferences and world summits during the 1990s were distilled into the Millennium Declaration (2000). Based on the declaration, UNDP working with other agencies UN departments and programmes and the World Bank, the IMF and the OECD proposed a concise set of goals, numerical targets and quantifiable indicators so as to be able to measure progress. These became known as the [United Nations] Millennium Development Goals, and include 8 goals, 18 targets and more than 40 indicators. They were approved by the UN General Assembly in 2001 as part of the Secretary-General's Millennium Roadmap.

Of these, Target 8: *Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources*, is the most relevant to biodiversity conservation.

World Summit on Sustainable Development in Johannesburg, 2002.

The Plan of Implementation of the World Summit on Sustainable Development held in Johannesburg (2002), includes as one of the many goals that have been incorporated from previously held international meetings, 'Achieve by 2020 a significant reduction in the current rate of loss of biodiversity'.

Durban Action Plan, 2003.

At the Vth IUCN World Parks Congress held in Durban, South Africa, with its theme 'Benefits Beyond Boundaries' even more ambitious targets have been set. The Durban Action Plan contains a series of key targets for checking and reporting progress.

The Action Plan urges governments, NGOs and local communities 'to maximise the representation and persistence of biodiversity in comprehensive area networks in all ecoregions by 2012, focusing especially on threatened and under-protected ecosystems and those species that qualify as globally threatened with extinction under the IUCN criteria. This will require that:

All globally threatened species are effectively conserved *in situ* with the following immediate targets:

- i. all Critically Endangered and Endangered species globally confined to single sites are effectively conserved *in situ* by 2006;
- ii. all other globally Critically Endangered and Endangered species are effectively conserved *in situ* by 2008;
- iii. all other globally threatened species are effectively conserved *in situ* by 2010; and
- iv. sites that support internationally important populations of congregatory and/or restricted-range species are adequately conserved by 2010

2010 -The Global Biodiversity Challenge

A meeting was held in May 2003 by the Secretariat of the Convention on Biological Diversity, the UNEP World Conservation Monitoring Centre and the United Nations Development Programme to review the 2010 target with a view to obtaining a better understanding of it and how its achievement, or otherwise, could be assessed (UNEP 2003).