

PROGRESS IN SPECIES ACTION PLANS

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Summary

Species Action Plans are designed to protect the basic units of biodiversity—threatened species. They are defined in this paper by a series of frequently asked questions, and a guide to what should be in a Species Action Plan is presented. A case study, the UK Biodiversity or Species Action Plan for white-clawed crayfish, *Austropotamobius pallipes*, is presented and the work of the Environment Agency 1995-2000 on white-clawed crayfish is described to illustrate progress in it.

1. Introduction

Over the past two decades Man's responsibility for nature has been translated into a commitment to maintenance of biodiversity and sustainable development. Species Action Plans are designed to protect the basic units of biodiversity and sustainable development; they protect species that are threatened. These responsibilities require action because the context is that of an increasing number of global extinctions of species over the past century; extinctions are reducing biodiversity.

Signatories to the Biodiversity Convention at the Earth Summit in Rio de Janeiro in 1992 required the production of detailed, costed, action plans for both key species and habitats. These action plans, which are plans for species and habitats, i.e. a response to the Rio Challenge, have as components, Species Action Plans and Habitat Action Plans.

2. Species Action Plans

What are they?

Species Action Plans are documents that if acted upon will reduce the pressure towards extinction on those species for which they have been prepared. Species Action Plans

- Are tools for promoting conservation recommendations to audiences who can act on them,
- Are a resource, giving all possible information needed to guide the decision-making process leading to conservation actions,
- Can be used as an aid to raise funds for recommended actions,
- Are a means of communicating the current threats to a species, how they are being addressed, what further action needs to be taken, and their order of priority.

What are they for?

Species Action Plans are used to stimulate communications within Specialist Groups, leading to an increased number of partnerships between specialists and more informed conservationists. Their recommendations are used to influence players in the conservation sphere at local, national, regional and global levels. Because sharing of information about species with the general public is not sufficient to ensure that conservation action will be taken, Species Action Plans make recommendations specifically designed for key players. Having made a Species Action Plan, progress can be judged against it.

Who uses them?

Species Action Plans are currently one of the most important tools used in conservation by:

- Worldwide organisations, e.g. The World Conservation Union, (IUCN),
- Continental organisations, e.g. the European Conservation Commission (European Environment Agency in the European Union, 1995)
- National governments and agencies, e.g. Department for Environment Food and Rural Affairs (Defra), English Nature, the Environment Agency, the Highways Agency in the UK,
- Regional and local organisations (governmental and voluntary), e.g. Wildlife Trusts in England, Local District Councils in England.

Who can use them?

Anyone with a special interest in a particular species can refer to the specific Species Action Plans and will often find access to a Specialist Group if the species is threatened.

What restrictions are there on them?

A major limitation of Species Action Plans is that they have no statutory basis. Therefore lowering of trade barriers and the General Agreement on Trade and Tariffs (GATT) present a threat because international agreements on free trade override any non-statutory conservation plans and although quarantine regulations may be applied, these regulations must not prevent the basic trade.

What species have action plans?

Those species that are threatened (*rare*, *vulnerable* and *threatened* are covered by the term “threatened” as defined by IUCN) have Species Action Plans. IUCN has produced lists of threatened species; these are Red Data Books that deal with different taxonomic groups but there are many groups that are not covered (Red Data Books also cover

species that are not threatened but are of international importance). Also species that have been identified nationally in response to the Rio Challenge have Species Action Plans.

3. Progress in Species Action Plans since the Rio Earth Summit

General

At the 1992 Earth Summit in Rio de Janeiro governments of 157 countries (including all European Union members at the time) signed the United Nations Convention on Biodiversity. The Convention required signatories to develop or adapt national strategies, plans or programmes for conservation and sustainable use of biological diversity. Action plans to achieve this have developed to a greater or lesser extent in each country and species action plans for selected species have been promoted internationally, e.g. by IUCN, and nationally, e.g. by the Environment Agency in the UK.

IUCN provides a forum for over 10 000 scientists globally to participate in production of Species Action Plans for threatened Species. IUCN's publication of Red Data Books annually draws attention to the plight of threatened species and in the 2000 edition confirms the global extinction crisis. Species Action Plans can be used as a tool to combat the rising tide of extinctions.

In 1992, it was predicted that 2-13% of all currently existing species would become extinct over the next 25 years if no action was taken. Species Action Plans if adhered to should reduce the number of species extinctions; they are an essential part of governments' commitment to biodiversity and sustainable development. If no action is taken, further species will become extinct. The World Wide Fund for Nature (WWF) recently highlighted that during the past century, 154 species of plant or animal have become extinct in the UK; approximately half of these were unique to Britain.

The Government in Britain produced "Biodiversity: the UK Steering Group Report" (Department of the Environment 1995) which addresses the issues. It set out the principles for delivering the plan during the period 1995 to 2010, and costed action plans for 116 priority species and 14 habitats considered to be under greatest threat. Since then a further six volumes of action plans have been produced covering a total of 391 species and 45 habitats. In other parts of the European Union progress has not been so swift; out of the 16 member states, in 1997, only three had national action plans in place, five had action plans being developed and three had action plans as a stated priority (but no tangible progress).

Sound science should be the basis of Species Action Plans and the authors of these Plans should be familiar with the ecological requirements of species. Following production of a national Species Action Plan, e.g. as part of the UK Biodiversity Action Plan, progress in conservation issues can be judged against it, as demonstrated in the case study for *Austropotamobius pallipes* in the UK below.

Guide to a Species Action Plan

As a guide Species Action Plans should include:

- Current status
- Current factors causing decline
- Consideration of genetic variation
- Action plan objectives and targets
- Current action
- Proposed action and lead agencies

Current status

Basic species information includes details of distribution and relevant legislation. The distribution may be known due to previous interest but could be held in a variety of formats and by a range of authorities; it may need to be consolidated to make best use of all available data. GIS (Global Information System) formats attached to standard databases or spreadsheets, e.g. Arcview, provide adequate complexity for most uses, although more complex databases have been used by some agencies and data may need to be adapted.

If distribution information is known to be incomplete, an early requirement for any Species Action Plan will be survey work to augment the existing geographical data. This is updated by monitoring.

Data on the past distribution of species can assist in providing reasons for decline, and monitoring programmes can sometimes be designed to verify these reasons.

Legislation regarding biodiversity and sustainable development is essentially a national issue, hence the development of national Biodiversity (Species) Action Plans, but it is becoming more consistent between countries due to commitments made at Rio in 1992 and Directives of the European Union (which are, by the EU Treaty, incorporated in national legislation) which benefits the globe as a whole.

The application of legislation is important; legislation issues need to be addressed if it is not implemented or if when implemented it does not safeguard the species.

Species Action Plans at a regional level need to take account of the national situation including national distribution and legislation.

Current factors causing decline

The current factors causing decline or the main threat to the species need to be identified. These may range from habitat loss (including linking corridors) to disease, competition from invading species or pollution. It may not be possible in the first instance to detail the factors, e.g. if the habitat requirements of the species are not known. Surveys and research can assist in establishing the causes of decline, which need to be addressed in the Action Plan.

Genetic Variation

Charles Darwin was the first to suggest that species cannot survive without a minimum level of variation. Although it is thought that Darwin was referring to ecological variation, neo-Darwinian concepts include both ecological and genetic variation as components of variation. Species conservation has to protect both types of variation.

Each species is the repository of an immense amount of genetic information, with each individual being virtually genetically unique. In Species Action Plans the variation within the species needs to be identified and the objective of maintaining it needs to be incorporated. It is important to know whether a fraction of a species, i.e. a population of that species, can adaptively radiate and show its adaptive distinctiveness; both of these are factors important to the origin and survival of species. Reintroduction programmes in particular need to ensure that genetic variation is sufficient in the stock to enable the population to survive. An evolutionarily significant unit (ESU) is a population unit that merits separate management and has a high priority for conservation. The concept of ESUs should be addressed when managing populations of threatened species such that ecological and genetic variation within individual species is maintained.

Action Plan objectives and targets

The objectives and targets can only be stated when the management factors are known. The distribution and legislation, and the factors causing decline and genetic variation of a species need to be established before the objectives and targets of a plan can be proposed.

Current Action

Normally lists conservation work, e.g. reintroduction, control of invasive species, use of Environmental Impact Assessment in Planning, safeguarding of key sites, education and communication.

Proposed Actions and lead agencies

Taking into account the current action, proposed actions are stated with timescales, lead agencies and costs. By incorporation of the individual species targets specified in Species Action Plans into Habitat Action Plans, it can be ensured that the actions taken in an area or a habitat will protect the species. Thus Species Action Plans and Habitat Action Plans are related and both are essential as components of Biodiversity Action Plans.

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Biographical Sketch

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