PART III
Technical considerations in making non-detriment findings

Chapter 4
Technical considerations in making non-detriment findings

4.1 Methods for evaluating the sustainability of harvests for tropical mammals, *Richard Bodmer and John Robinson*

Introduction

Where there is management of wildlife in tropical forests it has generally depended on the use of simple models of sustainability, and an adaptive process in which the effects of management are monitored. Furthermore, the use of these simple models in adaptive management in tropical forests has been based on the following understandings:

a) The use of a number of different models (which use independent variables) to evaluate the sustainability of hunting allows greater confidence in the results. If different models similarly indicate that hunting is sustainable (or not), then confidence is higher.

b) Specific numerical values generated by models are "ball park estimates", and do not specify actual harvest numbers. In other words, values from a specific model can generally indicate the sustainability of a particular harvest, but are not accurate enough to set specific quotas or harvest rates.

c) Each model makes certain assumptions, which need to be understood if the results and values are to be evaluated. In the following discussion, different models are compared and contrasted.

Comparisons of abundance, density or standing biomass

Comparisons of abundance, density or standing biomass in unhunted versus hunted areas have been used to evaluate whether species appear to be overhunted. One of the greatest drawbacks with density comparisons is that it is difficult to estimate wildlife densities where the vegetation is dense and visibility is limited. Nevertheless, in recent years, species densities in tropical forests have been estimated at hundreds of sites. Most estimates have used the line transect method coupled with DISTANCE analysis (Buckland *et al*. 1993, Laake *et al*. 1994). The almost universal adoption of this method, and the extensive statistical analysis of sources of variation gives validity to comparisons between hunted and unhunted areas.

Estimating demographic structures of wildlife populations

A number of studies in tropical forests have described differences in age structures of populations between hunted and unhunted sites. Hunting tends to shift the age structure of the population so that:

a) the proportion of juveniles in the population increases, and

b) among adult animals, the distribution of animals in a hunted population are more skewed towards younger age categories.

Our understanding of the effect of hunting on the demography of tropical forest species remains in its infancy. However, using demography to manage wildlife populations in the tropics has enormous potential, because it concurs so well with the activities of local hunters. Rural people can easily collect skulls from animals they hunt with only a minimum of extra labour, thus creating large skull collections. These collections can be used to calculate hunting pressure, to evaluate demographic patterns and to initiate participation of hunters in management programmes.

Effort models

Effort models examine the relationship between yield and effort, and commonly use harvest per unit effort, measured by the distance, frequency, duration of hunts, or number of hunters. These models usually require extensive information about the daily activities of hunters to measure effort. Continuous declines in the harvest per unit effort is assumed to indicate that wildlife population densities are declining.

Production models

In the absence of detailed information about the demographic structure of hunted populations and the impact of hunting on that structure, one approach to managing populations has depended on estimates of population production (defined as the addition to the population through births and immigrations during a specified time period, whether the animals survive, emigrate or die during the period, Banse and Mosher 1980). This

production can then be compared to actual harvests to obtain a measure of sustainability.

Production estimates have to date been largely indirect. The approach adopted by Robinson and Redford (1991b) was to calculate the maximum possible production of a population, and then compare these to actual harvests. This model allows managers to evaluate whether an actual harvest *is not* sustainable but not whether an actual harvest *is* sustainable.

Harvest percentages

In the absence of detailed demographic information on tropical forest wildlife species, models have not been used to directly predict sustainable harvest rates. Actual, observed harvest rates have been calculated in a number of areas, and authors have addressed the sustainability of these rates only by comparing them to rates derived from the better-known temperate populations. Sustainable harvest rates for primates are generally low. For ungulates, they fall within the range of many temperate species. For species with very short life-spans, predicted maximum sustainable harvests are a high percentage of the standing population.

Harvest models

Where rates of births are known, and they are known for only a few tropical forest species, harvest models can be used to evaluate the sustainability of hunting. The impact of hunting can then be determined by comparing harvest with production, by calculating the proportion of production that was harvested. The harvest model is a useful way to evaluate the sustainability of hunting in a specific area, because it uses information on local production and harvests.

Stock recruitment models

Stock recruitment models assume that production varies predictably with population size. If recruitment is density-dependent, as has been generally found with large-bodied wildlife species (Caughley 1977), then production is maximized at some population density below K (where K = carrying capacity). This density, termed the density of maximum sustainable yield (MSY), is specified by the shape of the curve of recruitment against population density (McCullough 1987). Managing populations to achieve MSY is risky. Any overharvesting would result in a decreased base population the following year, and if continued, could quickly lead to extirpation of the population (McCullough 1987). For the same reason, harvesting species at population levels lower than the MSY point is problematic.

Source-Sink considerations

The models described generally assume closed populations, and while they are useful indicators of the sustainable use of populations, they do not consider the possibility of immigration from adjacent areas. These areas could act as sources that replenish hunted (or sink) areas. Because a number of recent studies of tropical forest wildlife have suggested that such immigration is important, management models for tropical forest wildlife must incorporate consideration of the spatial geometry of sources and sinks.

To demonstrate how these approaches can be used to evaluate the impact of hunting, they were applied to data derived from persistently hunted and non-hunted populations of lowland tapir *Tapirus terrestris*, Collared peccary *Pecari tajacu* and White-lipped peccary *Tayassu pecari* in the Reserva Comunal Tamishiyacu-Tahuayo in northeastern Peru (see Bodmer *et al.* 1997). Considering the results of these disparate analyses increases the level of confidence when evaluating the impact of hunting Collared peccary, White-lipped peccary and Lowland Tapir in the region. Taken in aggregate, the analyses are remarkably consistent with one another. Results suggest that Collared and White-lipped peccaries are not overhunted in the persistently hunted site. However, the harvests should probably not be increased since confidence in the numeric values is low – there are untested assumptions and large potential errors. The results for the Lowland tapir are more interesting. Models that assume closed populations suggest extensive overhunting of the Lowland tapir, while the observation that tapirs are still reliably harvested might indicate significant immigration from adjacent source areas.

Further work on hunting in tropical forests can be found in the volume edited by Robinson and Bennett (2000).

4.2 Managing the harvest of reptiles and amphibians for international trade, *Peter Paul van Dijk*

Introduction

Determining the levels at which animal species can be traded without short- and long-term effects on natural populations is a complex subject. However, determining such levels for reptile and amphibian species is particularly difficult because there is so little information about their natural history and levels of exploitation. Ideally, one would wish to have complete and reliable data on the intensity of exploitation of each species, and on the speed with which populations of each species can replace captured individuals. In reality, such data are rarely available for reptiles or amphibians. Nevertheless, some guidelines are needed now; if we wait for detailed studies of each species, the results will come too late to prevent the extinction of many populations and species. The following considerations may be helpful when considering non-detrimental exploitation levels.

Export for trade is part of the overall exploitation of, and potential threat to, species populations and should be seen in this perspective. For example, the annual export of a couple of thousand Tockay geckos (*Gekko gecko*) for the terrarium trade is insignificant compared to the bulk usage of tockays for Chinese folk medicine, the number killed as pests, and the unknown numbers affected by environmental pollution (pesticides, etc.).

Assessment of sensitivity to exploitation

A reasonable knowledge of the biology of a species can permit one to predict fairly accurately whether a species is sensitive to exploitation. Based on this, one could lay down guidelines or quotas for exploitation of each species, taking account of domestic as well as international trade.

Habitat adaptability

For convenience, one can assign reptile and amphibian species to three broad categories with regard to their distribution and habitat use:

- **Commensal species:** those species living in towns, village outskirts, cultivated lands, etc. These are generally adaptable species tolerating or thriving in disturbed habitats, usually locally common and widespread geographically. Such species are rarely of conservation concern and trade would represent an insignificant impact on populations.
- **Widespread and abundant non-commensal species:** these include a variety of species inhabiting forest, wetlands and other 'non man-made' habitats. By virtue of their wide geographical distribution and broad ecological tolerances, such species usually occur in substantial populations inside protected areas as well as elsewhere. Again, few of these species would be of conservation concern.
- **Rare and restricted species:** reptile species may be rare for a variety of reasons, such as very localized geographical distribution, habitat or food specialization, or failure to recover from previous widespread exploitation or habitat destruction pressures. Whether such species are of conservation concern needs to be assessed on a species-by-species basis, but as long as the data for such assessments are not available, a conservative approach would be to consider them all endangered and unsuitable for exploitation. However, it may be possible to raise significant funds for conservation by allowing a strictly regulated small harvest once status data becomes available.

Ecological biomass considerations

Herbivores and insect-eating small species can maintain much higher numbers and biomass per hectare of suitable habitat than carnivores. Thus, a shipment of a hundred frogs or geckos can be collected from a few hectares and is biologically insignificant, while the collection of a hundred monitor lizards *Varanus* spp. or rat snakes *Ptyas* spp. will represent a significant reduction in the population over many dozen km^2.

Reproductive characteristics

Populations of a species which produces numerous eggs or young per female, and whose young mature in a short time, will generally recover faster and better from the effects of exploitation than species that produce only a few offspring that in turn, take a decade or longer before they themselves can reproduce. This long period until sexual maturity is reached is the main reason why exploitation of adult turtles is so disastrous to a population. In most if not all species of reptiles and amphibians, juvenile mortality is quite high in nature, and exporting a dozen hatchling reptiles or a hundred tadpoles has less impact on a population than removing a single mature adult animal. Consequently, the life stage at which human exploitation takes place is important for the population and needs to be monitored.

Monitoring exploitation levels

There are several approaches to monitoring exploitation levels that can be applied to reptile and amphibian populations. They vary in their practical value.

Monitor levels of export

In principle, monitoring levels of exports is the most convenient indirect method for assessing trends of harvest and indirectly possibly, population abundance, but it is very dependent on supply-and-demand forces. For example, the increased freshwater turtle exports from Vietnam in recent years are unlikely to represent increased turtle populations, but probably result from increased market demand.

A refinement of monitoring export levels would be to apply fisheries-type monitoring, i.e. measuring sizes of a random sample of exported animals. Over several years, a declining population would show smaller average size, with large animals no longer occurring in shipments. Although this requires some statistical manipulation, it is probably much more reliable than using gross export numbers. Size or age class is particularly significant for slow-maturing animals like freshwater turtles. However, the size of animals in trade is often determined by market demand, for example the meat trade targets large animals, whilst the hobbyist pet trade is usually more interested in juvenile animals. Total trade volume and price per animal may also give some broad indication of abundance, but there are some strange exceptions. For example, one of the cheapest, most numerous South East Asian lizards in the terrarium trade is *Takydromus sexlineatus*, yet this appears to be a very uncommon species in the wild. Raising the question of where the animals in trade come from.

Monitor capture effort

Another indicator of population trend can be gained by monitoring the searching or trapping effort required to catch an animal. As animals become more scarce, they take more effort to collect, but measuring this capture effort can be very difficult. Teams of small boys are organised to catch animals for a few cents for middlemen who sell to exporters. Nobody will disclose their hunting grounds or their supply sources. Traders' statements that a particular species is common or rare are often influenced by price considerations, while they also know full well that the authorities are likely to restrict trade in rare/endangered species but would not do so if a species is thought to be common.

Exploitation of safe populations

One may take the view that local exploitation (and subsequent export) may go unchecked *provided* that safe populations are known to exist elsewhere. As long as populations persist, unmolested, inside several National Parks and Wildlife Sanctuaries, one may take an extreme view and consider it irrelevant whether populations surrounding the protected areas are collected and traded to local extinction. It may be that the species will be eliminated locally anyway, by habitat alteration and increased predation by domestic species, or pesticide use, if not by direct exploitation.

Whilst the validity of this view is debatable, it does provide a practical way to maintain species in a category where they can be traded because they are of least concern. The problem with this thinking is that it is of course imperative that the protected areas remain properly protected and this may be compromised if trade in small animals is lucrative and is allowed in areas surrounding protected areas. It would be easy to imagine collection spreading inside protected areas, so that presumed safe populations are not safe at all. Furthermore, intensive and unregulated exploitation outside protected areas may have significant long-term effects. Such effects may include the isolation of protected populations from each other, compromised ecosystem functioning in the surrounding areas because of the loss of species beneficial for pollination, pest control and other activities, and loss of future income from sustained wildlife exploitation.

Obstacles to determining sustainable exploitation levels

- Local exploitation and levels of trade at which reptiles and amphibians are extirpated are usually insufficiently known and barely monitored; their importance relative to trade is usually guesswork.
- Identification of species is problematic for most tropical species.
- Monitoring of trade shipments is complicated by smuggling, under-declaration of contents, mixing rare species in among common look-alike species, etc.
- Assignment of species to any of the ecological categories outlined above is problematic with our present state of knowledge of natural history and distribution. One solution, would be to argue that any species whose biology is poorly known, is unknown because it is rare. This is a somewhat circular and imprecise argument, but can be used until better data becomes available.
- The occurrence/appearance of species is often extremely seasonal and localized. This presents problems for assessment of conservation status and also can make such species particularly vulnerable to exploitation.

Clearly, monitoring trade levels is only part of monitoring exploitation, and exploitation may or may not

contribute to declines of amphibian and reptile species and populations. Species really should be assessed for trade on a case-by-case basis founded on proper knowledge of distribution, abundance, ecological requirements and population dynamics. This is currently impossible, and provisional exploitation guidelines may well take a cautious approach until better information becomes available.

4.3 A management framework for the bird trade, *Teresa Mulliken*

Introduction

Wild birds have been traded internationally in large numbers since at least the mid-nineteenth century. The trade apparently reached a peak of approximately 7.5 million birds per year in the mid-1970s, falling to an estimated 2–5 million birds per year during the late 1980s, and was still believed to exceed 2 million birds per year during the mid-1990s. This paper draws attention to a management framework developed in 1992 (as a result of discussions with producer countries), in the hope that it will be a useful tool for CITES Authorities in the process of modifying management plans for birds and other CITES-listed species, and specifically, the way that non-detriment findings are made.

CITES and the wild bird trade

Concern regarding the scale of wild bird trade and the potential impacts on the status of some species prompted the inclusion of numerous bird species in the CITES Appendices. Most notable was the inclusion in Appendix II of all those raptors not already included in the Appendices by the second meeting of the Conference of the Parties (1979), followed by the similar inclusion in Appendix II of all but three parrot species by the third meeting of the Conference of the Parties (1981). These and other CITES listings for wild birds had the dual effects of instituting trade controls and allowing for more effective trade monitoring. Data compiled from CITES annual reports showed a significant increase in the trade in Appendix II species during the mid-1980s. This trade peaked in 1988, when the gross trade of over 740,000 live birds, mainly parrots, was recorded. During that same year, the results of the first 'significant trade review' for Appendix II bird species was published, which concluded 46 bird species were 'possible problems', i.e., possibly traded in excess of sustainable levels, and several others were 'problems', i.e., likely to be traded at detrimental levels. Subsequent significant trade reviews similarly indicated that trade in some species was not being conducted in accordance with CITES Article IV.

Development of a management framework

The bird trade was also receiving scrutiny from other sectors during the late 1980s, especially from NGOs within Europe and North America, some of which were campaigning for an end to the trade. In 1990, TRAFFIC developed a project to examine the perceptions of the international bird trade and trade controls within five of the main producer countries (Argentina, Guyana, Indonesia, Senegal and Tanzania), and to identify methods for developing and implementing sustainable use programmes in areas where trade did not appear to be adequately controlled. The results of the country studies and a preliminary concept for a management framework for the trade were presented and discussed at a workshop in 1991. The results, including a revised management framework, were published in the 1992 TRAFFIC report *Perceptions, Conservation and Management of Wild Birds in Trade*. The findings of this report were presented and discussed in workshops on the bird trade in Senegal and Tanzania, and on the larger wildlife trade in Indonesia, all of which resulted in recommendations for more effective management of the trade.

The 1990s have seen a substantial decline in the international trade in CITES-listed bird species. This is a result of several factors including: the imposition of stricter export controls by range States; CITES Standing Committee recommendations for specific import bans in response to concern that non-detriment findings are not being made adequately in some cases; the imposition of unilateral (USA) or regional (EU) import restrictions; and NGO campaigns resulting in restrictions on air transport for live birds and changes in consumer preference. Nevertheless, significant trade reviews are continuing to document cases where non-detriment findings are not being made sufficient to assess whether export volumes are within sustainable levels.

The management framework developed in 1992 is a useful tool for CITES Authorities in the process of modifying management plans for birds and other CITES-listed species, and specifically, the way that non-detriment findings are made.

4.4 CITES annual report requirements and assistance to Parties in developing database and trade monitoring systems, *Ashish Bodasing*

Introduction

One of the primary tenets of implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is the issuance of permits and certificates by the Parties in order to ensure regulation of trade in species listed in the Appendices of the Convention. The documentation resulting from this system serves as a mechanism for monitoring trade at both national and global levels. However, for such monitoring to take place, CITES Management Authorities (MAs) are required to compile trade statistics on an annual basis in the form of a CITES Annual Report (AR). This report is then submitted to the CITES Secretariat for incorporation into the CITES Database housed at the UNEP-World Conservation Monitoring Centre in Cambridge, UK.

Although the production of such a report may appear to be merely a reproduction of the information contained on permits and certificates, the compilation of such a report is considered a daunting task by many CITES Management Authorities. As of February 1998, only 39% of CITES Management Authorities (MAs) submitted the 1996 CITES Annual Report within the specified deadline of 31st October 1997, 14% submitted late and 26% percent had not yet submitted even the 1995 CITES Annual Report. Such statistics indicate that there may be factors common to CITES MAs which are inhibiting timely AR production.

Collaboration for CITES implementation

TRAFFIC East/Southern Africa (TESA) has gained wide experience in working with MAs in the East/Southern Africa region including Malawi, South Africa, Tanzania, Zambia and Zimbabwe. These collaborations have provided a deeper insight into the very real and practical problems experienced by countries in producing ARs and in conducting the monitoring work that should precede and follow the production of ARs.

The Management Authorities and CITES Scientific Authorities (SAs) form the core components of CITES implementation, but in many countries they are one and the same, and rely on other often separate departments, such as customs, law enforcement, research and hunting to assist them in their function. In conjunction with other entities including the CITES Secretariat, the IUCN Species Survival Commission, the World Customs Organization and other MAs, the national implementation of CITES creates a complex myriad of relationships to fulfil a variety of tasks, of which the compilation of ARs forms a central part.

The effectiveness of such collaborations are, however, dependent on the efficiency of communications, the level of inter-departmental co-operation, the availability of technical knowledge bases and the presence of technical skills and resources. In developing countries, these factors vary in scale. It is therefore imperative, when addressing problems, to develop solutions that fit within the context of the variability of these factors.

Following requests from MAs for assistance in enhancing CITES implementation, TESA has developed a number of solutions. These solutions, while not all-encompassing, can nevertheless be effective within working environments that are poorly funded, understaffed and under-skilled. One such example is TESA's Wildlife Information Database System (WIDS) which was developed in 1992. WIDS seeks to provide a solid base from which MAs can collate and assimilate reliable and accurate CITES trade data to produce ARs, quota reports, and other datasets required to monitor levels of trade in wildlife specimens and products. WIDS is currently being implemented in Malawi, Tanzania, Zambia and Zimbabwe and the South Africa TESA office. WIDS has also been translated into French for implementation in Gabon and discussions are currently being held for its implementation in Senegal. Solutions such as WIDS are intended to enhance the capacity of Management Authorities to implement CITES, in advance of more global technically complex solutions being made available to Parties.

The implementation of WIDS forms part of the IUCN Regional Office of Southern Africa's Networking and Capacity Building Programme funded by USAID. The implementation of WIDS takes into consideration that the provision of a database tool is not sufficient to ensure success. The TESA WIDS programme incorporates training in computer skills, raising the level of CITES technical knowledge and enhancing the CITES implementation process. Critical resources such as computers and reference materials are also provided.

The implementation of information systems such as WIDS, has brought to light a number of valuable lessons and experiences which may be useful to other CITES Parties. This paper was produced in consultation with various management authorities in the East/Southern African region.

4.5 The Significant Trade Process for animals: can this process help to guide the making of non-detriment findings? *Robert W.G. Jenkins*

Introduction

During the early years of CITES (1975–1988) large numbers of species of wild animals were transferred from Appendix II to Appendix I. The reasons for including such species in Appendix I have been numerous and diverse, spanning ethical considerations and an ideological opposition to commercial use of certain species, to the reality, or perception, that a species has become threatened with extinction as a result of excessive international trade. In some cases these decisions have been based on the often-erroneous belief that inclusion of a particular taxon in Appendix I alone would "solve the problem". Some of these inclusions in Appendix I, often prompted by a non-range State, have had the negative effect of polarizing the developed and developing world Parties.

However, when considering proposals to transfer species from Appendix I to Appendix II the Conference of the Parties has traditionally exercised caution and it can be extremely difficult and costly to remove a species, or a national population from Appendix I. In the case of the Australian saltwater crocodile *Crocodylus porosus* effective management of the species required that it be removed from Appendix I. However, obtaining sufficient scientific data to support the down-listing proposal to the satisfaction of the Conference of the Parties took over five years and cost in excess of AUD 1 million.

Towards the end of the 1980s, an increasing number of Parties were starting to question whether inclusion of a species in Appendix I was beneficial to *in-situ* conservation of the wild resource. The transfer of the African elephant *Loxodonta africana* in 1989, although undoubtedly warranted for some populations, was seen by some Southern African countries, where numbers of elephants were being well-managed and were either stable or increasing, as an example of an unwarranted intervention by the international community. Many exporting countries believe that some Appendix I listings have had profoundly negative conservation impacts by removing much of the economic value, and hence political incentive, to manage wild populations of the species for conservation. For some species, an Appendix I listing has removed the flexibility to respond appropriately to management crises such as overgrazing during drought periods and conflicts between animals and human land use systems. These situations changed the perception of some species in the minds of many land-holders from that of being an asset to something which held no value. For example, the leopard *Panthera pardus* was included in Appendix I when the Convention was first crafted in 1973. As an Appendix I-listed species, the leopard although relatively common throughout many parts of sub-Saharan Africa, quickly became perceived as a pest and was actively persecuted by poisoning and shooting because of its ability to prey on agricultural livestock. In some areas, populations of the species declined even though it was subject to the most stringent international trade controls. These trade controls had very little effect on the ground where land-holders (and governments) were faced with very different management problems. Following concerted efforts by many range State governments to reverse the decline and acquire the flexibility to confer an economic value on the species, CITES instigated a system of national export quotas for the sub-Saharan population of leopards. This approach has proved very successful and has since been extended and applied to national populations of the cheetah *Acinonyx jubatus*, in 1994, and to markhor *Capra falconeri* populations in Pakistan in 1997.

The CITES significant trade process

Against the background of this growing divergence in conservation philosophy, the CITES Animals Committee, in its preparations for the eighth meeting of the Conference of the Parties (Kyoto, 1992), made the first serious attempt to address Article IV implementation constructively to stem the rate at which many animal species, often without the support of the range States, were being transferred from Appendix II to Appendix I of the Convention. Article IV (2)(a) requires that before authorizing export of a CITES Appendix II-listed species, the Scientific Authority makes a determination on the extent to which a population is able to "sustain" being used for the export trade, with no detriment to the long-term conservation of the population(s) in the wild. Some guidance on achieving this requirement is provided to Parties by Article IV(3) that specifies the types of actions that must be undertaken by the Scientific Authority of an exporting country.

Resolution Conf. 8.9 on *Trade in Wild Caught Animals Specimens* was adopted in 1992 at Kyoto as a means to facilitate improved implementation of Article IV (2)(a) and (3) by exporting Parties. From a conservation standpoint, when a species becomes eligible for inclusion in Appendix I of the Convention, it represents a failure by an exporting country (or countries) to implement effectively the requirements of Article IV and

ensure that harvest of a species for export is sustainable. Management that provides for use of a wild species incorporating the elements of Article IV achieves a marriage between two seemingly disparate conditions, viz. conservation and use.

The Significant Trade Process established by Resolution Conf. 8.9 seeks to identify, and rectify, in cooperation with the Management Authorities of exporting countries, Article IV implementation problems. The Process entails an initial assessment of available trade data for Appendix II-listed species in order to determine those taxa that may be being traded in excessive quantities. Following agreement by the Animals Committee on the candidate taxa, the Secretariat commissions more detailed reviews, incorporating greater consideration of the biological characteristics of the species. In the past these reviews have been undertaken by the UNEP-World Conservation Monitoring Centre, IUCN – The World Conservation Union and TRAFFIC International. The draft reviews are circulated to the Management Authorities of range States for comment and correction or updating of information before being considered by the Animals Committee.

The Animals Committee must assess all available information and determine whether or not the provisions of Article IV(2)(a) and (3) have been satisfied. In cases where a particular problem has been identified, the Committee formulates primary and/or secondary recommendations designed to correct the problem. The Animals Committee recommendations are communicated by the Secretariat to the Management Authority of the relevant exporting country. Problems of a serious nature become the focus of primary recommendations and the recipient has 90 days in which to respond to the satisfaction of the Secretariat. Less serious problems or problems requiring field studies become the subject of secondary recommendations for which the recipient country has twelve months to submit a satisfactory response to the Secretariat. Where the exporting country has been the recipient of a primary or secondary recommendation and either fails to respond to the Secretariat, or provides an unsatisfactory response, then the Secretariat is authorized under Resolution Conf. 8.9 to recommend appropriate action to be taken by the CITES Standing Committee. In extreme cases the Standing Committee has recommended that Parties not accept imports of a particular species from a country until such time as the country in question has addressed, to the satisfaction of the Secretariat, the problem originally identified by the Animals Committee. In many cases the Management Authority consults the Secretariat to define a more conservative annual export quota that fulfils the requirements of Article IV (3).

Resolution Conf. 8.9, if applied correctly, has the ability to contribute significantly to achieving the objectives of the Convention. However some organizations perceive the Resolution Conf. 8.9 process as a means of prohibiting international trade in wild animals. Indeed, some Parties that have been the recipients of recommendations have expressed concern that the process represents a “backdoor” mechanism to achieve the same effect as an Appendix I listing. This perception is reinforced further if importing countries use the process to justify the application of unilateral import bans on species that have been subject to Resolution Conf. 8.9 recommendations. In light of this concern, it is essential that Parties understand the process and hence appreciate the potential benefits. It is critically important that Parties participate fully in the process and provide the most current information available on a species subject to the review process. This will ensure that the Committee bases its recommendations on the most up-to-date information available. As an entity representing the interests of the Parties, it is equally important that the CITES Animals Committee counters the views of extreme non-government organizations by maintaining an objective and cooperative approach to implementing Resolution Conf. 8.9.

While it is true that the significant trade process of Resolution Conf. 8.9 has the potential to result in punitive measures, such as specific trade sanctions, being applied to a Party for failure to implement the provisions of Article IV, it is also true that without such a mechanism to address the implementation of Article IV provisions, the only alternative process available within the framework of the Convention lies in the Conference of the Parties transferring from Appendix II to Appendix I those species that are or are perceived to be subject to unsustainable export trade.

In addition, heavy trade of Appendix II-listed animals has led to the Scientific Authorities of an increasing number of importing countries making Article IV non-detriment findings before recommending import approval be granted for consignments of these Appendix II species. These determinations by the importing countries are often made without consulting the exporting country, and often with incomplete or dated information. Thus although the Resolution Conf. 8.9 process may seem to some Parties to counter the spirit of cooperation, implicit to this process is the principle that the species remains on Appendix II and the exporting country retains unilateral control over management of species which are subject to recommendations. Hence, Resolution Conf. 8.9, if implemented properly with the cooperation of exporting countries, provides a mechanism that allows individual exporting countries to develop the necessary technical and administrative capacity to implement Article IV requirements. It also

removes the need for importing countries to apply stricter domestic measures such as import bans or independently derived import quotas that are more conservative than the national export quotas established by the exporting countries.

Theoretically, effective implementation of Article IV of the Convention should result in a reduction of the number of animal taxa being transferred from Appendix II to Appendix I. Thus if Resolution Conf. 8.9 is implemented in the correct manner the process should effectively avoid the need to transfer species from Appendix II to Appendix I. Consequently, when considering proposals to transfer taxa from Appendix II to Appendix I, the Parties should also consider whether or not the taxon has been subject to the Significant Trade Review Process (Resolution Conf. 8.9).

The real power of the Resolution Conf. 8.9 significant trade process undoubtedly lies in its ability to enable the Management Authority of an exporting State to address Article IV implementation problems whilst retaining the species in Appendix II. A large number of Appendix II-listed species, if managed correctly and harvested in quantities that can be sustained by the wild population, represent an important economic resource for many rural communities in developing countries. The inclusion of such species in Appendix I and the attendant prohibition on commercial exports effectively removes any requirement to implement Article IV provisions of the Convention. The systematic inclusion of "commercially" important Appendix II species in Appendix I has the potential to transfer the focus of management from field studies, necessary in order to provide a scientific basis for making non-detriment findings to enforcement activities.

Clearly, the Resolution Conf. 8.9 process can contribute positively to implementing the Convention and achieving an effective link between the use of a species for export and conservation of the wild population by ensuring a greater likelihood that such use will be sustainable. However, without a source of adequate funding to support the necessary field studies to create the scientific basis of management and thus the linkage between use and conservation, the process will remain largely academic. As the Resolution Conf. 8.9 process becomes more institutionalized, it will be important to also institutionalize a reliable on-going source of adequate funds to undertake field studies. Past contributions by various donor agencies and governments have enabled specific studies to be undertaken, however, the availability of funds from these sources is not guaranteed, and when made available are often "tied" to a particular country or species.