

Primate Conservation: Unmet Challenges and the Role of the International Primatological Society

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Abstract In the last 40 years, threats to the survival of wild primate populations have greatly increased. Primatologists have long been aware of these threats, and since 1978 have formulated plans to safeguard threatened species. Yet an increasing number of primate species face a high to extremely high risk of extinction. I asked 14 experienced field primatologists for their views on the most serious challenges to more effective primate conservation. They listed habitat loss and hunting as the major direct threats to primate survival, and noted that these activities are driven predominantly by the growth of human populations and the tendency of people to consume resources beyond their immediate survival needs. Two factors identified as most hindering effective action were a lack of political will and insufficient funding, while the main actions recommended to mitigate threats were to undertake more awareness-raising and make protected areas more effective. Such actions have long been recommended, so why have they not worked better? Perhaps the pressures on the natural world are too great to be countered, but I suggest also that too many of the various actors involved in conservation are overly driven by materialism and self-interest. I recommend more attention to the common good and a greater emphasis on the ethical and spiritual reasons for conservation. The International Primatological Society itself could have more vigorous debates on conservation policy at its congresses, and should consider the creation of regional chapters with the aim of promoting primatology in habitat countries.

Keywords Conservation policy · Ethics · International Primatological Society · Primates

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Introduction

In a talk given at the XXIVth Congress of the International Primatological Society (IPS) in Cancun, Mexico, in August 2012, I posed the following questions: What goals are we trying to achieve in primate conservation? What challenges must be overcome if we are to achieve these goals? How can we meet these challenges, and what role should the International Primatological Society itself have in helping us achieve our goals?

I have been thinking seriously about primate conservation since at least 1972, when I completed the main phase of my doctoral field research on black-and-white colobus monkeys, working with Thomas Struhsaker in Uganda. My time in East Africa, and earlier periods of field research in Equatorial Guinea and Nigeria, served to increase a fascination I had developed in childhood with animals and heightened my sense of the beauty of wild nature. These experiences, however, also gave me considerable practical exposure to the growing challenges faced by conservation efforts in the tropics and, in particular, the challenges to the effective conservation of primates.

There have, of course, been huge changes in the world since 1972, and in that time threats to the survival of wild nonhuman primate populations have greatly increased. Between 1972 and 2012, the world's human population increased from about 3.9 billion to about 7.0 billion (midyear estimates from the International Data Base of the U.S. Census Bureau 2012). Not only have human numbers increased by >80 %, but each individual is, on average, consuming considerably more of Earth's renewable and nonrenewable resources. Vast areas of primate habitat have been lost or modified through the spread of farms, plantations, and settlements; the logging of forests; and the development of new roads, railways, mines, and dams. One important example is the primate-rich island of Borneo, >746,000 km² in area. Until the 1950s, most of Borneo was forested, but by 2000 only 54 % of the island remained under forest cover (Langner *et al.* 2007; Rautner *et al.* 2005); from 2000 to 2010, the island is estimated to have lost 12 % of its remaining forest, including 25 % of its peat swamp forest (Miettinen *et al.* 2011).

Not surprisingly, 207 (49.5 %) of the 418 primate species considered in the 2012 IUCN Red List were rated as Vulnerable, Endangered, or Critically Endangered (in other words, faced with a high, very high, or extremely high risk of extinction) (IUCN 2012). The situation may be even worse than portrayed by the 2012 Red List; in a reassessment of the status of Malagasy lemurs made at a workshop in Antananarivo in July 2012, for example, it was concluded that 23 of 103 lemur species are Critically Endangered, compared with 7 on the 2012 Red List (Conservation International 2012).

These frightening trends were already becoming apparent in the 1970s. By the time of the VIth IPS Congress in Cambridge, England, in August 1976, primatologists were sufficiently aware of these trends to give considerable time to conservation issues in the proceedings, and the Congress organizers arranged for one of four volumes of the published Congress proceedings to be devoted to conservation. In a preface to the published proceedings, co-organizer David Chivers wrote: "It was made clear during the Congress that events of the next few years will be critical for the survival of many primate species" (Chivers and Herbert 1978). In late 1976, the steering committee of the IUCN Species Survival Commission decided that the

Primate Specialist Group (PSG) should be constituted as a separate entity from the Conservation Committee of the IPS, with which it had previously been synonymous, and Russell A. Mittermeier was appointed Chairman of the re-constituted PSG in 1977.

Early the following year, Mittermeier (1978) produced the first draft of a *Global Strategy for Primate Conservation*, the stated goals of which were to 1) ensure the survival of endangered and vulnerable species wherever they occur and 2) provide effective protection for large numbers of primates in areas of high primate diversity and/or abundance.

The strategy suggested that these goals would be best achieved by:

- 1) Setting aside special protected areas for endangered and vulnerable species
- 2) Creating large reserves in areas of high diversity and/or abundance
- 3) Maintaining existing parks and reserves and enforcing protection
- 4) Creating public awareness of the need for primate conservation and the importance of primates as a natural heritage in habitat countries
- 5) Determining ways for humans to coexist with primates in multiple-use areas
- 6) Establishing conservation-oriented captive breeding programs for endangered species

These principles have guided many primate conservationists in the last decades. They were the basis of a planning framework for African primate conservation drafted in 1981 by J. Stephen Gartlan, Thomas Struhsaker, and me (Oates *et al.* 1982), which was elaborated in subsequent PSG conservation action plans for African primates (Oates 1986, 1996). These principles also lay behind the recommendations of the first action plan for Asian primate conservation (Eudey 1987). Despite many meetings, planning sessions, and publications, however, and despite numerous field projects having the stated goal of achieving improved conservation, the status of a majority of the world's nonhuman primate populations has deteriorated in the wild. There have been some successes: There has been an increase in awareness of conservation issues, especially those affecting great apes, and particularly in Europe and North America; many new national parks and protected areas have been established in primate habitats; there have been some effective captive-breeding programs for threatened species; in several habitat countries there has been a considerable increase in the number of well-trained nationals who have taken up the cause of primate conservation; and for a few species the status of wild populations has improved. Yet we are far from being able to say that the survival of most primate species and subspecies is assured, and a disturbingly large number of taxa are still judged to face a very or extremely high risk of extinction in the near future.

Assessing the Challenges: A Survey of Wise Elders

What, therefore, should we, or can we, do, or do better? In preparing my talk for the Cancun congress, I decided to canvass the opinions of a number of experienced field primatologists who had involved themselves heavily in conservation. I chose a mix of individuals whose experience covered a large part of the habitats in which nonhuman primates are found. These "wise elders" are Christophe Boesch, Warren Brockelman, David Brugière, Tom Butynski, David Chivers, Fabiano de Melo, Alejandro Estrada,

Ardith Eudey, Alison Jolly, Rasanayagam Rudran, Anthony Rylands, Mewa Singh, Tom Struhsaker, and Patricia Wright.

I asked the elders: “What do you regard as the most serious challenges we face (you may prefer to think of them as problems to be solved or opportunities to be taken) in achieving the more effective conservation of threatened populations of wild primates. Among other things, what would you regard as the *three most important challenges*?”

As responses to my query came in, it became clear that others shared my concern that not only do we still face very serious challenges, but also that at least some of these challenges will not be readily surmounted. I am not alone, therefore, in having a generally pessimistic outlook. Among the comments I received were the following remarks, each provided by a different person:

- “I despair! I used to be an optimist, but after 40 years of banging my head against the wall, optimism has been almost totally drummed out of me.”
- “Is the concept of a challenge useful in the face of impending and inevitable doom?”
- “Is there enough time before we lose it all?”
- “Most of our efforts to conserve get largely negated by the deluge of people.”
- “I wonder why I continue to try to do something [given how humans behave].”
- “I think many things have been done in an incomplete way in conservation and that has rendered all the efforts less effective than they should be.”
- “Researchers are preoccupied with articles to publish; few are really interested in conservation biology in practice.”
- “Most protected areas [in the African forest zone] are paper parks.”

Despite the pessimistic tone of some respondents, most provided not only a diagnosis of what they consider to be the chief threats to primate survival, but also constructive suggestions for what should be done to make conservation more effective. Some respondents provided a short list of issues to be addressed, and others wrote quite involved essays. When I studied these responses it became apparent that most of their observations could be grouped into four main categories:

- 1) The major direct threats to the survival of wild primate populations, e.g., human hunting
- 2) The underlying drivers of these threats, e.g., human population growth
- 3) Actions needed to mitigate threats, e.g., making protected areas more effective
- 4) Factors that hinder successful conservation action, e.g., lack of funding

The factors and actions that I abstracted from respondents’ comments are shown in Table I, grouped according to these categories, along with the number of different individuals who mentioned each factor and/or action.

Major Direct Threats to Primate Survival

Not surprisingly, the major threats to primate survival were identified as some form of habitat loss, and hunting by humans. Human activities leading to the loss, degradation, and fragmentation of habitat identified by respondents included the expansion of intensive commercial agriculture and plantations (including “land grabs” by foreign

Table 1 Summary of challenges to primate conservation identified by 14 experienced field primatologists

Major Direct Threats	Main Drivers of Threat	Factors Hindering Successful Action	Actions Needed to Mitigate Threats
Habitat loss, degradation and fragmentation (12)	Human psychology (6)	Lack of political will (5)	Conduct more awareness-raising (9)
Hunting (7)	Human population growth (4)	Insufficient funding (5)	Make protected areas more effective (8)
		Gaps in basic knowledge (2)	Raise more money (4)
		International conservation policy (2)	Involve local people more (3)
		General decline in “green” attitudes (1)	Improve science (3)
		Traditional land ownership systems (1)	Create multiple-use landscapes (2)
			Other measures (5×1)

The number of different individuals who mentioned a particular factor or action is shown in parentheses

companies), timber harvesting, subsistence farming, the spread of settlements, dam construction, and mining. Hunting of primates by humans (a significantly different threat from that of habitat loss) was noted to occur not just to provide meat, but also to obtain body parts used in traditional medicines and to control pests; in some places wild primates are still being trapped alive for use as pets or in medical and pharmaceutical research.

Main Drivers of Threat

Several respondents, but by no means all, commented on the underlying drivers, or root causes of these threats, noting the continued rapid growth of human populations, especially in Africa, as well as aspects of human psychology, such as the tendency of people to think in terms of short-term self-interest and to consume resources beyond their immediate needs for survival. Only one respondent mentioned climate change as a significant driver of habitat change, which was somewhat surprising, given the attention that this issue has had not only in conservation science but also in the popular media.

Factors Hindering Conservation Action

Respondents identified a number of factors that get in the way of effective action to address these threats. These include a lack of political will to grapple with the issues, often compounded by corruption and/or the existence of political systems that allow powerful individuals to override laws; inadequate funding for conservation; gaps in scientific knowledge, including up-to-date information on population distribution and abundance; and inappropriate policies that overemphasize economic development in conservation strategies and lead to top-heavy administrative structures in conservation organizations.

This set of threats, drivers, and hindrances to action is consistent with my own thinking. I would add to this set a couple of other considerations. The first is that current primate conservation activities are far from evenly spread around the world and across species. For understandable reasons, certain taxa, e.g., great apes, and certain regions, such as Madagascar, receive considerably more attention than others, with the result that some highly threatened primates, such as many forms of red colobus monkey, continue to be neglected. Second, conservation organizations, donors, and others often devote too many resources to meetings and workshops about conservation, rather than to undertaking direct action to protect threatened primates and other wildlife; I have made this point previously (Oates 2006), and it was recently emphasized by Ofir Drori of the Last Great Ape Organization in Cameroon (IPPL News 2012).

Recommended Actions

How can these challenges to conservation be more effectively addressed? The views expressed by my colleagues are summarized in the last column of Table I. It is striking that a large majority of the elders identified the need for more awareness-raising about the importance of conservation. To paraphrase their views, there is a need to change the hearts and minds of both the rich and the poor, so as to let them understand the consequences of their actions, change their attitudes to nature, and obtain greater political support for conservation. Among specific actions mentioned were a greater use of broadcast media in primate habitat countries and the use of charismatic personalities to deliver conservation messages.

As a close second to increased awareness-raising as a conservation need, many respondents argued for the need to make protected areas more effective, through promoting genuine law enforcement (in which, it was pointed out, dedicated management can play an even more significant role than greater funding), while nurturing support both from central government and from surrounding communities, including measures to improve their well-being.

Among other actions recommended by respondents, several people argued the need for improving population survey techniques and knowledge of the basic natural history of poorly known species. With the opportunities to create new protected areas becoming limited in the face of a growing human population and growing human demands, two respondents highlighted the value of introducing more biodiversity conservation into agricultural landscapes in developing countries, as happens widely in Europe (this is not a strategy that works well, however, in situations where large mammals that raid crops are present, as pointed out by T. T. Struhsaker [*pers. comm.*]). In addition to the obvious need to raise more money for conservation, among other points raised were the importance of training and involving more primate habitat-country nationals and the value of field research stations. One respondent pointed out that effective conservation requires the establishment of honest, trusting relationships among stakeholders.

Most of the views expressed by the elders are strongly concordant with my own. I have written elsewhere about the importance of making protected areas more effective and of the need to change attitudes in favor of nature conservation (Oates 1999,

2006), and these same points were stressed by Mittermeier (1978) in the *Global Strategy for Primate Conservation*. What, then, has gone wrong? Why do we now have 50 % of primate species facing a high to extremely high risk of extinction? Have primate conservationists been recommending inappropriate actions, or have appropriate actions been recommended but not effectively implemented? If the latter is the problem, what has got in the way of effective action? Have too few resources of money and people been applied to producing the desired results? Alternatively, as some elders suggested, are the pressures now being exerted by people on the natural world just so great that declines and extinctions of animal populations and species are inevitable?

Although many of us are unsurprisingly quite gloomy about the destructive trends apparent in the world, most of us still seem to feel that all is not lost, and that if the right steps are taken a majority of extant primate species and subspecies can be conserved. If we are correct, then it is worth trying to understand what we might do to achieve greater success.

Finding a Way Forward

It may be that we have not given sufficient thought to exactly who should be taking the actions recommended in many plans and pronouncements, and then working to see that such actions are taken. For there to be enduring success in conservation, however, I believe that greater attitudinal changes will be required than most of us — primatologists and others — have been prepared to make thus far.

When we consider who should be taking action in conservation, do we think this should be individual primatologists; government institutions in primate habitat countries; external government agencies, such as bilateral or multilateral “donors”; or conservation nongovernmental organizations (NGOs)? Ideally, primate conservation should probably involve some combination of several or all of these actors. As things are at present, each of these actors often displays deficiencies, and they often do not work well together. For instance, given the rituals and pressures of academic life, many primatologists give greater priority to activities that result in research publications than to those that might achieve practical, lasting conservation. Government institutions in habitat countries that are responsible for wildlife conservation are quite often under-resourced and politically weak and may, like other branches of government, be prey to corruption. The international “donor” agencies often have higher priorities than wildlife conservation, priorities determined by political demands in their home countries. Even if these agencies do in theory support conservation, this support is usually contingent on other agendas being addressed in field projects, such as sustainable development, and poverty alleviation, and the agencies themselves generally do not take direct action in the field. The success of these agencies and their personnel often appears to be evaluated more on the basis of how much money they have spent, and where, as on actual outcomes on the ground.

Since the establishment of the World Wildlife Fund in 1961, international conservation NGOs have long been regarded as the best hope for saving threatened wildlife populations. However, I feel that many, perhaps most, of the large conservation NGOs have lost their way in recent years, increasingly adopting a corporate organizational model that involves a complex and expensive bureaucracy, including relatively large

numbers of quite highly paid executives in head offices, where decision making becomes excessively driven by considerations of money, careers, and institutional and personal image. Because field projects sponsored by these organizations often depend heavily on funding from the “donor” agencies, the basic protection of wildlife can be given lower priority than efforts to increase human well-being.

It is now commonplace for conservation organizations, when planning field actions in habitat countries, to hold meetings with “stakeholders.” These meetings, commonly called “workshops,” typically include people from local communities, who are usually asked at some point about their needs. So many workshops are held that an almost standard list of needs now arises from this process, including improved health services, educational facilities, roads, communication systems, and agricultural techniques. It is not surprising that, if projects are then implemented that pay attention to the results of such consultations, the gathering of basic knowledge about threatened animals and efforts to protect them and their habitats can become marginal activities. Through this process, the expectations of local people are often raised, only to be dashed in the long run, e.g., through a lack of funding, with a resultant reduction of support by these people for conservation activities.

My perception is that a common thread underlies the failure of the various actors in conservation to achieve adequate success. This is that many of them, as individuals or institutions, are overly driven by materialism and self-interest. Adam Smith’s “invisible hand” through which “by pursuing his own interest [an individual] frequently promotes that of the society more effectually than when he really intends to promote it” (Smith 1776, p. 456) may be an important principle in free-market economics but can be disastrous for the sustainable management of natural resources and the common good (as discussed by Hardin (1968) in the *Tragedy of the Commons*).

An alternative to material self-interest as a guiding principle in conservation has been with us since at least the 19th century, for instance, in the writings of philosophers of conservation such as Henry David Thoreau and John Muir. More recently, this principle has been enunciated by George Schaller, who has written that “conservation is a moral issue, one of beauty, ethics, and spiritual values, without which it cannot sustain itself” (Schaller 2009, p. 2). I believe strongly that when designing strategies for the conservation of primates, we should be more vigorous in questioning what larger goals we are trying to achieve, and why. Should the potential, often short-term, material well-being of people be an overriding factor in conservation decision making (utilitarianism)? Or should we give equal or greater weight to considerations of how the human spirit can be inspired by wild nature, and by the wonderful diversity and range of behaviors shown by other living things? The value of other living things in helping us, through scientific study, to understand better our own place in the world is also not a strictly utilitarian consideration. We should ask also whether we think that other species have a right to exist; if they do, how much space should we leave for the more than 8 million other species with which *Homo sapiens* shares this planet (Mora *et al.* 2011)?

The Role of Primatologists and the IPS

If there is validity to these thoughts, what do they suggest that we, as primatologists, could do, beyond our present efforts, to give the current diversity of nonhuman

primates a better chance of long-term survival? I suggest that we should examine our individual motivations and actions and, especially if we are involved in field projects, consider to what extent the design of our work is motivated by the desire to advance our own careers, personal satisfaction, and well-being. Is there more we could do if we truly wish to improve the well-being of wild primate populations? For instance, words about “conservation” often seem to be used to justify getting a grant or framing the logic of a publication, with insufficient attention given to ensuring that long-term benefits for the survival of primate populations result. The institutions for which many primatologists work typically expect us to obtain grant funds and produce publications, but that should not constrain us from reaching beyond such immediate career goals and devoting energy to improving the long-term survival prospects of our study subjects.

In addition to changing our own approaches and attitudes at a relatively deep level, we can probably do a better job than we are at present in changing the hearts and minds of others. For instance, the IPS already has a policy statement giving guidelines about Conservation through Community Involvement (Reynolds and Bettinger 2008). These guidelines are well worth studying and taking to heart; among other things, they describe activities by field primatologists that have been found to be effective in promoting conservation. The first activity listed is: “Become involved with ... local schools or wildlife clubs.” Many of us surely developed a fascination with animals when we were young; nurturing this natural fascination in others is one of the most important things we can do to change hearts and minds in favor of conservation.

We should also make every effort to seriously involve habitat-country nationals in our work and seek opportunities to train and inspire students who can in the future become local leaders in primatology, but we need to keep in mind that members of rural communities and of universities do not always have a strong influence on land-use policy. We should therefore look for ways to engage with policymakers and government bureaucrats, beyond the formalities of obtaining research permits. The IPS Community Involvement Guidelines already recommend that we “work with officials of wildlife, environment and law enforcement agencies” but it is possible to go further than this. The creation of a national park system in Gabon came about in part because President Omar Bongo was inspired by presentations to him by biologists Mike Fay and Lee White, the focus of whose own early work was primates (Quammen 2003).

What might the IPS do as a society to advance the cause of conservation? Our society is a very diffuse network of people who are predominantly scientists with an interest in nonhuman primate biology. According to the society’s vice president for membership, at the end of 2012, IPS had 1430 members in good standing (S. Schapiro *pers. comm.*). Apart from publishing this journal, probably our most important activity is to meet in congress at 2-year intervals. An average of around 900 people (of whom 90 % are estimated to have been society members) attended each of the four IPS congresses held during 2006–2012 (S. Schapiro *pers. comm.*). In recent years the number of lectures and posters presented at IPS congresses that deal at some level with conservation issues has greatly increased, but vigorous debate about conservation policy, in the face of the crisis that is often cited, is generally meagre. When scientists talk about such topics as the affinities of fossil remains, the role of different chemical substances in food selection, or the drivers of infanticide,

debate can become heated. This is surely a good thing, as it is the critical examination of ideas and evidence that drives science forward. When we talk about conservation, on the other hand, we often seem to want to follow currently fashionable consensus views and seem to regard it as inappropriate to criticize those who say they are doing conservation. In my view, we should find a way of having more lively debate about issues in conservation that allow for different viewpoints (and the evidence for or against these views) to be critically examined. Such debate can inform conservation tactics and strategies, which can be kept under constant review, rather than being followed in a prescriptive fashion.

Among issues we should debate is the value of IPS as a source of grants for field conservation projects. Grants made to habitat-country nationals that allow those with few other available resources to get to our congresses seem like a worthwhile use of limited money; but how sensible is it for our society to be making small grants for short-term conservation projects, given that many other organizations support conservation, and that serious, sustained conservation activity can be expensive?

In addition to increasing our inclusiveness by assisting habitat-country nationals to attend biennial congresses, I suggest we should seriously explore the possibility of establishing regional chapters, or sections, of the society. Regional meetings are less expensive for members in that region to attend. Regional sections have been established by the Society for Conservation Biology, which holds an international congress biennially and regional meetings in alternate years. European, Latin American, and South East Asian primatological associations (or federations) already exist, and these could be formally incorporated into a regional IPS network.

Finally, I believe that IPS not only should endeavor to be as inclusive as possible in allowing primatologists from all over the world to participate in its activities, but it should also ensure that it does not overemphasize research on, and the conservation needs of, some kinds of primates over others. There is understandably wide public interest in our own closest relatives; as a result there are now several international organizations devoted to the conservation of one or more species of great ape. Thus, it will be inappropriate for great apes to get special attention from our society, when so many other primate taxa are in dire conservation straits.

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