

HEINONLINE

Citation: 23 Geo. Int'l Envtl. L. Rev. 365 2010-2011



Content downloaded/printed from
HeinOnline (<http://heinonline.org>)
Fri Jun 5 00:10:20 2015

-- Your use of this HeinOnline PDF indicates your acceptance
of HeinOnline's Terms and Conditions of the license
agreement available at <http://heinonline.org/HOL/License>

-- The search text of this PDF is generated from
uncorrected OCR text.

-- To obtain permission to use this article beyond the scope
of your HeinOnline license, please use:

[https://www.copyright.com/cc/basicSearch.do?
&operation=go&searchType=0
&lastSearch=simple&all=on&titleOrStdNo=1042-1858](https://www.copyright.com/cc/basicSearch.do?&operation=go&searchType=0&lastSearch=simple&all=on&titleOrStdNo=1042-1858)

Lessons from the Mist: What can International Environmental Law Learn from Gorilla Conservation Efforts?

JESSICA M. SAWYER* AND SARAH C. SAWYER**

TABLE OF CONTENTS

I.	Introduction	365
II.	International Frameworks for the Conservation of Biodiversity	369
	A. Convention on International Trade in Endangered Species.	369
	B. Convention on Biological Diversity (CBD).	371
	C. Principles of Customary International Law	373
	D. Trade Law	374
	E. Non-Governmental Organizations (NGOs).	375
	F. From Signature to Implementation	377
III.	Gorillas: Case Studies in Biodiversity Conservation Efforts	378
	A. Gorillas: Flagship Species in Need of International Protection	378
	B. Natural Vulnerability of Gorillas	379
	C. Cross-River Gorillas in Cameroon	381
	D. Mountain Gorillas in Uganda.	387
IV.	Conclusion	393

I. INTRODUCTION

Despite worldwide focus on the threat of extinction and the importance of conservation, biodiversity remains on the decline. The planet faces serious ecological threats: the earth has already lost one-third of its vertebrate populations, is in danger of losing one-quarter of its plant species, and humanity's ecological footprint has exceeded the biological capacity of the planet.¹ At the same time, three billion people live on less than \$2.50 a day, and more than eighty percent of the world's population resides in countries where income differentials are

* J.D., Georgetown University Law Center.

** Ph.D. Candidate in Environmental Science, Policy, and Management at University of California, Berkeley. From 2005 to 2007 in Uganda, Sarah Sawyer was a research assistant to Dr. Martha Robbins, Max Planck Institute for Evolutionary Anthropology (Leipzig, Germany) working in collaboration with Institute for Tropical Forest Conservation (based in Ruhija, Uganda). Sawyer's current Ph.D. research takes place in collaboration with the Takamanda-Mone Landscape Project, Wildlife Conservation Society Cameroon (based in Limbe, Cameroon). Her research is based in the Mone-Mbulu forest area, Southwest Cameroon. © 2011, Jessica M. Sawyer and Sarah C. Sawyer.

1. Secretariat of the Convention on Biological Diversity, Global Biodiversity Outlook 3, at 9 (2010).

widening.² In 2002, the parties to the U.N. Convention on Biological Diversity met and agreed to work together “to achieve by 2010 a significant reduction of 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.”³ Eight years later, the parties conceded that this goal had not been met.⁴ Why should this be the case, and what advice can we glean from the last decade to improve the efficacy of international environmental conventions and treaties in the future?

In environmental law, protection of wildlife and sustainable use have not enjoyed close cooperation.⁵ Even more estranged is the relationship between conservation and economic development. Developed and developing nations alike struggle to balance the needs of their populations with the preservation of resources available to them.⁶ The value of biodiversity in the abstract to the world at large is often at odds with the specific value of a plant or animal species to the local population.⁷ Although western zoo-goers may prize conservation of mountain gorillas in their natural habitat, the local populations of Uganda, Rwanda, and the Democratic Republic of Congo (DRC) may depend upon increased farmland or bushmeat for economic survival. Asking a local population to reserve a crucial resource for posterity is difficult, and may only be successful if the local population is able to reap benefits in the short-term. Immediate, private, and local benefits will almost always favor land conversion for agriculture, timber, or other uses, while long-term social and global benefits will favor conservation.⁸ In other words, people in developing countries often incur high local costs for benefits returned only at the global scale, making enforcement of international conservation laws a low priority.⁹ The most biodiverse areas are frequently also the most threatened, and the poorest economically, leaving them either unable or unwilling to adhere to idealistic international agreements.¹⁰

As bleak as this outlook is, there is room for hope. Across the world, well-planned conservation projects are showing success at local, national, and even international levels.¹¹ Although these projects have not yet turned the tide,

2. Anup Shah, *Poverty Facts and Stats*, GLOBAL ISSUES, <http://www.globalissues.org/article/26/poverty-facts-and-stats> (last visited May 7, 2011).

3. Global Biodiversity Outlook 3, *supra* note 1, at 9 (quoting Convention on Biological Diversity, 2010 Biodiversity Target (2002)).

4. Global Biodiversity Outlook 3, *supra* note 1, at 9.

5. See Jarred Kassenoff, *Treaties in the Mist*, 7 CARDOZO J. INT'L & COMP. L. 359, 362-63 (1999).

6. See J.B. Ruhl, *Sustainable Development: A Five-Dimensional Algorithm for Environmental Law*, 18 STAN. ENVTL. L.J. 31, 32 (1999).

7. See Anup Shah, *Addressing Biodiversity Loss*, GLOBAL ISSUES, <http://www.globalissues.org/article/787/addressing-biodiversity-loss> (last visited May 7, 2011).

8. Andrew Balmford et al., *Economic Reasons for Conserving Wild Nature*, 297 SCI. 950, 952 (2002).

9. R. Kerry Turner et al., *Valuing Nature: Lessons Learned and Future Research Directions*, 46 ECOLOGICAL ECON. 493, 500 (2003).

10. T.M. Brooks et al., *Global Biodiversity Conservation Priorities*, 313 SCI. 58, 58 (2006).

11. Global Biodiversity Outlook 3, *supra* note 1, at 10-11, 84, 86 (citing benefit sharing programs in Ethiopia)

they do show that the path of biodiversity does not have to lead inexorably downward. In this essay, we will focus on an area in which African nations are experiencing some success: We will use gorilla conservation projects as an example of the challenges inherent in successfully implementing international conservation goals. The basic framework for success may be found in their design and implementation: Successful programs often address both development and conservation goals, include capacity building as a top priority, and incorporate the concerns and support of local populations. One way for conservation goals to help meet development goals is to ensure that local governments and non-profit groups are involved in the process of identifying, creating, and implementing conservation projects.¹² Additionally, developed countries can compensate net losses through mechanisms like international resource transfer systems.¹³ Finally, contributing to both education and employment of local researchers and scientists builds the capacity and sustainability of conservation projects.¹⁴

At the international level, the conservation movement has set very high expectations for the protection and possible recovery of biodiversity.¹⁵ However, there is often a disconnect between the international instruments for realizing these expectations and the capabilities at the local level, where the actual protection and conservation work occurs. Although much media attention focuses on international programs and frameworks, the Global Environmental Fund findings testify to the fundamental importance of local involvement: "It is unrealistic to expect concrete achievement in the domain of biodiversity conservation without explicit consent and active participation of local populations. To achieve this, it is necessary to empower these to as great an extent as possible, and to give official recognition to this empowerment."¹⁶ The success of conservation projects correlates with both the strength of law enforcement and public support at the local level, as well as with the level of support from the international community.¹⁷ Treaties like the Convention on Biological Diversity and the Convention on International Trade in Endangered Species recognize the

and Uganda, as well as local sanctuaries in Vanatu and Cambodia as examples of successful programs).

12. See Global Biodiversity Outlook 3, *supra* note 1, at 83.

13. Turner et al., *supra* note 9, at 500.

14. See *ITFC's Activities*, INST. OF TROPICAL FOREST CONSERVATION, <http://www.itfc.org/ITFC%20programmes.htm> (last visited May 7, 2011); *Local Livelihoods*, WILDLIFE CONSERVATION SOC'Y, <http://www.wcs.org/conservation-challenges/local-livelihoods.aspx> (last visited May 7, 2011) (providing examples of programs that place importance on the inclusion of local education and employment).

15. See Global Biodiversity Outlook 3, *supra* note 1, at 10-11.

16. GLOBAL ENVIRONMENT FACILITY (GEF), CAMEROON - BIODIVERSITY CONSERVATION AND MANAGEMENT, TERMINAL EVALUATION 17 (2003), <http://www.gefonline.org/ProjectDocs/M&E/Documents%20and%20data/DatabaseContent/TE/FY%202004/Terminal%20Evaluations-ICRs-Audits/WB/85%20Cameroon%20bio%20conservation/85%20Cameroon%20Bio%20Conservation%20ICR.pdf>.

17. Thomas T. Struhsaker et al., *Conserving Africa's Rain Forests: Problems in Protected Areas and Possible Solutions*, 123 BIOLOGICAL CONSERVATION 45, 49-50 (2005).

importance of biodiversity resources to local populations and cite the sovereignty of states to manage and conserve their own resources,¹⁸ while also recognizing the importance of international cooperation.¹⁹

Many of the most biologically diverse parts of the world are found in states that do not have the resources or capacity to implement conservation programs unilaterally.²⁰ States must often look to international organizations for infrastructure, funding, and other support for within-country programs. The international community has created several legal instruments to enable environmental support. The most relevant treaties to the conservation movement are the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species (CITES). In the first section, this essay will argue that for international conservation treaties such as CBD and CITES to be successful in practice, the international community must create a framework to ensure that local benefits outweigh local costs, while the national and local communities must develop, implement, and enforce specific conservation strategies. Internationally valued environmental conservation projects cannot be successful without both 1) international consideration of local economic development needs and local capacity building, and 2) commitment of resources, transparency, and legal enforceability at the national and local level.

In the second section of this essay, we will examine the available sources of international environmental law and support designed to enable conservation projects, and will evaluate the purposes, strengths, and weaknesses of those instruments and organizations. In the third section, we will introduce two endangered species valued by the international community and protected by international legislation as case studies for the efficacy of large-scale conservation efforts in developing nations. In the fourth and fifth sections, we will evaluate two projects aimed at conserving these species, examining the insights their different levels of success have to offer. One project—the recovery of mountain gorilla populations through the conservation efforts of Uganda, Rwanda, and the Democratic Republic of the Congo—is widely recognized as successful, while the other—the conservation of the Cross River gorilla in Nigeria and Cameroon—has not yet reached the same level of success, but is starting to make

18. U.N. CBD, Preamble: "Conscious of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components . . . [r]eaffirming that States have sovereign rights over their own biological resources." U.N. CITES, Preamble: "Conscious of the ever-growing value of wild fauna and flora from aesthetic, scientific, cultural, recreational and economic points of view; Recognizing that peoples and States are and should be the best protectors of their own wild fauna and flora."

19. Convention on Biological Diversity, Dec. 29, 1993, 1760 U.N.T.S. 79, pmb.; Convention on International Trade in Endangered Species of Wild Fauna and Flora, July 1, 1975, 27 U.S.T. 1087, pmb., 993 U.N.T.S. 243, pmb.

20. John Charles Kunich, *Fiddling Around While the Hotspots Burn Out*, 14 GEO. INT'L ENVTL. L. REV. 179, 185-186 (2001) (Kunich also argues that even in developed nations, there is very little in the way of comprehensive protection of what he terms biodiversity "hotspots").

great efforts toward that goal. In the final section of this paper, we will draw conclusions from these examples and point to future directions for successful implementation of conservation law.

II. INTERNATIONAL FRAMEWORKS FOR THE CONSERVATION OF BIODIVERSITY

The necessity of international legal norms to resolve trans-border environmental disputes has been recognized for decades. Early transnational environmental law related to cross-border issues such as air pollution and nuclear accidents, but in the latter half of the twentieth century, international legal bodies began to develop a series of instruments for the protection of the world's environment both across borders and within states.²¹ In addition to these explicitly focused treaties, other international organizations such as the World Trade Organization (WTO) have begun to address issues of conservation and environmental hazards.²²

As more states develop environmental legislation and conservation efforts, basic principles of environmental law have become customary international law, often included in multi-lateral treaties or cited in judicial decisions. Non-governmental organizations have spread across the globe, expanding their operations to assist states with their internal conservation efforts. In this section, we will first explore two of the major conservation treaties, CITES and CBD. We will then look at those principles of conservation and sustainability that have arguably become part of customary international law. Although the WTO and trade law are generally thought to work in opposition to many conservation efforts, we will examine the possible changes in trade law that may support international conservation measures. Next, we will address the role of non-governmental organizations in supporting state conservation efforts. Lastly, we will discuss some of the problems international organizations will likely encounter when trying to apply a global program in individual states.

A. CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES

The first major international conservation treaty came about in the early 1970's as a response to the realization that, absent intervention, many of the charismatic megafauna enjoyed by the world at large might become extinct.²³ CITES is designed to protect certain species from endangerment or extinction due to trade

21. See *Trail Smelter (U.S. v. Can.)*, 3 R.I.A.A. 1905 (Perm. Ct. Arb. 1941); see also *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, *supra* note 19; *Convention on Biological Diversity*, *supra* note 19.

22. See, e.g., *Appellate Body Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (Oct. 12, 1998) [hereinafter *Shrimp-Turtle*]; *Appellate Body Report, United States—Import Prohibition of Certain Shrimp and Shrimp Products: Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/AB/RW (Oct. 22, 2001) [Hereinafter *Shrimp Recourse*].

23. *What is CITES?*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/disc/what.shtml> (last visited May 7, 2011).

in those species, whether for live animals or for products derived from them.²⁴ While loss of habitat was, and continues to be, the main cause of extinction, it is not the only significant factor.²⁵ Recognition by the conservation community that poaching and illegal wildlife trade also significantly threaten many populations resulted in the drafting of CITES in 1973 and its entry into force in 1975.²⁶

CITES protects species threatened by international trade by requiring parties to create a Management Authority within the country to license import and export of the species listed in the appendices to the treaty.²⁷ In this manner, the parties to the treaty are able to control and measure trade in endangered species and identify illegal traders.²⁸ These species are divided into three levels of protection based on imminence of extinction.²⁹ Appendix I protects those species directly threatened with extinction, Appendix II protects species endangered or likely to be endangered by trade, and Appendix III protects species identified by parties to the treaty as needing assistance of the other parties in controlling trade in that species.³⁰ CITES bans trade in a minority of species (Appendix I), and requires permitting for many species (Appendix II or III), to allow the monitoring of trade to ensure that it is non-detrimental to the species in question.³¹ Appendix I species receive the highest level of protection, while Appendix III species receive the lowest.³²

While CITES has lofty goals, including the protection of the 30,000 species listed in its appendices,³³ illegal trade continues to rise.³⁴ The reasons for this rise differ between developed and developing nations. In developing nations, the illegal wildlife trade provides income, whereas in developed nations, possession of exotic, illegal wildlife may be considered a status symbol.³⁵ Like most international treaties, CITES is non-self-executing.³⁶ This means that CITES does not include specific obligations to prohibit or punish the illegal trade of wildlife, but relies on each participating nation to devise and implement its own

24. *Id.*

25. Ruth A. Braun, *Lions, Tigers and Bears [Oh My]: How to Stop Endangered Species Crime*, 11 FORDHAM ENVTL. L.J. 545, 548 (2000).

26. *See id.* at 553.

27. *How CITES Works*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/disc/how.shtml> (last visited May 7, 2011).

28. Braun, *supra* note 25, at 553.

29. Jay E. Carey, *Improving The Efficacy of CITES By Providing the Proper Incentives to Protect Endangered Species*, 77 WASH. U. L. Q. 1291, 1295-96 (1999).

30. *How CITES Works*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/disc/how.shtml> (last visited May 7, 2011).

31. Joshua Ginsberg, *CITES at 30, or 40*, 16 CONSERVATION BIOLOGY 1184, 1184 (2002).

32. Braun, *supra* note 25, at 553.

33. *What is CITES?*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/disc/what.shtml> (last visited May 7, 2011).

34. Braun, *supra* note 25, at 553.

35. Braun, *supra* note 25, at 560-61.

36. Kassenoff, *supra* note 5, at 364.

legal framework and enforcement of regulations.³⁷ Some participants, such as the United States, have developed comprehensive and intensive criminal and civil penalties. Others, such as Mexico, implement only minor punishments; countries with even fewer resources often implement none.³⁸ Arguably, the nations with the most precarious populations are the least able to control trade.³⁹

A debate flourishes around the implementation of CITES, regarding the preservationist versus conservationist ideology.⁴⁰ Important questions have arisen about the efficacy and morality of the treaty, namely: 1) Does banning trade actually protect species or harm them by lowering their economic value and therefore decreasing incentives to protect them; 2) do trade bans put an unfair burden on poor nations/people; 3) do trade bans simply encourage black market trading; and 4) assuming CITES can effectively ban international trade, are endangered species simply left vulnerable to national markets?⁴¹

CITES has been denounced as allowing too many loop-holes or ways to circumvent effective implementation. Firstly, the treaty is vulnerable to forgery and false documentation. The treaty's basic control mechanism is a system of import and export permits, granted by the sovereign state, which is not reviewable by any other authority and can easily be mismanaged.⁴² Article VII, which allows captive bred Appendix I species to be considered Appendix II species, can result in unwitting illegal importation. Secondly, CITES has been criticized as being too ambiguous in its terminology, which in turn allows for subjectivity and corruption in the decision-making process.⁴³ Finally, CITES's system of allowing countries to take "reservations" on any species of their choice undermines the purported goals of the Treaty. Overall, CITES implementation has not been as successful as many had hoped, and certainly not as successful as needed for the recovery of many of the species it attempts to protect.⁴⁴ However, for species whose value comes less from trade or meat than from ecosystem services or tourism value, CITES may provide the international framework and support necessary to help developing countries protect their endangered wildlife.

B. CONVENTION ON BIOLOGICAL DIVERSITY (CBD)

In the twenty years between CITES and the CBD, the environmental commu-

37. Carey, *supra* note 29, at 1298.

38. Braun, *supra* note 25, at 562.

39. *Id.* at 571 n.179 (citing Philip Weinberg, *International Protection of Endangered Species: The Steps That Should Be Taken*, 3 *TOURO J. TRANSNAT'L L.* 89, 98 (1992), for the sobering statistic that prevention of endangered species crimes would cost a country like Kenya \$100 million a year).

40. Carey, *supra* note 29, at 1292.

41. *Id.* at 1307; Ginsberg, *supra* note 31, at 1185.

42. Michelle Ann Peters, Comment, *The Convention on International Trade in Endangered Species: An Answer to the Call of Wild?*, 10 *CONN. J. INT'L L.* 169, 182 (1994).

43. *Id.* at 183.

44. Braun, *supra* note 25, at 557.

nity developed a more comprehensive understanding of the importance of biodiversity to human populations, the interdependence of ecosystem components on one another, and the effects of human activities on biodiversity.⁴⁵ Conservation scientists began to realize that “[b]y setting aside protected areas or attempting to regulate trade in endangered species, only piecemeal conservation was achieved, which was often too little too late.”⁴⁶

In response to this increased understanding, the United Nations Environmental Programme (UNEP) convened a series of ad-hoc working groups to develop an international agreement on biodiversity. The objectives of the resulting CBD are three-fold: “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.”⁴⁷ These objectives are a simplified version of the many parts of the CBD preamble, which recognize the importance of biodiversity, as well as the important role played by biological resources in development.⁴⁸ In contrast to other international environmental treaties, CBD deals almost entirely with domestic terrestrial resources, rather than international resources like air quality or climate issues.⁴⁹

CBD takes a more comprehensive, ecosystem-level approach to conservation than previous treaties (e.g., CITES) that were created to protect specific species or sites.⁵⁰ This comprehensiveness has led to criticisms that the CBD is vague, undefined, and too voluntary.⁵¹ Despite its imprecision, CBD does specify certain requirements of participating parties. In fact, CBD obligates parties to do far more than does CITES. Obligations for each party include the identification and monitoring of “components of biological diversity important for its conservation and sustainable use,”⁵² development of national strategies for conservation and sustainable use,⁵³ establishment of protected areas for conservation,⁵⁴ implementation of national incentives,⁵⁵ and engagement of groups of people traditionally excluded from management.⁵⁶ Further obligations include research and training

45. *History of the Convention*, CONVENTION ON BIOLOGICAL DIVERSITY, <http://www.cbd.int/history/> (last visited May 7, 2011).

46. Catherine Tinker, A “New Breed” of Treaty: *The United Nations Convention on Biological Diversity*, 13 PACE ENVTL. L. REV. 191, 196 (1995).

47. Convention on Biological Diversity, *supra* note 19, art. 1.

48. *Id.* pmb1.

49. Timothy Swanson, *Why is There a Biodiversity Convention? The International Interest in Centralized Development Planning*, 75 INT’L AFFAIRS 307, 308 (1999).

50. Désirée M. McGraw, *The CBD – Key Characteristics and Implications for Implementation*, 11 REV. EUR. COMMUNITY & INT’L ENVTL. L. 17, 19 (2002).

51. Swanson, *supra* note 49, at 308; McGraw, *supra* note 50, at 23.

52. Convention on Biological Diversity, *supra* note 19, art. 7(a).

53. *Id.* art. 6(a).

54. *Id.* art. 8(a).

55. *See id.* art. 10.

56. Patricia Kameri-Mbote & Philippe Cullet, *Biological Diversity Management in Africa: Legal and Policy Perspectives in the Run-up to WSSD*, 11 REV. EUR. COMMUNITY & INT’L ENVTL. L. 38, 47 (2002).

as well as education and outreach.⁵⁷ In order to facilitate these obligations, CBD created a financial mechanism, administered by the Conference of the Parties.⁵⁸ This mechanism remains under the operation of the Global Environmental Facility (GEF), despite numerous attempts to develop a freestanding mechanism under the treaty.⁵⁹

CBD, like CITES, is dependent on national implementation and enforcement by contracting parties, and Article 6 of CBD obligates parties to create national strategies for conservation and sustainable use.⁶⁰ CBD requires elaboration of a National Biodiversity Strategy and Action Plan (NBSAP) by signatory countries.⁶¹ The Parties must also create National Environmental Action Plans (NEAPs) to develop inventories of biodiversity, as well as objectives and strategies for conservation and sustainable use.⁶² While the requirement that parties implement their commitments “as far as possible and as appropriate” protects individual sovereignty, it also leads to discrepancy in levels and efficacy of implementation between nations, and allows varying interpretations of legal obligations.⁶³

C. PRINCIPLES OF CUSTOMARY INTERNATIONAL LAW

When designing a conservation project, interested stakeholders can not only use the international treaties described above, but also look to international principles, many of which have been articulated in international softlaw instruments and incorporated into national legislation.⁶⁴ Although the principle of sustainable development has not yet become a recognized norm of customary international law, several important component principles have, particularly: the precautionary principle, the polluter-pays principle, and the principle that states have a duty to ensure that activities within their control do not cause damage to the environment of other states.⁶⁵ In addition, the principles of environmental

57. Convention on Biological Diversity, *supra* note 19, arts. 12-13.

58. *Id.* art. 21.

59. Amanda Hubbard, *The Convention on Biological Diversity's Fifth Anniversary: A General Overview of the Convention—Where has it Been and Where is it Going?*, 10 TUL. ENVTL. L.J. 415, 441 (1997).

60. Convention on Biological Diversity, *supra* note 19, art. 6.

61. Peter Herkenrath, *The Implementation of the Convention on Biological Diversity – A Non-Governmental Perspective Ten Years On*, 11 REV. EUR. COMMUNITY & INT'L ENVTL. L. 29, 30 (2002); REPUBLIC OF CAMEROON, BIODIVERSITY STATUS STRATEGY AND ACTION PLAN ix (1999), available at <http://www.cbd.int/doc/world/cm/cm-nbsap-01-p1-en.pdf>.

62. See Kameri-Mbote, et al., *supra* note 56, at 41; Herkenrath, *supra* note 61, at 29, 31.

63. Chris Wold, *The Futility, Utility, and Future of the Biodiversity Convention*, 9 COLO. J. INT'L ENVTL. L. & POL'Y 1, 2 (1998).

64. Kameri-Mbote, et al., *supra* note 56, at 42.

65. John Martin Gillroy, *Adjudication Norms, Dispute Settlement Regimes and International Tribunals: The Status of “Environmental Sustainability” in International Jurisprudence*, 42 STAN. J. INT'L LAW 1, 13, 49 (2006); Alhaji B.M. Marong, *From Rio to Johannesburg: Reflections on the Role of International Legal Norms in Sustainable Development*, 16 GEO. INT'L ENVTL. L. REV. 21, 64-74 (2003).

impact assessment and public participation in decision making have also been included in the Stockholm and Rio Declarations, Agenda 21, many regional treaties, and both the Convention for Climate Change and CBD.⁶⁶ Increasingly, domestic legal frameworks have been built using these principles.⁶⁷ While international jurisprudence has not embraced all of these principles, they are extremely helpful in building agreements.⁶⁸

The principle that states have a duty to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states has long been incorporated into international dispute resolution. From *Trail Smelter* to the present, this is one of the strongest principles of international law, and perhaps the strongest principle of international environmental law.⁶⁹ This principle does not guide any sustainable conservation program beyond restricting the damage that any development or use of resources can cause beyond the borders of the state. In order to build such a conservation program, parties must turn to other principles to develop a framework.

States can rely on the polluter-pays principle in creating statutes that address environmental consequences.⁷⁰ States can also enact national legislation using the precautionary principle to help develop procedures, such as environmental impact assessments or licensing schemes, to allow the state to control environmental damage from development. By incorporating the principles that animate CITES and CBD, states can develop legislation that implements international treaties through national, and most importantly local action.

D. TRADE LAW

While the WTO is not, in general, a good source of support for the principle of sustainable development,⁷¹ there have been recent developments that may assist states in ensuring that their conservation efforts are not undermined by trade requirements. Recent cases before the WTO have, despite unfavorable ultimate outcomes, shown that WTO panels will consider the conservation efforts of the state whose restrictions on trade are at issue.⁷² In *Shrimp-Turtle*, the WTO established that living species could be considered natural resources for the

66. Marong, *supra* note 65, at 73.

67. Kamei-Mbote, et al., *supra* note 56, at 42 (listing environmental legislation of Comoros, Eritrea, Cameroon and Mozambique as examples of domestic frameworks incorporating these principles).

68. Gillroy, *supra* note 65, at 49.

69. *Trail Smelter*, 3 R.I.A.A. at 1963.

70. UNITED NATIONS ENVTL. PROGRAMME, *National Approaches to Environmental Implementation and Enforcement*, in MANUAL ON COMPLIANCE WITH AND ENFORCEMENT OF MULTILATERAL ENVIRONMENTAL AGREEMENTS, available at <http://www.unep.org/dec/onlinemanual/Enforcement/NationalApproaches/tabid/74/Default.aspx?page=3> (last visited May 7, 2011).

71. See generally Marong, *supra* note 65; Gillroy, *supra* note 65, at 49.

72. *Shrimp-Turtle*, *supra* note 22.

purpose of General Agreement on Tariffs and Trade (GATT) Article XX.⁷³ The initial decision of the panel argued that while the protection of sea turtles was of importance, it was the lack of negotiation with the other countries that caused the violations.⁷⁴ The United States had previously negotiated with South American shrimp-producing nations, developing agreements that included financial assistance for fishermen to install and use Turtle Exclusion Devices (TEDs). The WTO appellate panel held that by not doing the same for the eastern nations whose shrimp were excluded, the United States was implementing its otherwise acceptable environmental protection measure in a way that violated Article XX of the GATT.⁷⁵ However, after unsuccessful negotiations with Malaysia, the panel allowed the United States to restrict imports of shrimp caught only with TEDs.⁷⁶ States may not be able to rely on the WTO to develop conservationist or sustainable legislation, but they may be able to craft internal legislation and multilateral agreements that will be upheld by the WTO against attack by other states.

E. NON-GOVERNMENTAL ORGANIZATIONS (NGOS)

Analysis of protected areas in Rwanda demonstrates that during the last decade of the twentieth century, the only areas that survived were those where an NGO maintained a presence.⁷⁷ NGOs—whether local or international—can provide manpower, management support and guidance, academic access, and other capacity-building activities.⁷⁸ Organizations such as the Wildlife Conservation Society (WCS) develop local offices, often run by community members or nationals, where the efforts of diverse groups can be focused on the project at hand.⁷⁹ States may not have the capacity or expertise to create legislation to comply with international obligations, and many NGOs are able to assist states in developing legal frameworks for conservation.⁸⁰ Even in states where the

73. "In reaching these conclusions, we wish to underscore what we have *not* decided in this appeal. We have *not* decided that the protection and preservation of the environment is of no significance to the Members of the WTO. Clearly, it is. We have *not* decided that the sovereign nations that are Members of the WTO cannot adopt effective measures to protect endangered species, such as sea turtles. Clearly, they can and should. And we have *not* decided that sovereign states should not act together bilaterally, plurilaterally or multilaterally, either within the WTO or in other international fora, to protect endangered species or to otherwise protect the environment. Clearly, they should and do." Shrimp-Turtle, *supra* note 22, at para. 185 (original emphasis).

74. *Id.* at paras. 38, 166.

75. *Id.* at paras. 175-76.

76. Shrimp Recourse, *supra* note 22, at para. 153(b).

77. Andrew J. Plumptre et al., *The Current Status of Gorillas and Threats to Their Existence at the Beginning of a New Millennium*, in *GORILLA BIOLOGY* 414, 427 (Andrew B. Taylor & Michele L. Goldsmith eds., 2003).

78. See *About ITFC*, INSTITUTE OF TROPICAL FOREST CONSERVATION, <http://www.itfc.org/About%20ITFC.htm> (last visited May 7, 2011) [hereinafter *About ITFC*].

79. See *Where We Work*, WILDLIFE CONSERVATION SOCIETY, <http://www.wcs.org/where-we-work.aspx> (last visited May 7, 2011) [hereinafter *Wildlife Conservation Society*].

80. *Id.* (select a WCS office for specific information on local conservation efforts); *About ITFC*, *supra* note 78.

development of legislation that complies with international obligations is possible, often there are limited funds and an even more limited capacity within the state to develop these projects. Funding may be available through the GEF, but might not be immediately accessible without infrastructure in place to use the funds appropriately.⁸¹

NGOs can step into this breach to build capacity in local communities while administering the national programs. For example, in areas of conservation concern, WCS staff work

with community leaders and members to develop ways people can use their land and water to generate income while promoting natural resource conservation. [They] help local people create new agricultural products and practices, modify fishing techniques, generate ecotourism revenue, and provide recovery aid to areas devastated by violence and natural disasters. Investing in the current and future quality of life is the key to sound conservation practice.⁸²

Although the cooperation of local communities is crucial to the success of conservation efforts, local communities will rarely have the capacity to implement sustainable and conservationist practices from the inception of a national program.⁸³ NGOs offer the kind of local capacity building that is critical for success, but often not readily available to the national government.

In addition to international NGOs (e.g., WCS), local NGOs also have major roles to play in conservation success. For example, the Institute for Tropical Forest Conservation (ITFC), which is based at Mbarara University of Science and Technology in Uganda, uses the academic backing of the University to support a variety of research and management projects in Bwindi Impenetrable National Park, often in cooperation with the WCS offices in Uganda.⁸⁴ Researchers from Uganda and abroad work for the NGO in the park, and the ITFC hires local community members as field assistants and for other administrative offices.⁸⁵ This allows the NGO to bring the community into its conservation efforts, and provide work for local community members. By integrating local development with both local and international academic expertise, NGOs are instrumental in the capacity-building necessary for successful long-term implementation of conservation efforts. NGOs can also be instrumental in raising external funds and

81. See generally *GEF Project Details*, GLOBAL ENVIRONMENTAL FACILITY, <http://gefonline.org/project/DetailsSQL.cfm?projID=153> (last visited May 7, 2011). (summarizing the GEF program in Cameroon as an example of assistance grants dedicated to conservation).

82. *Local Livelihoods*, WILDLIFE CONSERVATION SOCIETY, <http://www.wcs.org/conservation-challenges/local-livelihoods.aspx> (last visited May 7, 2011).

83. See *Working with the Batwa of Uganda*, INTERNATIONAL GORILLA CONSERVATION PROGRAMME, <http://www.igcp.org/working-with-the-batwa-of-uganda/> (last visited May 7, 2011) (IGCP's discussion of the Batwa people of Uganda, and the problems the national programme caused within this local community).

84. *About ITFC*, *supra* note 78.

85. *ITFC Staff*, Institute of Tropical Forest Conservation, <http://www.itfc.org/ITFC%20staff.htm> (last visited May 7, 2011).

bringing in international experts to help develop national policies.⁸⁶

F. FROM SIGNATURE TO IMPLEMENTATION

Signing on to international treaties and conventions may only weakly correlate with the realization of conservation actions. Swanson notes a “striking asymmetry between levels of international display and actual domestic implementation of conservation commitments.”⁸⁷ The level of asymmetry is very different across states (e.g., Cameroon vs. Uganda) and levels of commitment will depend on both the particular species or ecosystem of interest and the area where either the species or the ecosystem is found. Elements of asymmetry can be found at all levels, from national infrastructure to the local flora and fauna that make up the natural resources of the ecosystem. Animals whose value is greater, in terms of tourist spending, rather than live trade or meat, will be managed with a greater level of domestic commitment than those that cannot bring in significant and sustained funding to their habitat country.⁸⁸ Areas with poor traditional ownership rights are more likely to fall victim to the “tragedy of the commons,” while areas with poor infrastructure are less able to take advantage of market potential.⁸⁹ A lack of enforcement capacity, motivation, or funding will often result in “paper parks,” “sleeping treaties,” and other implementation failures.⁹⁰ As Kohn and Eves report, infrastructural realities, language barriers, and field conditions limit economic opportunities for Central African countries compared to East Africa.⁹¹ How to best address the domestic issues affecting implementation of international conservation legislation remains in question, and will depend on the countries, species, or ecosystems involved. The success in one state may not be replicated by simply transplanting the conservation program structure of another state. Although the particulars of programs may be different, all conservation efforts rely on the same basic elements: the incorporation of local populations (both in buy-in and in capacity-building); the creation of stable, consistent sources of funding; and support and enforcement from local, national, and international organizations. Use of the examples of two flagship species, very

86. *About ITFC*, *supra* note 78 (citing ITFC’s work with Uganda Wildlife Authority and National Forest Authority); *Haven for Rarest Gorilla*, WILDLIFE CONSERVATION SOCIETY, Nov. 26, 2008, <http://www.wcs.org/wcs-org/new-and-noteworthy/wcs-helps-cameroon-create-new-national-park.aspx> (which lists the German Development Bank, World Wildlife Fund, the German Development Service, and the German Technical Cooperation as donors to the fund used to create Takamanda National Park).

87. Swanson, *supra* note 49, at 308.

88. Ginsberg, *supra* note 31, 1188.

89. Carey, *supra* note 29, at 1305-06; William M. Adams & Mark Infield, *Who is on the Gorilla's Payroll? Claims on Tourist Revenue from a Ugandan National Park*, 31 *WORLD DEV.* 177, 179 (2003).

90. Swanson, *supra* note 49, at 311; Andrew E. Kohn & Heather E. Eves, *The African Bushmeat Crisis: A Case for Global Partnership*, 30 *ENVIRONS: L. & POL'Y J.* 245 (2007).

91. Kohn & Eves, *supra* note 90.

similar in biology but very different in geographic location, may help guide us to better tackle these problems.

III. GORILLAS: CASE STUDIES IN BIODIVERSITY CONSERVATION EFFORTS

Many conservation projects begin with a single animal or plant that captures the attention of the local or international community. Pandas, gorillas, dolphins, turtles, elephants, tigers and even mangroves have all gained international recognition as threatened species.⁹² With this international attention often comes calls for conservation efforts. In this section, we will focus on gorillas, which are among the most recognizably threatened species in the world, and are the subject of several long-term conservation efforts in their native habitats. We will begin by discussing the concept of a flagship species. Next, we will discuss the inherent characteristics and external threats which may affect gorilla survival. In the last two sections we will closely examine efforts to conserve gorillas in two countries: Cameroon and Uganda.

A. GORILLAS: FLAGSHIP SPECIES IN NEED OF INTERNATIONAL PROTECTION

When asking local communities or the world at large to make changes that may be unpopular, it is advantageous to ensure that the biodiversity outcomes are as visible as possible. Some of the most visible outcomes can be achieved for charismatic megafauna, or flagship species. Flagship species have been variably defined as: 1) popular charismatic species that serve to rally support and encourage public awareness, interest, and sympathy; 2) species that draw financial support for conservation; and 3) species that become symbols and leading elements of ecosystem protection campaigns.⁹³ Though flagship species are now considered ecologically poor surrogates for the protection of other species, political and social realities may mean that conservation must depend on flagship species for financial and public support.⁹⁴ The promotion of particular charismatic and threatened species can increase total conservation funding

92. See *Giant Pandas*, SMITHSONIAN NATIONAL ZOOLOGICAL PARK, <http://nationalzoo.si.edu/Animals/GiantPandas/PandaConservation/default.cfm> (last visited May 7, 2011) (providing details on the incredibly popular "Pregnancy Watch" of the Zoo's giant pandas); THE GORILLA FOUNDATION, www.koko.org (last visited May 7, 2011) (homepage for a popular gorilla whose ability to learn sign language led to an international conservation fund in her name); *International Dolphin Safe Monitoring Program*, EARTH ISLAND INSTITUTE, www.dolphinsafetuna.org (last visited May 7, 2011) (homepage for campaign to keep honest the "Dolphins Safe" label on tuna products); *San Diego Zoo Elephant Odyssey*, SAN DIEGO ZOO, <http://www.elephantodyssey.com/> (last visited May 7, 2011); *2010 Year of the Tiger*, WORLD WILDLIFE FUND, <http://www.worldwildlife.org/species/finder/tigers/year-of-tiger.html> (last visited May 7, 2011) (describing WWF's campaign to double the global tiger population).

93. Tim Caro et al., *Preliminary Assessment of the Flagship Species Concept at a Small Scale*, 7 ANIMAL CONSERVATION 63, 63-64 (2004).

94. Paul H. Williams et al., *Flagship Species, Ecological Complementarity and Conserving the Diversity of Mammals and Birds in sub-Saharan Africa*, 3 ANIMAL CONSERVATION 249, 259 (2000).

available and draw attention to threatened areas.⁹⁵

Gorillas are well-placed to serve as conservation flagship species, as they have captured the hearts and minds of the public.⁹⁶ They are very close to humans in both appearance and behavior, exhibiting strong mother-infant bonds, recognizable affiliative and aggressive interactions between group members, and a strong dependence on learning in the early life stages. Diane Fossey established the first gorilla research station, Karisoke, over forty years ago, in September 1967, and gorillas have been consistently studied ever since.⁹⁷ Compared with other primates, gorillas have long been part of the public consciousness, particularly since the 1980s, when "Gorillas in the Mist" became successful worldwide through both book and film.⁹⁸ Regular censuses have been carried out since George Schaller's first Virunga census in the 1960s, showing the decline of gorilla populations as their habitats have been eroded in the 1960s, 1970s, and 1980s, then slight growth as research, conservation projects, and tourism took root.⁹⁹ Public willingness to donate funds to conserve species increases with knowledge of the species conservation status; gorillas are visibly endangered.¹⁰⁰ In fact, gorillas were the main reason for the creation of the first African National Park: Albert National Park, gazetted in 1926.¹⁰¹ By tracing the path of gorilla conservation efforts, we may be able to identify problems and solutions which affect any large-scale conservation project. In this essay, therefore, gorilla conservation serves as an example of the many challenges inherent in designing and implementing successful international conservation law.

B. NATURAL VULNERABILITY OF GORILLAS

There are two species of gorilla currently recognized, each containing two subspecies. Eastern gorillas consist of Eastern lowland gorillas (*Gorilla beringei graueri*) and Mountain gorillas (*Gorilla beringei beringei*). Western gorillas consist of Western lowland gorillas (*Gorilla gorilla gorilla*) and Cross River gorillas (*Gorilla gorilla diehli*).¹⁰² Likely less than 700 Mountain gorillas exist today and are found in only two populations, located in Uganda, Rwanda, and the

95. Clem Tisdell, *Knowledge About a Species' Conservation Status and Funding for its Preservation: Analysis*, 198 *ECOLOGICAL MODELLING* 515, 518 (2006).

96. Bill Weber & Amy Vedder, *Afterword: Mountain Gorillas at the Turn of the Century*, in *MOUNTAIN GORILLAS: THREE DECADES OF RESEARCH AT KARISOKE* 413, 415 (Martha Robbins et al. eds., 2001).

97. Kelly J. Stewart et al., *Mountain Gorillas of the Virungas: A Short History*, in *MOUNTAIN GORILLAS: THREE DECADES OF RESEARCH AT KARISOKE* 1, 2 (Martha Robbins et al. eds., 2001).

98. Weber & Vedder, *supra* note 96, at 417.

99. Stewart et al., *supra* note 97, at 7-8.

100. Tisdell, *supra* note 95, at 516.

101. Stewart et al., *supra* note 97, at 5.

102. Julian Caldecott & Sarah Ferriss, *Gorilla Overview*, in *WORLD ATLAS OF GREAT APES AND THEIR CONSERVATION* 97 (Julian Caldecott & Lera Miles eds., 2005).

Democratic Republic of Congo.¹⁰³ Less than 300 Cross River gorillas exist today, and are located in nine or more isolated subpopulations found only in Cameroon and Nigeria.¹⁰⁴ Mountain and Cross River gorillas are listed as two of the world's twenty-five most endangered primate taxa.¹⁰⁵

Demographic rates and area requirements of gorillas interact with other limiting factors, such as human and natural disturbances, to limit population sizes. Gorillas are a relatively long-lived, large-bodied, K-selected species, with low reproductive rates and high levels of infant dependency.¹⁰⁶ Adult female Western gorillas weigh about seventy-two kilograms, and males may weigh up to twice as much.¹⁰⁷ Large bodies often both demand large home ranges to fulfill caloric requirements and also entail long developmental/growth phases, thereby limiting abundance in multiple ways. Gorillas are social animals, living in groups ranging from two to over thirty individuals. Large groups require larger home ranges to sustain their energetic demands, making animals more conspicuous, and therefore more vulnerable to hunters. Gorilla home range sizes vary from three to forty square kilometers—often larger than available habitat fragments—which prevent them from surviving or colonizing in highly fragmented ecosystems.¹⁰⁸ In addition to large area requirements, long-lived, large-bodied species often have low reproductive rates. Gorilla inter-birth intervals range from four to six years, infant mortality ranges from eight to forty-two percent, and reproductive rates fall between 0.18 and 0.23 births per adult female per year.¹⁰⁹ Low reproductive rates prevent gorillas from recovering quickly following discrete disturbances or continuous stressors. High infant dependency magnifies hunting impacts by coupling mortality of infants under the age of three to the loss of their mothers. When combined, low demographic rates, large area requirements, and particular vulnerability to anthropogenic stressors likely limit gorillas to existence at low and therefore vulnerable population densities. More specific external

103. Sarah Ferriss et al., *Eastern Gorilla (Gorilla Beringei)*, in *WORLD ATLAS OF GREAT APES AND THEIR CONSERVATION* 129 (Julian Caldecott & Lera Miles eds., 2005).

104. John F. Oates et al., *The Cross River Gorilla: Natural History and Status of a Neglected and Critically Endangered Subspecies*, in *GORILLA BIOLOGY: A MULTIDISCIPLINARY PERSPECTIVE* 472, 488 (Andrea B. Taylor & Michele L. Goldsmith eds., 2003).

105. Caldecott & Ferris, *supra* note 102, at 101.

106. Caroline Ross, *Environmental Correlates of the Intrinsic Rate of Natural Increase in Primates*, 90 *OECOLOGIA* 383, 383 (1992) (K-selected species are those exhibiting "slow" life histories, characterized by low birth rates, slow rates of development, late age at first reproduction, and long lives; the term K-selected refers to populations thought to exist at or near carrying capacity (K)).

107. Richard J. Smith & William L. Jungers, *Body Mass in Comparative Primatology*, 32 *J. HUM. EVOLUTION* 523, 547 (1997).

108. Martha M. Robbins & Alastair McNeilage, *Home Range and Frugivory Patterns of Mountain Gorillas in Bwindi Impenetrable National Park, Uganda*, 24 *INT'L J. PRIMATOLOGY* 467, 484 (2003).

109. See generally Martha M. Robbins et al., *Social Structure and Life-History Patterns in Western Gorillas (Gorilla gorilla gorilla)*, 64 *AM. J. PRIMATOLOGY* 145 (2004); Martha M. Robbins & Andrew M. Robbins, *Simulation of the Population Dynamics and Social Structure of the Virunga Mountain Gorillas*, 63 *AM. J. PRIMATOLOGY* 201 (2004).

threats to gorilla species vary by population and location, but all gorilla subspecies are arguably in need of protection.

C. CROSS-RIVER GORILLAS IN CAMEROON

We begin with an examination of the Cross River gorillas, found along the border of Cameroon and Nigeria. In order to determine what challenges face conservation staff in this area, we will first describe the magnitude of the threats facing these gorillas and the perils that conservation efforts seek to address. Second, we will look at the national program put in place by the government of Cameroon. Third, we will look at the involvement of non-governmental organizations in this program. Fourth, we will analyze some of the major issues that must be overcome in the realization of this program. Fifth, we will look at some of the outcomes reached through these efforts to date.

1. Problem

The Cross River gorilla (*Gorilla gorilla diehli*) is one of Africa's most endangered, yet least studied, primates.¹¹⁰ The Cross River gorilla (CRG) is a subspecies of Western gorilla (*Gorilla gorilla*) inhabiting the border regions of Cameroon and Nigeria, and is the most northern and western of all gorilla populations. Though the subspecies is likely to have historically occurred in high numbers over a continuous distribution, current studies estimate that only 250 to 350 individuals remain divided into at least eleven subpopulations.¹¹¹ Difficult terrain, historical over-hunting by human populations, and the trans-national distribution of the subpopulations make the Cross River gorilla difficult to study and protect. In addition, many populations currently fall outside of protected areas. Limited available data suggest that the subspecies population is both small and declining. Threats to CRG include continued habitat destruction, fragmentation, logging, and hunting.¹¹²

Habitat fragmentation—generally caused when humans clear native vegetation to meet the needs of growing populations, expanding both food and shelter uses of nearby land—is a major contributor to the current mass extinction crisis. This poses a particularly serious danger to small populations like the CRG.¹¹³ By

110. Richard A. Bergl & Linda Vigilant, *Genetic Analysis Reveals Population Structure and Recent Migration Within the Highly Fragmented Range of the Cross River Gorilla (*Gorilla gorilla diehli*)*, 16 MOLECULAR ECOLOGY 501, 502 (2007); see generally Oates et al., *supra* note 104.

111. Richard A. Bergl, *Conservation Biology of the Cross River Gorilla (*Gorilla gorilla diehli*)* (2006) (unpublished Ph.D. dissertation, City University of New York) (on file with City University of New York); Oates et al., *supra* note 104, at 472.

112. Oates et al., *supra* note 104, at 486.

113. Johan Swart & M.J. Lawes, *The Effect of Habitat Patch Connectivity on Samango Monkey (*Cercopithecus mitis*) Metapopulation Persistence*, 93 ECOLOGICAL MODELLING 57, 57-58 (1996); Thomas M. Brooks et al., *Habitat Loss and Extinction in the Hotspots of Biodiversity*, 16 CONSERVATION BIOLOGY 909, 910 (2002);

dividing animal populations into isolated habitats, fragmentation increases species' risk of extinction from inbreeding and stochastic effects, and limits the ability of populations to move in response to short-term perturbations and long-term threats. The current, patchy distribution of CRG into the eleven subpopulations is likely a consequence of habitat fragmentation for agriculture and human development. Studies estimate forested areas available to individual subpopulations ranging from only four to thirty-five square kilometers.¹¹⁴

Logging presents another major threat to CRG habitat. One-hundred seventy thousand kilometers of Cameroon's forests had already been either logged or allocated for logging concessions by the year 2000.¹¹⁵ Forest products represent over 10% of all trade in Cameroon; previously untouched CRG habitats are now on the table for proposed logging concessions.¹¹⁶ However, habitat fragmentation is not the only impact of logging on wild animals. Logging also increases the hunting threat to animals, through two major mechanisms: (1) logging roads increase access to remote areas for hunting and other forms of exploitation, and (2) by importing a labor force with purchasing power, logging can increase demand for wild-caught meat.

Cross River gorillas, like many wildlife species worldwide, are jeopardized by hunting.¹¹⁷ Hunting directly impacts species' abundances by removing individual organisms, and can have an indirect impact on abundance by raising stress levels, changing behaviors, and reducing organisms' reproductive output.¹¹⁸ CRG are hunted for meat and body parts. Limited harvest studies indicate that one to three CRG individuals are hunted annually.¹¹⁹ Hunting of other species is common in the area, which may indirectly affect CRG through stress and behavioral responses, habitat modifications, or disease transmission from hunters. While hunting gorillas is illegal in Cameroon, environmental laws are rarely, if ever, enforced at any level of the legal or judicial system. Therefore, hunting has both direct and indirect impacts on CRG abundance.

2. National Program

Cameroon has the judicial and ministerial power to protect Cross River

Lenore Fahrig & Gray Merriam, *Conservation of Fragmented Populations*, 8 CONSERVATION BIOLOGY 50, 50-51 (1994).

114. Oates et al., *supra* note 104, at 488.

115. Sarah Ferriss et al., *supra* note 103, at 121.

116. *Id.*; author conversation with WCS Cameroon.

117. John G. Robinson et al., *Conservation: Wildlife Harvest in Logged Tropical Forests*, 284 SCI. 595 (1999); David S. Wilkie & Julia F. Carpenter, *Bushmeat Hunting in The Congo Basin: An Assessment of Impacts and Options for Mitigation*, 8 BIODIVERSITY & CONSERVATION 927, 941 (1999).

118. Jonathan N. Pauli & Steven W. Buskirk, *Risk-Disturbance Overrides Density Dependence in a Hunted Colonial Rodent, the Black-Tailed Prairie Dog Cynomys ludovicianus*, 44 J. APPLIED ECOLOGY 1219, 1220 (2007).

119. Oates et al., *supra* note 104, at 472; Bergl, *supra* note 111.

gorillas, at least on paper, but lacks the resources and transparency to take action. Law No. 94/01 (1994) sets out Cameroon's forestry, wildlife, and fishery regulations.¹²⁰ According to the law, gorillas are listed as category A species, which are completely protected against hunting, capture, and sale. Additionally, protected areas aimed at both species and habitat conservation can be established by the Ministry of Forestry and Wildlife (MINFOF), which is charged with preserving the country's biodiversity.¹²¹

Funds from the GEF have been critical in the development of this conservation legislation, necessary to comply with the obligations of international treaties.¹²² For example, in 1998 Cameroon applied for and received a \$13,000 grant from the GEF to purchase the telecommunications equipment necessary for the training needed to comply with the Clearing House Mechanism (CHM) of the CBD.¹²³ Cameroon also received a grant of \$300,000 between 1996–2004 to comply with the requirements of Article 6 of the CBD by creating a National Biodiversity Strategy, an Action Plan, and the first National Report to the CBD.¹²⁴ The first National Report detailed Cameroon's progress toward a more complete National Biodiversity Strategy and Plan.¹²⁵ These and several other grants have allowed Cameroon to create or implement legislation to gazette national parks, create management plans, and otherwise meet their treaty obligations.¹²⁶

3. NGO Involvement

The government of Cameroon has international support. The Wildlife Conservation Society and many other NGOs such as the World Wildlife Fund (WWF),

120. Patrice Taah Ngalla et al., *Republic of Cameroon*, in *WORLD ATLAS OF GREAT APES AND THEIR CONSERVATION* 305, 307 (Julian Caldecott & Lera Miles eds., 2005); Philip F. Forboseh et al., *Priority Setting for Conservation in South-West Cameroon Based on Large Mammal Surveys*, 41 *ORYX* 255, 260 (2007).

121. Ngalla et al., *supra* note 120, at 309.

122. *GEF Projects for Cameroon*, GLOBAL ENVIRONMENT FACILITY, http://www.thegef.org/gef/gef_country_prg/CM (last visited May 14, 2011) (listing the many projects for which Cameroon has received or will receive funding for development projects from the GEF).

123. *Clearing House Mechanism Add-on Module for Cameroon*, GLOBAL ENVIRONMENTAL FACILITY, <http://gefonline.org/projectDetailsSQL.cfm?projID=427> (last visited May 14, 2011) (listing hardware, software, a modem and internet access fees in addition to the training costs for the CHM Focal Point training).

124. CAMEROON - PREPARATION NATIONAL BIODIVERSITY STRATEGY, ACTION PLAN AND FIRST NATIONAL REPORT TO THE CBD (1997), available at <http://gefonline.org/projectDetailsSQL.cfm?projID=153> (last visited May 14, 2011).

125. *Id.* at 45.

126. CAMEROON - CBSP CONSERVATION AND SUSTAINABLE USE OF THE NGOYLA MINTOM FOREST (2009), available at <http://gefonline.org/projectDetailsSQL.cfm?projID=4084>; CAMEROON - BIODIVERSITY CONSERVATION AND MANAGEMENT (1995), available at <http://gefonline.org/projectDetailsSQL.cfm?projID=85>; CAMEROON - CBSP SUSTAINABLE COMMUNITY BASED MANAGEMENT AND CONSERVATION OF MANGROVE ECOSYSTEM IN CAMEROON (2009), available at <http://gefonline.org/projectDetailsSQL.cfm?projID=3821>; CAMEROON - ENABLING ACTIVITY FOR THE PREPARATION OF INITIAL COMMUNICATION RELATED TO THE UNFCCC (2004), available at <http://gefonline.org/projectDetailsSQL.cfm?projID=180>.

the San Diego Zoo's Institute for Conservation Research (CRES), Birdlife International, and Fauna and Flora International (FFI) all contribute to conservation within the country.¹²⁷ Additionally, the German Technical Corporation (GTZ), the German Development Service (DED), and other development agencies partner with conservation-based NGOs to integrate conservation and development needs.¹²⁸ Notably, an Israel-based, NGO the Last Great Ape (LAGA), which formed in the early 1990s to monitor, track down, and ensure prosecution of poachers, is quite active in Cameroon.¹²⁹ In 2001, LAGAs efforts led to the first imprisonment of a poacher in Cameroon, and the NGO is currently investigating a gorilla killing in the Southwest province.¹³⁰ Yet, even with this international support, the Cameroonian government still seems hard pressed to turn the legislation it has created into meaningful conservation measures for the Cross River gorilla. The lack of implementation may be due to Cameroon's recent last-place finish in world rankings of transparency.¹³¹ It is likely that, despite valiant efforts by the NGOs involved, many resources, even when hard fought and won, do not often make it to their intended destination.

4. Issues

Significant obstacles to success hamper CRG conservation in Cameroon. Economic, educational, and cultural divides impede effective communication across the local, national, and international levels of CRG conservation efforts. The economic interests of locals seem to promote unsustainable use of natural resources and discourage participation in conservation endeavors.¹³² Local cultural values and expectations have not been adequately addressed in regional conservation endeavors, and local understanding of the ultimate goals, costs, and benefits of these programs is low. Consistent and sustainable enforcement

127. *WWF Central Africa office, Cameroon*, WORLD WILDLIFE FEDERATION, http://wwf.panda.org/who_we_are/wwf_offices/cameroon/ (last visited May 15, 2011); *Africa Information Page*, SAN DIEGO ZOO INSTITUTE FOR CONSERVATION RESEARCH, <http://www.sandiegozoo.org/conservation/places/africa> (last visited May 15, 2011); *Cameroon*, BIRD LIFE INTERNATIONAL, <http://www.birdlife.org/worldwide/national/cameroon/index.html> (last visited May 15, 2011); *Cross River Gorilla—Meet the World's Most Endangered Great Ape*, FAUNA & FLORA INTERNATIONAL, <http://www.fauna-flora.org/crossriverappeal.php> (last visited May 15, 2011).

128. *Cross River Gorilla*, WILDLIFE CONSERVATION SOCIETY, <http://www.wcs.org/saving-wildlife/great-apes/cross-river-gorilla.aspx> (last visited May 15, 2011); *The DED in Cameroon, The Programme in the South-West Province of Cameroon*, DEUTSCHER ENTWICKLUNGSDIENST, <http://kamerun.ded.de/en/sectors/natural-resources-rural-development/programme-in-the-south-west-province-of-cameroon.html> (last visited May 16, 2011); *Cameroon: Takamanda-Mone*, BIODIVERSITY PLATFORM, http://www.biodiversityplatform.cgiar.org/_ref/projects/sites.cameroon.htm (last visited May 16, 2011).

129. Ngalla et al., *supra* note 120, at 310.

130. Interview by the author (April 2010).

131. *The 1999 Transparency International Corruption Perceptions Index*, TRANSPARENCY INTERNATIONAL, http://www.transparency.org/policy_research/surveys_indices/cpi/previous_cpi/1999; http://www.user.gwdg.de/~www/oldwebsite/1999Press.html#Reuters_Cameroon1 (last visited May 16, 2011).

132. Numerous local hunters refused to work with the author because they could make more money hunting.

measures are lacking in the current program. Local government presence in rural areas, where enforcement of international legislation is most needed, is almost nonexistent. Locals are often unaware they are conducting illegal activities (e.g., hunting dwarf crocodiles, preventing non-locals from entering governmentally owned forest, etc.).¹³³ These gaps in education, communication, and consistent enforcement continue to cause conflict between local populations and the researchers and management of national parks.¹³⁴

Another obstacle is the lack of consistent, sustainable sources of funding for conservation programs, and local governmental capacity or willingness to enforce conservation laws remains low.¹³⁵ In addition to grants from the GEF, Cameroon requires a constant influx of funding to develop working conservation programs. In order for bans on hunting and trade to be enforced, or for logging proposals to be denied in favor of conservation or protected area establishment, the benefits of conservation must outweigh its costs. Salaries of those employed in conservation must be consistently greater than potential payout from activities negatively impacting listed species (e.g., hunting) and/or governments must benefit from protecting biologically valuable areas.¹³⁶ However, in many villages in the CRG landscape, a hunter can kill five porcupines or more in a single evening, for revenues totaling up to three times those of even a generous research/conservation salary.¹³⁷ Additionally, the opportunity cost of the government refraining from logging an area in Cameroon has been estimated at US \$15,000 per square kilometer per year, making additional logging opportunities hard to pass up.¹³⁸

From 1993 to 2003, the Ministry of Environment and Forestry (now the Ministry of Forestry and Wildlife) used over US \$12 million in an effort to gazette seven parks, create development plans, and rehabilitate the Cameroon National Herbarium.¹³⁹ In a country where the Gross National Income per person in 2002 was US \$560, conservation of species like Cross River gorillas needs to begin to pay for itself in order for international legislation to have any hope of implementation.¹⁴⁰ While many countries in similar situations draw conservation funds from ecotourism, Cameroon's lack of necessary infrastructure and inability to take advantage of the ever-growing African ecotourism market prevent such a

133. Author interviews and observations (Feb. – Apr. 2010).

134. Author observation (Nov. 2009 – May 2010) (specific problems in November 2009, January 2010, April 2010).

135. Author interview (Feb. 2010).

136. Kassenoff, *supra* note 5, at 382; Kohn & Eves, *supra* note 90, at 258.

137. Author observation (Jan. 2010).

138. Nigel Varty et al., *Conservation Measures in Play*, in *WORLD ATLAS OF GREAT APES AND THEIR CONSERVATION*, 242, 246 (Julian Caldecott & Lera Miles eds., 2005).

139. REPUBLIC OF CAMEROON BIODIVERSITY AND CONSERVATION (1995), <http://www.gefonline.org/ProjectDocs/Biodiversity/Cameroon%20-%20Biodiversity%20Conservation%20Management/Cameroon%20Bio%20Conservation%20Project%20Doc.pdf> (last visited May 16, 2011).

140. Ngalla et al., *supra* note 120, at 305.

solution. The GEF stated that in Cameroon “[l]ong-term sustainability of the programs developed under the project will ultimately depend on Government’s ability and commitment to appropriate the required budgetary resources.”¹⁴¹ Without continued and sustainable sources of funding, legislation is powerless.

5. Outcomes

Despite the many obstacles, progress is being made in Cameroon toward positive tangible conservation outcomes. A series of joint projects between MINFOF, WCS, GTZ, DED, and WWF are currently trying to make real progress toward CRG conservation.¹⁴² They recently succeeded in establishing the Kagwene Gorilla Sanctuary, where research assistants from local villages are employed and ecological data collection and capacity building are carried out. They also gazetted Takamanda National Park in 2008, to form a contiguous protected area with the Nigerian Cross River National Park. While this conservation progress looks promising, these endeavors are still threatened by funding issues, socio-political missteps, and discrepancies in priorities. Placement of the Takamanda park headquarters has sparked local community tribal disagreements and has led to community refusal to cooperate with government and NGO conservation measures.¹⁴³ Additionally, despite the government’s 2002 Plan de Zonage recommendation that the Mone Forest Reserve be upgraded to a Wildlife Sanctuary, a lack of funding options has recently sparked discussions to open the Reserve as a logging concession.¹⁴⁴

Recent conservation progress addressing issues of international funding, local economic needs, and capacity building may indicate that Cameroon is trying to get on the path to successful CRG conservation. Kassenoff noted that “CITES should institute paid programs whereby citizens who are familiar with the surrounding ecosystem are paid to monitor and protect the endangered species specified within the treaty.”¹⁴⁵ WCS Cameroon has recently instated a “Gorilla Guardian” program which fits precisely this prescription.¹⁴⁶ Additionally, DED and GTZ are placing emphasis on sustainable use of natural resources and alternative income projects, including bee-keeping, snail farming, and cassava plantations.¹⁴⁷ The NGOs encourage local communities to support conservation legislation by providing viable alternatives to breaking the law. GTZ is working

141. CAMEROON BIODIVERSITY AND CONSERVATION, *supra* note 139, at para. 17.

142. *New National Park Protects World’s Rarest Gorilla*, SCIENCE DAILY (Nov. 28, 2008), <http://www.sciencedaily.com/releases/2008/11/081127114733.htm>.

143. Author interview with village members (Apr. 2010).

144. Forboseh et al., *supra* note 120, at 255; author experience.

145. Kassenoff, *supra* note 5, at 382.

146. Author communication with WCS staff (Oct. 2009).

147. Emmanuel O. Nuesiri & Eunice E. Fombad, *Apiculture and Poverty Alleviation in Cameroon*, BEES FOR DEVELOPMENT (Oct. 26, 2006), http://www.beesfordevelopment.org/cgi-bin/moxiebin/bm_tools.cgi?print=379;s=5_32;site=1; Programme in the South-West Province of Cameroon, *supra* note 128.

to increase local enforcement capacity by spearheading the implementation of “Forest Law Enforcement, Governance and Trade” in Cameroon.¹⁴⁸ This includes, among other initiatives, a national monitoring strategy to combat the illegal timber trade.¹⁴⁹ Finally, funding from the German Development Bank (KfW) and the U.S. Fish and Wildlife Service administered Great Apes Conservation Fund may provide the necessary international support to promote national legislative implementation and enforcement.¹⁵⁰

Cross River gorilla conservation is in the very early stages of implementation. Success will require the continued efforts of the Cameroonian government, national and international NGOs, and most importantly, the local communities. Without increased commitment and capacity building, success may be difficult to achieve. In order to gain insight into how to advance, we must look forward on the continuum of conservation success. We therefore highlight a more fully developed project, mountain gorilla conservation in Uganda, for further guidance.

D. MOUNTAIN GORILLAS IN UGANDA

Cameroon may be able to look to Uganda’s gorilla conservation program for guidance in advancing its own programs. Although there are wide political and economic disparities between these two countries, such that the structure of Uganda’s program may not be easily translated for the Cross River gorillas, Uganda’s relative success in conservation may offer some insight into how to consider and address the most important elements of a consistent program. As we did for the Cross River gorilla case, we will first discuss the problems involved in the conservation of mountain gorillas in Uganda. Next, we will give an overview of the national program. Then, we will discuss the involvement of NGOs in this program. We will then briefly touch on the multilateral treaties Uganda has signed with the border states whose territories make up part of the mountain gorilla habitat. Finally, we will analyze the outcomes of Uganda’s conservation efforts.

1. Problem

Mountain gorillas are critically endangered and occur in only two populations in the world: one in the Virunga Volcanoes in Rwanda, the Democratic Republic of Congo, and Uganda; and the other in Bwindi Impenetrable National Park (BINP or Bwindi) in Uganda.¹⁵¹ Recent surveys suggest that around 380 gorillas

148. *Sustainable Management of Natural Resources*, GTZ, <http://www.gtz.de/en/themen/laendliche-entwicklung/15066.htm> (last visited May 16, 2011).

149. *Id.*

150. ScienceDaily, *supra* note 142.

151. Katerina Guschanski et al., *Counting Elusive Animals: Comparing Field and Genetic Census of the*

exist in the 450 square kilometer Virungas and between 302 and 336 gorillas currently live in the 331 square kilometers of BINP.¹⁵² Both Bwindi and the Virungas contain important resources for local peoples, including honey, medicinal plants, fuel wood, and meat.¹⁵³ They also represent important water catchment zones, with Bwindi constituting about six percent of water catchment area for the entire country of Uganda.¹⁵⁴ While the mountain gorilla population was once contiguous, the two populations are now separated by about 30 kilometers of densely populated land, and are about 100 kilometers from the nearest Eastern lowland gorilla populations.¹⁵⁵

Mountain gorillas face many of the same threats as Cross River gorillas. The main factors endangering mountain gorillas are poaching and other illegal activities; habitat destruction, modification, or fragmentation; war and political unrest; and risks associated with small population sizes and slow life histories, including disease and demographic stochasticity.¹⁵⁶ High human population pressures exacerbate each of these threats. Bwindi is currently encircled by one of the highest rural human population densities in Africa, with over 300 people per square kilometer living in the surrounding area.¹⁵⁷ Less than fifteen percent of this population has a secondary level of education, and unemployment in the area ranges from twenty percent to more than sixty-six percent.¹⁵⁸ Over ninety-five percent of the population is reliant on the forest for fuel, and almost all rely on subsistence agriculture for survival.¹⁵⁹ While both traditional agricultural practices and hunting are limited by park enforcement, almost twenty percent of households admit to still hunting in the forest.¹⁶⁰ Additionally, agriculture outside the park is susceptible to crop raiding by species living in the park, and resentment about crop loss and the lack of response by authorities is common around Bwindi.¹⁶¹

2. National Program

Uganda has numerous national and international guidelines in place to help

Entire Mountain Gorilla Population of Bwindi Impenetrable National Park, Uganda, 142 *BIOLOGICAL CONSERVATION* 290, 291 (2009).

152. *Id.* at 298.

153. Gene Eckhart & Annette Lanjouw, *MOUNTAIN GORILLAS: BIOLOGY, CONSERVATION, AND COEXISTENCE* 114 (2008).

154. *Id.* at 113.

155. Oates et al., *supra* note 104, at 473.

156. Andrew J. Plumptre & Elizabeth Williamson, *Conservation-oriented Research in the Virunga Region, in MOUNTAIN GORILLAS: THREE DECADES OF RESEARCH AT KARISOKE* 361, 362 (Martha Robbins et al. eds., 2001).

157. William Guerrero et al., *Medical Survey of the Local Human Population to Determine Possible Health Risks to the Mountain Gorillas of Bwindi Impenetrable Forest National Park, Uganda*, 24 *INT'L J. PRIMATOLOGY* 197, 198 (2003).

158. Eckhart & Lanjouw *supra* note 153, at 149.

159. *Id.* at 150.

160. *Id.* at 158.

161. Author observation (Apr. 2006).

protect endangered species and habitats. Uganda signed onto CITES, The Convention on Wetlands of International Importance (Ramsar), the Paris Convention, and the CBD.¹⁶² National implementation of these treaties includes the National Environmental Management Policy (1994), the National Environment Statute (1995), the Wildlife Statute (1995), the Wildlife Policy (1996), the Fisheries Policy (2000), the Forest Act (2001).¹⁶³ Both Bwindi and the Rwenzoris are World Heritage Sites.¹⁶⁴ Though Uganda is also a signatory of the African Convention of Conservation of Nature and Natural Resources (1968), lack of funding has prevented any real implementation of that treaty.¹⁶⁵

Mountain gorilla populations are now entirely contained within protected areas. In Uganda, these populations occur in BINP and Mgahinga Gorilla Sanctuary, where various forms of ecotourism occur. Bwindi attained National Park status in 1991, despite the misgivings of local communities.¹⁶⁶ Unlike most protected areas, Bwindi contains multiple use zones (MUZs) where traditional activities like honey harvesting and forest product collection are still allowed.¹⁶⁷ Intended to appease local dissatisfaction with the loss of land endured when the park was created, these MUZs have experienced mixed results. MUZs can be problematic and may result in unsustainable resource harvest. However, where they are successful, MUZs allow local communities to reap the benefits of traditional practices while contributing to the larger conservation goals for the area.¹⁶⁸ Cunningham, in his analysis of traditional resource uses in Bwindi MUZs found that “[i]f resource harvesting is not sustainable, then it is a false solution, providing brief respite from land-use conflict and putting off the real solutions to the problem.”¹⁶⁹ MUZs have, however, led to increased research into the sustainability of traditional harvesting activities and increased visibility of the many

162. THE REPUBLIC OF UGANDA – NAT’L ENV’T MGMT. AUTH. (NEMA), NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN xii (2002).

163. *Environmental Laws of Uganda*, NEMA – UGANDA, http://www.nemaug.org/environment_regulations.php (last visited May 16, 2011); Christine Echokit Akello, ENVIRONMENTAL REGULATION IN UGANDA: SUCCESSES AND CHALLENGES, 3 L. ENV’T. & DEV. J. 20 (2007), available at <http://www.lead-journal.org/content/07020.pdf>.

164. *Uganda*, UNESCO WORLD HERITAGE CENTRE, <http://whc.unesco.org/en/statesparties/ug> (last visited May 16, 2011).

165. NEMA, *supra* note 162, at 25; see African Convention on the Conservation of Nature and Natural Resources, Sept. 15, 1968, 1001 U.N.T.S. 3.

166. ALEX TUMUKUNDE, EXPECTATIONS AND ATTITUDES OF LOCAL COMMUNITIES TOWARDS TOURISM AROUND BWINDI IMPENETRABLE NATIONAL PARK, UGANDA, INST. OF TROPICAL FOREST CONSERVATION 3, www.itfc.org/workshop/alex_tumukunde.pdf (last visited May 16, 2011).

167. Eckhart & Lanjouw, *supra* note 153, at 122.

168. A.B. Cunningham, *People, Park and Plant Use: Recommendations for Multiple-Use Zones and Development Alternatives Around Bwindi Impenetrable National Park, Uganda*, 1-2 (People and Plants, Working Paper 1996).

169. *Id.* at 2 (“At present, this is considered to be the case for some wood uses (beer boats, bean stakes and building poles) due to the combination of past impacts, high demand and limited staff for complex management.”).

issues facing local communities.¹⁷⁰

Uganda implemented gorilla tourism in 1993 in hopes of increasing revenues at both local and national scales, with four identified groups of gorillas exposed to tourist groups and one group reserved for researchers.¹⁷¹ Today, as the potential for tourism dollars soars ever higher, tourist group limits for each viewing have been increased from six to eight individuals, habituation of two additional gorilla groups in Uganda is underway, and viewing permit costs have risen to US \$500.¹⁷² Despite MUZs and promises about tourist dollars, park benefits still primarily accrue on a national and especially international scale while local communities bear all of the costs.¹⁷³

The Bwindi Mgahinga Conservation Trust (BMCT) was established in 1995 to support biodiversity conservation in BINP and Mgahinga Gorilla National Park in perpetuity by investing seed money donated from the GEF, U.S. Agency for International Development (USAID), and the Royal Netherlands government.¹⁷⁴ The fund is used for community development projects, research, and park enforcement costs, and has even been used to purchase land from local communities and give it to displaced Batwa (Pygmies) to resettle.¹⁷⁵ By establishing such a trust, Uganda hopes "[t]o foster conservation of the biodiversity of MGNP and BINP through investments in community development projects, grants for research and ecological monitoring, funding park management and protection and programmes that create greater conservation awareness."¹⁷⁶ The Conservation Development Centre prepared a ten-year performance review of the BMCT, and found that "the BMCT has overall been highly successful in delivering its field programme and has been instrumental in generating increased support and capacity for natural resources conservation in the Bwindi-Mgahinga area."¹⁷⁷ With the development of this trust, and the collaboration of various NGOs, Uganda has created a flexible and integrated national program.

3. NGO Involvement

In 1991, the International Gorilla Conservation Project (IGCP) formalized regional collaboration between international NGOs and government authorities working in Rwanda, DRC, and Uganda, including: African Wildlife Foundation, Fauna and Flora International, The World Wide Fund for Nature, the Institut

170. *See, e.g. id.*

171. Tumukunde, *supra* note 166, at 3.

172. *Tariffs*, UGANDA WILDLIFE AUTHORITY, <http://www.uwa.or.ug/tariffs.htm> (last visited May 16, 2011).

173. Eckhart & Lanjouw, *supra* note 153, at 168-69.

174. *Id.* at 174.

175. *Id.* at 122, 174.

176. *About BMCT*, BWINDI MGAHINGA CONSERVATION TRUST, http://www.bwinditrust.ug/about_us.htm (last visited May 16, 2011).

177. *Bwindi Mgahinga Conservation Trust 10-Year Performance Review*, CONSERVATION DEV. CENTRE, <http://www.cdc.info/bmct.html> (last visited May 16, 2011).

Congolais pour la Conservacion de la Nature, the Office Rwandais de Tourisme et des Parcs Nationaux, and the Uganda Wildlife Authority.¹⁷⁸ Additionally, as noted earlier, the Institute for Tropical Forest Conservation (ITFC) was established as a field-based research arm of Mbarara University around the same time.¹⁷⁹ ITFC spearheads both gorilla and general biodiversity research and conservation projects, encourages capacity building and employment opportunities for local communities, and works closely with park managers in southwest Uganda.¹⁸⁰ Through projects like their Ecological Monitoring Program (EMP), ITFC helps advise managers and communities on sustainable management practices.¹⁸¹

While IGCP and ITFC concentrate on ecological aspects of biodiversity conservation, they partner with NGOs such as Cooperative for Assistance and Relief Everywhere, Inc. (CARE) to work to tie in socio-economic issues to conservation planning.¹⁸² Alternative livelihood schemes, experimental crop-raiding reduction ventures, education and outreach, and the Development Through Conservation (DTC) project have helped to raise community involvement in and support of local conservation measures.¹⁸³ Capacity building is also a major priority of NGOs working in southwest Uganda, and ITFC has supported numerous young scientists and researchers who have gone on to fulfill important roles in Ugandan conservation.¹⁸⁴ Buhoma, the main gorilla tourism village in Uganda, has been the focus of NGOs seeking to increase educational opportunities and access to medical facilities. The Conservation Through Public Health (CTPH) project works with the Ugandan Wildlife Authority to increase health awareness, disease control, and primary medical care in the areas.¹⁸⁵

4. Regional Multilateral Treaties

Building on the work of IGCP, a ten-year trans-boundary strategic plan was signed by the governments of Rwanda, Uganda, and DRC in 2006.¹⁸⁶ The agreement encourages cooperative and coordinated conservation by authorities in the three countries, increases efficiency in managing trans-boundary resources, and promotes trust and understanding between the governments.¹⁸⁷ Through the Convention on Migratory Species, the Agreement on the Conservation of Gorillas and their Habitats has now been signed by Central African Republic,

178. Eckhart & Lanjouw, *supra* note 153, at 207.

179. *Id.*

180. *Id.* at 104, 210.

181. *Id.* at 217.

182. *About CARE*, CARE, <http://www.care.org/about/index.asp> (last visited May 16, 2011).

183. Eckhart & Lanjouw, *supra* note 153, at 197.

184. *Id.* at 224.

185. *Id.* at 235.

186. *Id.* at 242.

187. *Id.*

Republic of Congo, Democratic Republic of Congo, Equatorial Guinea, Nigeria, and Uganda. Although Uganda has not ratified this Agreement, it has participated in the Meetings of the Parties and has indicated its intention to ratify the Agreement.

5. Outcomes

Despite facing many threats, gorillas are one of a few species in Uganda that have increased in population size since the early 1980s. Evidence suggests that the Bwindi mountain gorilla population has exhibited a one percent annual growth rate over the last fifteen years.¹⁸⁸ Key factors in this unexpected population growth may include the gazettement of Bwindi as a national park in 1991 with the governmental dedication to law enforcement there, the relatively low interest in primate meat in Uganda compared to West and Central Africa, and the value of gorilla tourism.¹⁸⁹ As a national park, Bwindi benefits from the protection and management of former military personnel, who are retrained as park rangers, guides and guards, often serving the dual roles of legal enforcement and tourism promoters. Furthermore, though bushmeat is an important food and income source for Ugandans, and the bushmeat trade is prevalent near protected areas, there is relatively low interest in primate meat in Uganda.¹⁹⁰ Finally, as McNeilage notes, “without incentives and revenue from tourism, gorilla populations would not have survived.”¹⁹¹ In addition to economic incentives, tourism can act as a sort of protection for mountain gorilla groups. Research has shown that these “guarded” tourism groups have a larger proportion of immature individuals than unguarded groups, as tourists and guides may provide a major deterrence for hunters.¹⁹² By opening the park to well-regulated tourist groups, Uganda has created a source of income for local communities, both through direct tourism-related activities and through the increased research efforts that require local support. Over time the local communities have become invested in gorilla tourism.

Bwindi locals have become much more positive about gorilla tourism in the park, although the enthusiasm for conservation alone has not grown measur-

188. Andrew J. Plumptre et al., *Transboundary Conservation in the Greater Virunga Landscape: Its Importance for Landscape Species*, 34 *BIOLOGICAL CONSERVATION* 279, 283 (2007); Guschanski et al., *supra* note 151, at 291.

189. Plumptre & Williamson, *supra* note 156, at 283.

190. G. Okello & H.E. Eves, *BEAN Bushmeat Fact Sheet: Urban Centers in Uganda*, BEAN 2, <http://www.bushmeatnetwork.org/Docs/BEAN-Fact-Sheet.-Field-Assessment-of-Urban-Centers.pdf> (last visited May 16, 2011) (Recent interviews show that while wildlife is still very threatened by bushmeat hunting, primates are not among the species most commonly hunted and traded, nor do they appear in the list of species less available in markets due to decline.).

191. Adams & Infield, *supra* note 89, at 179.

192. Ferriss et al., *supra* note 103.

ably.¹⁹³ Among the perceived benefits of the program are increased employment opportunities, which appear to outweigh the perceived costs of crop raiding and restricted access to parks.¹⁹⁴ In 2000, the Uganda Wildlife Authority introduced a revenue sharing policy that entitles local communities to twenty percent of gate revenue in BINP, and in 2006 a five percent gorilla permit levy fee was added.¹⁹⁵ There remain some community groups concerned with the morality of tourism, but the majority appear to be more concerned with how the program is being managed. Assessment of local families' ideas for management suggest that the tourism program should have more beneficial components for locals, such as agricultural advice and increased social services and infrastructure in the communities bordering the reserve.¹⁹⁶

ITFC's recommendations for the future of Bwindi gorilla tourism include the necessity of linking benefits from tourism, such as increased employment, to conservation in the community consciousness.¹⁹⁷ In order to do this, awareness and education initiatives should be emphasized.¹⁹⁸

IV. CONCLUSION

As this paper has made clear, international legislation is not a panacea that can be universally applied across the globe. Each country and area will require very different support, enforcement, and program development schemes. For example, in East African countries like Uganda and Rwanda, tourism monetary influx and jobs have helped "tip the local balance in favor of conservation, despite perceived costs of prohibitions on hunting and clearing land."¹⁹⁹ In 2009, over 12,000 tourists visited Bwindi Impenetrable National Park, putting the tourism industry among the leading foreign exchange earners for Uganda.²⁰⁰ However, as primate hunting is much more common in West than East Africa, gorilla tourism may never be possible in Cameroon. Habituation for tourism can be extremely dangerous for gorillas in areas where legislative enforcement and local capacity are lacking, as it eliminates animal fear of humans, leading to increased hunting vulnerability.²⁰¹ Long-term conservation of gorillas and other species in West Africa, therefore, will require major changes in the culture and economy.²⁰²

Many lessons can be learned from the successes and shortcomings of gorilla

193. Tumukunde, *supra* note 166, at 12.

194. *Id.* at 10-11.

195. *Uganda: Eleven Years After Massacre-Bwindi Park Springs Back to Life*, ALLAFRICA.COM (March 3, 2010), <http://allafrica.com/stories/201003030138.html>.

196. Tumukunde, *supra* note 166, at 13.

197. *Id.* at 15.

198. *Id.*

199. Weber & Vedder *supra* note 96, at 418.

200. ALLAFRICA.COM, *supra* note 195.

201. Plumptre & Williamson, *supra* note 156, at 377.

202. Oates et al., *supra* note 104; at 492.

conservation in Uganda and Cameroon. In Uganda, the comprehensiveness of the conservation program, from the implementation of regional treaties to supplement international ones to the use of GEF funding to create self-sustaining tourism programs, to the involvement of local universities and non-profits, as well as international organizations, has led to an increase in the population of a severely threatened species. In Cameroon, the government has developed gazetting programs for national parks, has partnered with NGOs to create management schemes for those parks, and has begun to recognize the importance of including local populations in conservation programs. While many threatened species are less charismatic than the gorilla, there is a common thread in these stories—protection of species' habitat is a crucial part of their survival, and local populations have the most immediate claim to and impact on that habitat. In general, local populations are concerned first and foremost with their own economic survival, regardless of whether the situation is occurring in a developing or developed nation, or if the population is made up of farmers or corporations. By creating programs that allow for sustainable economic development directly linked to conservation goals, conservation programs strengthen the critical involvement of local populations.

Long-term research programs such as those in Bwindi, Uganda and Kagwene, Cameroon are important in their contribution to conservation.²⁰³ Research projects often have the resources to study and analyze not only the demographic data of important species, but also the threats to their habitats, and the changes that may occur during conservation efforts to both human and animal populations. These programs allow conservation biologists and economic promoters alike to track the success of their programs, provide local job and educational opportunities, and instill a sense of pride and ownership in local populations that encourages continued conservation in difficult times. In Rwanda, local conservation staff continued work during the 1994 genocide and ensuing civil war despite the suspension of their salaries, the evacuation of their superiors, and the increased risk to their lives. A survey administered by Plumptre in 1998 revealed that field staff continued working because they felt they were protecting an important part of their natural heritage and performing work that was of great consequence for their country.²⁰⁴

The work of conservation biologists and environmental advocates in Uganda has not only benefited the gorillas of Uganda. Recently, the governments of Burundi, Central African Republic, Democratic Republic of the Congo, Rwanda, Sudan, Tanzania, and Uganda have joined together to create the Eastern Chimpanzee Status Survey and Conservation Action Plan, 2010–2020.²⁰⁵ Many of the

203. *Id.* at 491.

204. Andrew J. Plumptre, *Lessons Learned from On-the-Ground Conservation in Rwanda and the Democratic Republic of the Congo*, 16 J. SUSTAINABLE FORESTRY 69, 82 (2003).

205. A.J. PLUMPTRE ET AL., EASTERN CHIMPANZEE (*PAN TROGLODYTES SCHWEINFURTHII*): STATUS SURVEY AND

researchers playing key roles in gorilla conservation were heavily involved in this effort as well. The stated aims of this project are to identify where “resources would have maximum impact if invested in developing specific actions that, if implemented, will halt or minimize loss of individual chimpanzees.”²⁰⁶

This limited look at the challenges faced and addressed by conservation efforts in two African countries is not intended to be comprehensive, but it is clear that while international conservation goals and practical state implementation of conservation programs do not have to be at odds, it takes careful planning and integration to bring them together. International agreements may offer aspirational frameworks for states to follow, but success in national conservation programs requires far more than principled legislation. We have shown that it requires serious consideration of local populations’ needs, cultural norms, and traditions; inclusion of local populations in capacity building; and development of committed, sustainable sources of funding, support, and enforcement. Any international support and funding must be coupled with national commitment, funding, and enforcement, and may be even more successful if coupled with regional commitments which facilitate cooperation and accountability. These elements must be carefully integrated with local development concerns, goals, and programs to ensure the continued participation of local populations. Without these elements, conservation programs are unlikely to remain sustainable long-term.

Gorilla conservation programs offer lessons for international environmental law; both for the successful implementation of conservation goals under existing treaties and for the development of future treaties.

First, communication is an essential part of any conservation program; in addition to international NGOs and national governments, local populations must have a stake in the development, management, and review of conservation projects. Any future international conservation legislation should incorporate this principle of public participation.

Second, conservation programs, no matter how international in character, should work to rectify discrepancies in immediate local economic interests, with a view to providing long-term social and global benefits. This will involve targeted capacity building, so that conservation efforts grow from the bottom up, developing with the local populations rather than in spite of them. This capacity building is needed at all levels of involvement: legislative development, enforcement, management, research, and outreach.

Third, the development of consistent and sustainable sources of funding, support, and enforcement is crucial to the success of conservation efforts. To this end, governments should develop transparent working relationships with all

stakeholders. This will mean involving not only physical scientists and environmentalists, but also legislators, social scientists, health workers, and development specialists to ensure swift and effective translation from the international to national to local levels. From an international standpoint, this means that all parties to a treaty should, as a condition of signing, agree to aid other signatory parties through financial contributions and capacity building support, and should create the infrastructure to do so.

The beginnings of recovery in mountain gorilla populations may indicate a brighter future for international conservation, a future that does not have to come at the cost of development goals. With political will, international cooperation, and integrated support, conservation efforts can build upon these modest successes to reverse the overall decline in biodiversity.