

PETITION

**TO THE
WORLD HERITAGE COMMITTEE
REQUESTING INCLUSION OF**

**TALAMANCA RANGE-LA AMISTAD
RESERVES/LA AMISTAD NATIONAL PARK**



**ON THE LIST OF
WORLD HERITAGE IN DANGER**

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Looking into La Amistad International Park from the Teribe River, photo by Linda Barrera, 2006.

Aerial view of an illegal landholding inside the Park, photo by Carlos Alfaro, circa 2005.

A poached jaguar, photo by Octavio Guerrero, 2006.

Government policemen maintaining order with machine guns in a Naso community, photo by Jason Jacques Paiement, 2005.

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To: The World Heritage Committee
c/o The Secretariat, World Heritage Centre
United Nations Educational, Scientific, and Cultural Organization
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Notice of Petition

The Center for Biological Diversity and other petitioners request the Secretariat and members of the Intergovernmental Committee for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value (World Heritage Committee) to list Talamanca Range-La Amistad Reserves/La Amistad National Park on the List of World Heritage in Danger pursuant to its authority under Article 11, paragraph 4 of the Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention).

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Executive Summary

This petition is a request to include Talamanca Range-La Amistad Reserves/La Amistad National Park (La Amistad International Park or Park) on the List of World Heritage in Danger. Petitioners are concerned that several human-caused actions threaten the characteristics for which the site was included on the World Heritage List. Of utmost concern is the imminent construction of hydroelectric dams within the buffer zone of the Park. As a Party to the World Heritage Convention, Panama is obligated to “do all it can . . . to the utmost of its own resources” to protect and conserve the natural heritage situated within its border. However, Panama has recently granted concessions for four massive hydroelectric projects within La Amistad International Park’s buffer zone. These concessions along with a number of other regulatory and management problems seriously threaten the Park. A listing on the List of World Heritage in Danger highlights the threat of the hydroelectric dams to the outstanding biodiversity of La Amistad International Park and provides incentive to Panama to improve its management of this outstanding World Heritage site.

The World Heritage Committee identified six characteristics of La Amistad International Park warranting its listing as a World Heritage Site. All of these characteristics face serious and specific ascertained and potential dangers due to the dams and related development, armed conflict, human encroachment, and inadequate management. The Park’s forest, which is the largest intact forest in Central America, is being cut down as human settlements, cattle ranching, and agriculture continue to advance into the Park. Dam construction will adversely affect the outstanding biodiversity of the Park by extirpating migratory fish and by reducing population numbers for terrestrial species. Illegal hunting and habitat loss have harmed large threatened and endangered animals, such as the jaguar. The combination of these threats to La Amistad International Park will detract from its current exceptional natural beauty. In sum, the Park is facing unprecedented, devastating dangers to its integrity. The Park is facing unprecedented, devastating dangers to its integrity.

Moreover, inadequate management has exacerbated the above dangers, causing one concerned community leader to exclaim: “If we do not do something now, we will lose everything!”¹ Effective management is necessary to reduce the impact of these threats and to curtail the potential of future threats. In addition, adequate enforcement would deter current and future illegal activities such as hunting and logging. Furthermore, management is necessary to control the expansion of settlements living within the Park and the harmful cattle ranching and agriculture activities inside the Park.

A program of “corrective measures” is an important result of a World Heritage in Danger listing. Petitioners suggest that these corrective measures should focus on the need to halt the construction of hydroelectric dams, prevent armed conflict inside and outside the Park, and prevent further illegal human encroachment inside the Park. In light of this, petitioners suggest several measures that could be effective parts of such a program.

¹ Telephone Interview, Ezequiel Miranda, President, Asociación para la Conservación de la Biosfera, in Panama (Mar. 6, 2007).

La Amistad International Park has endured as one of the most ecologically diverse areas in the world. It extends over an incredible range of altitudinal diversity and protects the largest forest of Central America. In short, La Amistad International Park is an outstanding example of natural World Heritage. Without action, the Park faces grave danger to its unique biological characteristics and to its integrity. The global community and particularly the State Parties that act as stewards of La Amistad International Park—Panama and Costa Rica—must act to reduce the threats posed by construction of hydroelectric dams, armed conflict, human encroachment, and inadequate management and enforcement. The World Heritage Committee can take the first step by recognizing La Amistad International Park as a World Heritage site “in danger.”

I. Introduction

The Center for Biological Diversity and other petitioners request the members of the Intergovernmental Committee for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value (World Heritage Committee or the Committee) to list Talamanca Range-La Amistad Reserves/La Amistad National Park (La Amistad International Park or Park) on the List of World Heritage in Danger pursuant to its authority under Article 11, paragraph 4 of the Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention).²

In 1979, the Presidents of Costa Rica and Panama jointly declared their intention to establish an international park.³ In furtherance of this goal, the Costa Rican government created the La Amistad (Talamanca) National Park in 1982. In 1983, the World Heritage Committee inscribed La Amistad (Talamanca) National Park, along with several other protected areas in Costa Rica, as one site on the World Heritage List.⁴ Panama formally created its La Amistad National Park in 1988.⁵ The World Heritage Committee inscribed Panama's La Amistad National Park on the World Heritage List in 1990, extending the existing Costa Rican World Heritage site and establishing a transboundary World Heritage site: La Amistad International Park.⁶

La Amistad International Park protects the "largest remaining tract of virgin forest" in Central America.⁷ It also contains a diversity of flora and fauna "perhaps unequalled in any other reserve of equivalent size in the world" because of its location between North and South America and its unique soils, diverse climate, and range of altitude.⁸ According to the World Conservation Union (IUCN), La Amistad International Park sustains over 115 species of fish, 250 species of reptiles and amphibians, 215 species of mammals, and 600 species of birds.⁹ Moreover, the Park is home to nationally endangered animals such as the ocelot (*Panthera onca*), jaguar (*Leopardus pardalis*), and tapir (*Tapirus bairdii*).¹⁰ The Park also boasts "one of the highest levels of endemism in Central America," including 180 endemic plant species, twenty endemic reptiles and amphibians, one endemic fish species, thirteen endemic mammals,

² Convention Concerning the Protection of the World Cultural and Natural Heritage, art. 11.4, *signed* Nov. 16, 1972, *entered into force* Dec. 17, 1975, 15 U.N.T.S. 511 [hereinafter World Heritage Convention]; *see also* UNESCO, for the implementation of the World Heritage Convention, § III (Feb. 2005), *available at* <http://whc.unesco.org/archive/opguide05-en.pdf> [hereinafter Operational Guidelines].

³ The World Conservation Union, World Heritage Nomination – IUCN Summary: La Amistad International Park and Volcan Baru National Park (Panama), 71 (April 1990), http://whc.unesco.org/archive/advisory_body_evaluation/205.pdf [hereinafter IUCN Summary].

⁴ United Nations Environment Program-World Conservation Monitoring Centre Website, Protected Areas Programme, Talamanca Range, <http://www.unep-wcmc.org/sites/wh/talamanc.html> [hereinafter UNEP Talamanca Website]. The Las Tablas Protected Area, Chirripo National Park, Hitoy-Cerere Biological Reserve, Barbilla National Park, Rio Macho Forest Reserve, and Tapanti National Park are also included in the Talamanca Range-La Amistad Reserves World Heritage site. *Id.*

⁵ Resolución de JD-021-88 de 2 de septiembre de 1988, published in the Gaceta Oficial No. 21,129 de 6 septiembre de 1988 (establishing the Park) [hereinafter Park Enactment Directive].

⁶ UNEP Talamanca Website, *supra* note 4.

⁷ IUCN Summary, *supra* note 3, at 72.

⁸ *Id.* at 71.

⁹ *Id.*

¹⁰ *Id.*

and fifty-nine endemic bird species.¹¹ Finally, La Amistad International Park, which is also designated as the core of the Amistad Biosphere Reserve, is an area of outstanding natural beauty, exemplified by its grand vistas of virgin forest, pristine rivers, and magnificent fauna.¹²

When the World Heritage Committee designated La Amistad International Park as a World Heritage site, it took note of the area's tremendous wilderness and biodiversity values, citing it as containing "outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment."¹³ In addition, the Committee recognized that the Park supports "important and significant natural habitats where threatened species of animals or plants of outstanding universal value from the point of view of science or conservation still survive."¹⁴ In 2005, the Committee upgraded the justification for listing La Amistad International Park, stating that it meets all four natural heritage criteria.¹⁵ The Operational Guidelines list these four criteria as follows:

- vii. [to] contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;
- viii. [to] be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;
- ix. [to] be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;
- x. [to] contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.¹⁶

Although an "in danger" listing covers the whole of the World Heritage site, the Panamanian portion of the site is more direly and imminently threatened than the Costa Rican portion.¹⁷ Thus, although La Amistad International Park exists as a transboundary World

¹¹ *Id.* at 71-72. "With 59 endemic [bird] species, La Amistad may have one of the highest totals of any area in the world." GEORGE R. ANGEHR, DIRECTORY OF IMPORTANT BIRD AREAS OF PANAMA 109 (Panama Audubon Society 2003).

¹² See generally The World Heritage Centre Website, The List, Talamanca Range-La Amistad Reserves/La Amistad National Park, <http://whc.unesco.org/en/list/205> [hereinafter World Heritage Amistad Webpage]. See also UNESCO Man and Biosphere (MAB) Programme, MAB Biosphere Reserves Directory, Panama, La Amistad <http://www2.unesco.org/mab/br/brdir/directory/biores.asp?code=PAN+02&mode=all> (generally describing the La Amistad Biosphere Reserve, designated in 2000).

¹³ IUCN Summary, *supra* note 3, at 73.

¹⁴ *Id.*

¹⁵ See The World Heritage Centre Website, The Criteria for Selection, <http://whc.unesco.org/en/criteria>.

¹⁶ Operational Guidelines, *supra* note 2, at § II(D), ¶ 77 (vii)-(x).

¹⁷ This is not to say that the Costa Rican side does not face threats. See Contraloría General de la Republica de Costa Rica y Contraloría General de la Republica de Panamá, Informe Binacional Sobre la Evaluación de la Gestión de las Autoridades Ambientales de Costa Rica y Panamá en el Manejo Integral del Parque Internacional la Amistad 6 (2004), available at http://www.inbio.ac.cr/pila/pdf/informe_pila_contraloria.pdf [hereinafter Binational

Heritage site, this petition focuses on the threats to the Panamanian portion of the site, located in the Chiriqui and Bocas del Toro Provinces of Panama.¹⁸

Several human activities currently threaten to jeopardize the characteristics that led the Committee to designate La Amistad International Park a World Heritage site. First, the pending construction of the four hydroelectric dams on two rivers originating in the Park will lead to development and population growth that will threaten the integrity of the Park. In addition, the dams will drastically alter the water-flow of several streams and rivers, adversely affecting the associated aquatic life, dependant organisms, and natural beauty of the Park. Second, the pending construction of the dams has led to armed conflict between indigenous populations and Panamanian officials and will likely lead to further conflict. Third, the Park currently suffers from a host of human encroachment concerns, including illegal settlement, logging, and hunting. Finally, although Panama has a management plan in place, the plan does not meet the Operational Guidelines criteria for World Heritage management nor does Panama have the capacity to adequately implement or enforce it. These threats have deteriorated the outstanding universal values of La Amistad International Park and could hasten further deterioration if not mitigated.

For these and other reasons described at length in Section III, petitioners respectfully request assistance from the Committee. Petitioners request that the World Heritage Committee list Talamanca Range-La Amistad Reserves/La Amistad National Park on the List of World Heritage in Danger, and, as described in Section IV, establish a program of corrective actions in consultation with Panama to address these threats.

II. The Legal Framework: Authority for Present Petition

The World Heritage Convention, under Article 11.4, directs the World Heritage Committee to establish and maintain a “List of World Heritage in Danger.”¹⁹ The “in danger”

Report]. (generally listing threats to both the Panamanian and Costa Rican sides of the Park). However, the threats to the Panamanian portion of the Park are much more imminent.

¹⁸ La Amistad International Park encompasses 567,845 hectares (ha). The Panamanian portion covers 207,000 ha. See UNEP Talamanca Website, *supra* note 4.

¹⁹ World Heritage Convention, *supra* note 2, at art. 11.4. The full text of Article 11.4 reads:

The Committee shall establish, keep up to date and publish, whenever circumstances shall so require, under the title of “List of World Heritage in Danger,” a list of the property appearing in the World Heritage List for the conservation of which major operations are necessary and for which assistance has been requested under this Convention. This list shall contain an estimate of the cost of such operations. The list may include only such property forming part of the cultural and natural heritage as is threatened by serious and specific dangers, such as the threat of disappearance caused by accelerated deterioration, large-scale public or private projects or rapid urban or tourist development projects; destruction caused by changes in the use or ownership of the land; major alterations due to unknown causes; abandonment for any reason whatsoever; the outbreak or the threat of an armed conflict; calamities and cataclysms; serious fires, earthquakes, landslides; volcanic eruptions; changes in water level, floods and tidal waves. The Committee may at any time, in case of urgent need, make a new entry in the List of World Heritage in Danger and publicize such entry immediately.

Id.

list includes sites “for the conservation of which major operations are necessary and for which assistance has been requested under this Convention.”²⁰ The List of World Heritage in Danger may include only those sites that are “threatened by serious and specific dangers.”²¹

The World Heritage Committee has identified two broad categories of the types of danger facing World Heritage sites that may warrant listing a site on the List of World Heritage in Danger: ascertained danger and potential danger. The Operational Guidelines for the Implementation of the World Heritage Convention define ascertained and potential dangers that might threaten natural properties as follows:

180. In the case of natural properties:

a) ASCERTAINED DANGER - The property is faced with specific and proven imminent danger, such as:

i) A serious decline in the population of the endangered species or the other species of outstanding universal value for which the property was legally established to protect, either by natural factors such as disease or by man-made factors such as poaching.

ii) Severe deterioration of the natural beauty or scientific value of the property, as by human settlement, construction of reservoirs which flood important parts of the property, industrial and agricultural development including use of pesticides and fertilizers, major public works, mining, pollution, logging, firewood collection, etc.

iii) Human encroachment on boundaries or in upstream areas which threaten the integrity of the property.

b) POTENTIAL DANGER - The property is faced with major threats which could have deleterious effects on its inherent characteristics. Such threats are, for example:

i) a modification of the legal protective status of the area;

ii) planned resettlement or development projects within the property or so situated that the impacts threaten the property;

iii) outbreak or threat of armed conflict;

iv) the management plan or management system is lacking or inadequate, or not fully implemented.²²

²⁰ *Id*

²¹ *Id.*

²² Operational Guidelines, *supra* note 2, at §IV(B) ¶¶ 178, 180.

In addition to finding ascertained or potential dangers, the World Heritage Committee must also consider whether the threats facing the site are amenable to correction by human action when determining whether to add a site to the “in danger” list. It may also consider a list of supplemental factors:

181. In addition, the factor or factors which are threatening the integrity of the property must be those which are amenable to correction by human action. In the case of cultural properties, both natural factors and man-made factors may be threatening, while in the case of natural properties, most threats will be man-made and only very rarely a natural factor (such as an epidemic disease) will threaten the integrity of the property. In some cases, the factors threatening the integrity of a property may be corrected by administrative or legislative action, such as the cancelling of a major public works project or the improvement of legal status.

182. The Committee may wish to bear in mind the following supplementary factors when considering the inclusion of a cultural or natural property in the List of World Heritage in Danger:

a) Decisions which affect World Heritage properties are taken by Governments after balancing all factors. The advice of the World Heritage Committee can often be decisive if it can be given before the property becomes threatened.

b) Particularly in the case of ascertained danger, the physical or cultural deteriorations to which a property has been subjected should be judged according to the intensity of its effects and analyzed case by case.

c) Above all in the case of potential danger to a property, one should consider that:

i) the threat should be appraised according to the normal evolution of the social and economic framework in which the property is situated;

ii) it is often impossible to assess certain threats - such as the threat of armed conflict – as to their effect on cultural or natural properties;

iii) some threats are not imminent in nature, but can only be anticipated, such as demographic growth.

d) Finally, in its appraisal the Committee should take into account any cause of unknown or unexpected origin which endangers a cultural or natural property.²³

Taken together, Article 11.4 of the World Heritage Convention and these provisions of the Operational Guidelines include four elements for inscribing a property in the List of World Heritage in Danger:

²³ *Id.* at §IV(B) ¶¶ 181–182.

- 1. It is a World Heritage site;**
- 2. It is threatened by specific and serious dangers, whether ascertained or potential, that are amenable to correction by human action;**
- 3. Major operations are necessary for its conservation; and**
- 4. Assistance under the Convention has been requested for the property.**

La Amistad International Park meets these four elements for inclusion in the List of World Heritage in Danger. Section III identifies La Amistad International Park as a World Heritage site, describes the ascertained and potential dangers facing La Amistad International Park, and addresses the four discretionary supplemental factors for an “in danger” listing. Section IV suggests major operations necessary to conserve the natural heritage of La Amistad International Park as part of a program of corrective measures.

Finally, the petition as a whole is a request for assistance for the property under the Convention. Article 13(7) provides that “[t]he Committee shall co-operate with international and national governmental and non-governmental organizations having objectives similar to those of this Convention.” Moreover, that same provision provides that “[f]or the implementation of its programmes and projects, the Committee may call on . . . public and private bodies and individuals.” Thus, the plain language of the WHC specifically supports dialogue between the World Heritage Committee and NGOs. The *travaux préparatoires* lends further credence to this interpretation. A report to the drafters’ working group states that the World Heritage Committee “shall have complete freedom to consult public or private organizations or individuals, either in the course of its meetings or apart from them.”

Furthermore, in the absence of any language prescribing an “in danger” listing procedure, paragraph 194 of the *Operational Guidelines* is illuminating. It provides the WHC’s procedure when it receives information that a site should be taken off the “in danger” list. Paragraph 194 reads: “When the Secretariat receives such information from a source other than the State Party concerned, it will as far as possible” consult with the relevant State Party. This paragraph suggests that the Committee is indeed receptive to information and petitions from NGOs or any other non-State Party, contrary to the United States’ assertion that the WHC may not receive or take action on such information. The World Heritage Committee undoubtedly benefits from the contributions of non-State actors, including The World Conservation Union (IUCN) and the World Commission on Protected Areas.

III. La Amistad International Park World Heritage site meets the requirements and supplementary factors for inclusion on the List of World Heritage sites in Danger.

A. La Amistad International Park is on the World Heritage List.

The World Heritage Committee inscribed La Amistad (Talamanca) National Park in Costa Rica, along with several other protected areas, and La Amistad National Park in Panama as one World Heritage site in 1990.²⁴ Article 2 of the Convention describes the inscription criteria for natural heritage sites as follows:

²⁴ World Heritage Committee, CC-90/CONF.003/12, § VII(A.6) (Sept. 7, 1990), *available at* <http://whc.unesco.org/archive/repbur90.htm>.

natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;

geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;

natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.²⁵

The Operational Guidelines further interpret these criteria and more specifically detail the types of features natural World Heritage sites might contain.²⁶

The World Heritage Committee initially designated La Amistad International Park as a World Heritage site based on two of the more detailed criteria of the Operational Guidelines that interpret the Convention's criteria. First, the Committee found the areas comprising La Amistad International Park to "be outstanding examples representing significant ongoing geological processes, biological evolution and man's interaction with his natural environment."²⁷ Second, it found that the Park contains "important and significant natural habitats where threatened species of animal or plants of outstanding universal value from the point of view of science or conservation still survive."²⁸ Later, the World Heritage Committee redefined La Amistad International Park as a World Heritage site based on all four of the Operational Guidelines' more detailed criteria. Thus, in addition to the first two criteria, the Committee found the site to also contain "superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance" and "outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features."²⁹

In light of these criteria, the World Heritage Committee designated La Amistad International Park as a World Heritage site for the following reasons:

1. La Amistad International Park contains the largest remaining tract of natural forest in Central America.

²⁵ World Heritage Convention, *supra* note 2, at art. 2.

²⁶ Operational Guidelines, *supra* note 2, at § II(D) ¶ 77 (vii)-(x).

²⁷ *Id.*

²⁸ *Id.* These criteria were formerly presented as two separate sets of criteria: criteria (i)-(vi) for cultural heritage and (i)-(iv) for natural heritage. The 6th extraordinary session of the World Heritage Committee decided to merge the ten criteria. (Decision 6 EXT.COM5.1). The criteria on which La Amistad International Park World Heritage site was listed are now (ix) (formerly natural heritage ii) and x (formerly natural heritage iv). In addition, these two criteria have been updated to state: "(ix) to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; (x) to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation." *Id.*

²⁹ See Operational Guidelines, *supra* note 2, at § II(D) ¶ 77 (vii)-(x).

2. La Amistad International Park has one of the highest levels of biological diversity in Central America.
3. As a refugia, La Amistad International Park harbors many threatened and endangered species.
4. La Amistad International Park has one of the highest levels of endemism in Central America.
5. Unique climatic, altitudinal, and soil-related factors occur within La Amistad International Park.
6. La Amistad International Park contains areas of exceptional natural beauty and aesthetic importance.³⁰

B. La Amistad International Park World Heritage site is threatened by serious and specific ascertained and potential dangers that are amenable to correction by human action.

La Amistad International Park faces a number of specific, yet inter-related, ascertained and potential dangers. The Operational Guidelines define “ascertained dangers” as those which are “specific and proven imminent dangers” that threaten the integrity of World Heritage sites.³¹ These ascertained dangers include, *inter alia*, (i) a “serious decline in the population of the endangered species or other species of outstanding universal value;” (ii) “severe deterioration of the natural beauty” of a property by “human settlement” or “construction of reservoirs which flood important parts of the property;” or (iii) “human encroachment on boundaries or in upstream areas.”³² The Operational Guidelines state that potential danger exists when a natural World Heritage site faces “major threats which could have deleterious effects on its inherent characteristics.”³³ Examples of these threats include management plans or systems that are “lacking or inadequate, or not fully implemented.”³⁴ Dangers which threaten the inherent characteristics and integrity of a World Heritage site provide grounds for an “in danger” listing.

The Operational Guidelines set forth the standards for protecting the integrity of World Heritage sites. First, they define integrity as the “measure of the wholeness and intactness of the natural and/or cultural heritage of its attributes” and as including “all elements necessary to express its outstanding universal value.”³⁵ Second, the Operational Guidelines also require “all properties” to “satisfy the conditions of integrity.”³⁶ For La Amistad International Park, these conditions include “areas essential for maintaining the beauty” of the Park and “the most important [areas] for the conservation of biological biodiversity.”³⁷ Finally, according to the Operational Guidelines, these conditions should be “maintained” by the State Party.³⁸ Threats

³⁰ CC-90/CONF.003/12, *supra* note 24, at § VII(A.6) (generally describing six characteristics).

³¹ Operational Guidelines, *supra* note 2, at §IV(B) ¶ 180 (a).

³² *Id.* at §IV(B) ¶ 180 (a)(i)-(iii).

³³ *Id.* at §IV(B) ¶180(b).

³⁴ *Id.* at §IV(B) ¶180(b)(iv).

³⁵ *Id.* at § II(E) ¶ 88.

³⁶ *Id.* at § II(E) ¶ 87.

³⁷ *Id.* at § II(E) ¶¶ 92, 95. La Amistad International Park was listed for the four criteria of natural heritage sites because it meets the conditions of integrity of criteria (vii) – (x). *Id.* at § II(E) ¶¶ 92-95.

³⁸ *Id.* at § II(F) ¶ 96.

which hinder the maintenance or enhancement of the conditions of integrity are grounds for World Heritage Committee intervention.

Ascertained and potential dangers threaten the conditions of integrity which lead to the listing of La Amistad International Park as a World Heritage site. First, the dams and the development associated with construction of the dams will have significant adverse effects on the outstanding universal values of the Park. Second, indigenous populations have opposed the dams and have engaged in armed conflict with Panamanian officials. Third, the Park currently suffers from illegal settlement, logging, and hunting. Finally, La Amistad International Park's management plan is inadequate, and Panama lacks the capacity to adequately manage the Park. If the root causes of these dangers are neither mitigated nor resolved, the Park stands to lose its outstanding universal values for which it is renowned. Action and corrective measures are necessary to maintain the integrity of this unique and important World Heritage site.

1. The pending construction of four hydroelectric dams imminently threatens the integrity and outstanding universal values of the Park.

La Amistad International Park faces unprecedented threats to its biodiversity and aesthetic values due to the imminent construction of four hydroelectric dams in the Changuinola/Teribe watershed, located in the Caribbean side of the Park, in Bocas del Toro Province, Panama. The Changuinola/Teribe watershed is the largest river basin within the Panamanian portion of the Park.³⁹ Because over two-thirds of the watershed is located within the boundary of the Park, the protection of the Park has maintained the integrity of the watershed, which supports the area's extensive biodiversity.⁴⁰ However, the Panamanian government has granted concessions to two multinational companies to build three dams on the Changuinola River and one dam on the Bonyic River, the principle tributary of the Teribe River.⁴¹ Although

³⁹ See Plan de Manejo Parque Internacional La Amistad, Autoridad Nacional del Ambiente de Panama, Diagnostico de Profundización, Marco hidrográfico 26 (2004), *available at* http://www.inbio.ac.cr/pila/pdf/plan_manejo_pila_panama.pdf [hereinafter La Amistad International Park Management Plan]. See also Plan de Manejo Bosque Protector del Palo Seco, Autoridad Nacional del Ambiente de Panama, Diagnostico de Profundización, Marco hidrográfico 23 (2004) [hereinafter Palo Seco Management Plan].

⁴⁰ See Sarah Cordero, et. al., *Análisis de Costo Beneficio de Cuatro Proyectos Hidroeléctricos en la Cuenca Changuinola-Teribe* 15-16 (Alianza para la Conservación y el Desarrollo, Asociación ANAI, Conservation Strategy Fund, The Nature Conservancy, Conservation Internacional, Critical Ecosystem Partnership Fund 2006), *available at* <http://conservation-strategy.org/files/Changuinola%20Final.pdf>. The Changuinola/Teribe river basin covers 3,202 square kilometers (sq. km), with 118 kilometers (km) of the Changuinola River and 96 km of the Teribe River. *Id.* The watershed is divided into three different management categories. The upper river basin (2,070 sq km) is located inside the boundary of La Amistad International Park, which is also the center of the Amistad Biosphere Reserve. The middle part of the river basin (1,250 sq km) is located within the Palo Seco Forest Reserve. The lower part of the basin includes private property and the San San Pondsak Wetland, a site protected under the Ramsar Convention on Wetlands. *Id.*

⁴¹ The Ente Regulador de los Servicios Públicos granted concession and operation rights to construct the four dams through the following Resolutions: Resolución N° JD-3986, del 9 de junio de 2003, grants concession rights to construct and operate the Central Hidroeléctrica CHAN-75 (EL GAVILÁN) on the Changuinola River; Resolución N° JD-3987 del 9 de junio de 2003 grants concession rights to construct and operate the Central Hidroeléctrica CAUCHERO II (CHAN 140) on the Changuinola River; Resolución N° JD-3698 del 14 de enero de 2003 grants concession rights to construct and operate the Central Hidroeléctrica CHAN-220 on the Changuinola River; and Resolución N°: JD-1497 del 12 de agosto de 1999 grants the concession rights to the Proyecto Hidroeléctrico Bonyic on the Bonyic River [hereinafter Ente Regulador Concession rights].

the four dams and associated infrastructure will be built outside of the World Heritage site, they will be situated in close proximity to its boundary and will impede the free-flow of rivers originating in the Park.⁴² As such, the infrastructure necessary for the dams, as well as the dams themselves, pose serious threats to the Park's high levels of biodiversity, including threatened and endangered species, and the natural beauty of the area.⁴³

a. Development associated with dams, and the resulting population growth, will deleteriously affect the integrity of the ecosystems of La Amistad International Park.

The construction of the four hydroelectric dams requires access roads which will have a tremendous impact on the Park's ecosystem.⁴⁴ Although the roads will be built within the Park's buffer zone, the proximity of the roads to the Park will ease access for colonizers, loggers, and poachers.⁴⁵ This in turn will fragment habitat and harm threatened and endangered species.⁴⁶ For instance, currently, no roads exist to the Bonyic River area of the Park, but the road to access the Bonyic dam site is being built along the edge of the river, which also serves as part of the Park's boundary. As a result, the road will facilitate unauthorized entrance into the Park.⁴⁷

⁴² The Bonyic Dam will be situated approximately 2.2 km from the boundary of the Park. However, its reservoir will reach the boundary of the Park. See Planeta Panamá Consultores S.A., Proyecto Hidroeléctrico Bonyic, Estudio de Impacto Ambiental, Mapa Base (2005) [hereinafter Bonyic EIA]. (Base Map of the Bonyic Hydroelectric Project). The Changuinola dams will be situated approximately as follows: CHAN-220 will be built 6.6 km from the boundary of the Park, but its reservoir will flood up to 5.7 km from the boundary; CHAN-140 will be built 3.6 km from the boundary, but its reservoir will flood up to the Rio Culubre, a tributary of the Changuinola, reaching 0.6 km from the Park's boundary; and CHAN-75 will be 2.7 km from the Park's boundary, but flooding will reach 1.8 km from the boundary. E-mail from Irene Burgues, Mesoamerica Program Director, Conservation Strategy Fund, to Linda Barrera and Jason Gray, Law Clerks, International Environmental Law Project (Mar. 7, 2007) (on file with authors). See also Autoridad Nacional del Ambiente (ANAM), Map of La Amistad International Park (Annex 1).

⁴³ See Cordero, *supra* note 40, at 14. (Map showing the location of the four dams). This map is included in Annex 2.

⁴⁴ See generally World Commission on Dams, *Dams and Development: A New Framework for Decision-Making* 74 (The Report of the World Commission on Dams 2000), available at <http://www.dams.org/docs/report/wcdreport.pdf> (explaining a multitude of ecosystem impacts of dams) [hereinafter World Commission on Dams 2000].

⁴⁵ Illegal hunting, logging, and other resource extraction were noted in the Management Plan as threats to the Changuinola/Teribe Watershed even prior to the existence of roads. La Amistad International Park Management Plan, *supra* note 39, at 56-57. (Cuadro 4.17 Áreas Críticas en el PILA). "Improved access to remote areas frequently leads to unsustainable resource exploitation, and land-use and population change." Biodiversity in Development, Biodiversity Brief 8, Road Infrastructure and Biodiversity 1 (IUCN 2000), available at http://www.iucn.org/themes/wcpa/pubs/pdfs/biodiversity/biodiv_brf_08.pdf.

⁴⁶ The management plan recognizes that the construction of access roads relating to hydroelectric dams poses a threat to the integrity of the Park. See La Amistad International Park Management Plan, *supra* note 38, at 57. (Cuadro 4.17 Áreas críticas en el PILA).

⁴⁷ See Cordero, *supra* note 40, at 30 (stating that the area is currently roadless). See also Jason Jacques Paiement, *The Tiger in the Turbine: Power and Energy in the Naso Territory of Panama*, 5 (Canadian Institute of International Affairs, Department of Anthropology, McGill University, Montreal, Canada 2006), available at http://www.igloo.org/community.igloo?r0=community-download&r0_script=/scripts/document/download.script&r0_pathinfo=%2F%7B37abb2df-7c8d-4d64-b2f4-93265b5cc444%7D%2FLibrary%2Fciialibr%2Fnational%2Fyouthsym%2Fciayo~4&r0_output=xml&s=cc. (generally describing the socio-cultural workings of the Naso people and the impacts of Panamanian government involvement in their decision-making process, including the Bonyic Hydroelectric dam controversy).

Similarly, for the three dams on the Changuinola River, an access road is being built three kilometers from the boundary of the Park, facilitating further unauthorized entrance.⁴⁸ Additionally, these roads necessitate the clearing of forest, which will debilitate the Park's buffer zone.⁴⁹ Increased erosion and vehicle traffic from the construction and use of the roads will cause sedimentation in the rivers and air pollution. Overall, construction of these roads will leave the Park vulnerable to exploitation of species and degradation of habitat.⁵⁰

Furthermore, the human population living within the Park's buffer zone will drastically increase as laborers move into the area to build the roads and dams because the communities near the dam sites cannot fulfill the labor needs.⁵¹ Such an increase will negatively affect the integrity of the Park. The Environmental Impact Assessments (EIAs) of the four hydroelectric projects state that the construction of the dams, roads, and associated infrastructure will require 900 people for each of the three Changuinola dams and 450 people for the Bonyic dam for the duration of the projects.⁵² The current population living near the dam sites cannot meet this demand and is not qualified for much of the construction work.⁵³ For example, as of 2005, the Naso indigenous communities closest to the Bonyic Dam totaled approximately 1,001 people—mostly young children, women, and elders.⁵⁴ The Ngöbe indigenous community comprises mostly young children.⁵⁵ As a result, outside laborers will have to move into the buffer zone to satisfy the need for workers. The EIAs fail to consider the long-term impacts of this population

⁴⁸ See Cordero, *supra* note 40, at 30.

⁴⁹ See *id.* The Palo Seco Protected Forest protects the boundary of the Park along the Changuinola/Teribe watershed. Although it does not share the same protected status as La Amistad International Park, it is a protected area. However, it will suffer similar effects as the Park and it will lose 2,527 ha of forest because the majority of the hydroelectric infrastructure will be within its boundary. See *id.*

⁵⁰ In other areas of the Park, notably the official entry on the Pacific side of the Park, Las Nubes, access roads have not led to increased human encroachment. However, this is likely due to the fact that the road is short, runs perpendicular (as opposed to parallel) to the Park's boundary, and ends at an ANAM guard post. Telephone Interview, Ezequiel Miranda, President, Asociación para la Conservación de la Biosfera, in Panama (Feb. 3, 2007) [hereinafter Miranda Interview].

⁵¹ See Cordero, *supra* note 40, at 30.

⁵² See *Proyectos y Estudios Ambientales del Istmo (2004 a) Estudio de Impacto Ambiental Categoría III, Construcción y Operación de la Central Hidroeléctrica El Gavilán (Chan 75), Descripción del Proyecto (2004) 84* [hereinafter Chan 75 EIA]; *Proyectos y Estudios Ambientales del Istmo (2004 b) Estudio de Impacto Ambiental Categoría III, Construcción y Operación de la Central Hidroeléctrica Cauchero II (Chan 140), Descripción del Proyecto (2004) 80* [hereinafter Chan 140 EIA]; and *Proyectos y Estudios Ambientales del Istmo (2004 c) Estudio de Impacto Ambiental Categoría III, Construcción y Operación de la Central Hidroeléctrica (Chan 220), Descripción del Proyecto (2004) 79* [hereinafter Chan 220 EIA]; and Bonyic EIA, *supra* note 42, at II-6.

⁵³ Cordero, *supra* note 40, at 30. See also Telephone Interview with Osvaldo Jordan, President, Alianza para la Conservación y el Desarrollo, in Panamá (Mar. 6, 2007) [hereinafter Jordan Interview].

⁵⁴ *Id.* at 30, 49 (Anexo 8 – Viviendas identificadas y encuestas realizadas en las comunidades visitadas). In 2005 the Naso communities near the Bonyic dam (Bonyic-Huecso, Sieyic, and Solon) included 143 family households, with an average of 7 people per household. *Id.* at 49, 53 (Anexo 11 – Valoración del impacto social: método de reposición). This generates a total of 1,001 people. Telephone Interview with Ricardo Montenegro, Project Director, Alianza para la Conservación y el Desarrollo, in Panamá (Feb. 9, 2007) [hereinafter Montenegro Interview]. An updated study by Felix Sanchez includes a total of 168 households because the access road location has changed since the Cordero study. Telephone Interview with Felix Sanchez, Founder, Alianza Pro Defensa de los Recursos Naturales y Culturales del Pueblo Naso, in Panamá (Feb. 9, 2007) [hereinafter Sanchez Interview]. With the new figures, the total population is 1,176. This is still too low to meet the labor demand. *Id.*

⁵⁵ Cordero, *supra* note 40, at 30. See also Montenegro Interview, *supra* note 54.

increase.⁵⁶ This major influx of people will make their home in the Park's buffer zone and will likely extract resources from the Park.

Although this population growth will occur in the buffer zone, it will affect the interior of La Amistad International Park. More people equates to greater need for resources such as food, water, and housing. Currently, communities derive these needs from the areas near their settlements within the buffer zone.⁵⁷ They find fish in the rivers and meat and timber in the forests. A new infusion of people will necessitate further cutting of trees to make homes for the laborers, and the potential for illegal hunting for food will increase. Finally, competition for water access, the amount and quality of which will change drastically as the dams are built, will increase.⁵⁸ As demonstrated, just the effort associated with building the dams will have a significant deleterious effect on the current status of the outstanding universal values of the Park, but the dams themselves are the single most significant threat to the Park's most prized characteristics.

b. The hydroelectric dams are impassable barriers for migratory aquatic species, which will have cascading deleterious effects on the biodiversity, integrity, and natural beauty of the Park.

Despite the likely devastating consequences resulting from the infrastructure and population growth associated with the dams, the dams themselves are by far the greatest threat to the outstanding universal values of the Park. Indeed, the dams will irreversibly diminish the biodiversity, habitat, and overall natural integrity of the Park.⁵⁹ The dams will effectively block the Changuinola and Bonyic rivers. Because these rivers originate within the mountains of the Park and flow through the Park's buffer zone—the Palo Seco Forest Reserve—to the sea, the dams will halt up-stream and down-stream passage of aquatic species.⁶⁰ For these reasons, scientists estimate that even the construction of only one of the three Changuinola dams (*i.e.*, the furthest from the headwaters of that river) will negatively impact the biodiversity of 1,493 square kilometers (sq. km) of the Changuinola watershed—337 kilometers (km) of which flow through the Park.⁶¹ The dams will extirpate those migratory aquatic species living in La Amistad

⁵⁶ Cordero, *supra* note 40, at 30. Each of the Changuinola Dams is projected to take four years to build. Chan 75 EIA, *supra* note 52, at 84. Chan 140 EIA, *supra* note 52, at 80. Chan 220 EIA, *supra* note 52, at 79.

⁵⁷ Cordero, *supra* note 40, at 16. *See also* Paiement, *supra* note 47, at 5-6. (explaining the Naso's traditional natural resource management is in conflict with commercial and governmental interest).

⁵⁸ *See generally* World Commission on Dams 2000, *supra* note 44, at 75 (explaining alterations in hydrologic functions and quality).

⁵⁹ *Id.* at 74. In fact, the World Commission on Dams has found that “impeding the passage of migratory fish was the most significant ecosystem impact” for most dams. *Id.* at 82.

⁶⁰ *See* Cordero, *supra* note 40, at 13-14. Bosque Protector Palo Seco was established by Decreto Ejecutivo No. 25 de 28 de septiembre de 1983 and published in the Gaceta Oficial No. 19,943 de 24 de noviembre de 1983 [hereinafter Palo Seco Resolution].

⁶¹ *See* Maribel H. Mafla et al., *Caracterización Ictiológica y Valoración de Habitats en Ríos del Parque Internacional La Amistad, Cuenca Changuinola/Teribe Provincia Bocas del Toro (Panamá): Un Trabajo Inicial Participativo y Comunitario* 31 (Asociación ANAI 2005). Even building only the highest Changuinola Dam, the closest to the headwaters of that river, would negatively affect 271 km of rivers, of which 163 km are inside the Park. The dam located in the Bonyic River, a tributary of the Teribe River, will adversely affect 160 km, of which 149 km are inside the Park. *Id.* *See also e-mail* Maribel H. Mafla, Coordinator – Talamanca Stream Biomonitoring Program, Asociación ANAI, to Linda Barrera, Law Clerk, International Environmental Law Project (Jan. 29, 2007) (on file with authors) [hereinafter Mafla e-mail].

International Park by blocking their migratory routes.⁶² In addition, the impact on aquatic species will cause cascading effects on the terrestrial species of the Park, including threatened and endangered species. Finally, the reservoirs resulting from the creation of these dams threaten the outstanding natural beauty of La Amistad International Park.



Photo by Linda Barrera (2007)

Changuinola River, site of Chan-75 dam. The reservoir will reach up to the top of the tree-line, where workers have begun cutting down the trees.

- i. Because they are impassable barriers for many migratory aquatic species, the dams will cause local extirpations of a number of species.**

The four hydroelectric dams will be impassable physical barriers for migratory aquatic species. The dams thus contravene the Operational Guidelines, which state that “for an area containing migratory species . . . migratory routes, wherever they are located, should be adequately protected.”⁶³ In La Amistad International Park, many of the species in the Changuinola/Teribe watershed are diadromous, meaning they migrate between the sea and the rivers of the Park.⁶⁴ This migration covers a range of elevation from sea level to streams at

⁶² See Mafla, *supra* note 61, at 19.

⁶³ Operational Guidelines, *supra* note 2, at § II(E) ¶ 95. (Criterion (x)).

⁶⁴ See Mafla, *supra* note 61, at 19.

altitudes well above 700 meters.⁶⁵ In a study of seventeen different streambeds, thirteen of which are within the Park's boundary, seven of the eighteen fish species surveyed were diadromous.⁶⁶ These seven fish species represent, on average, seventy-five percent of all aquatic biomass found within the Changuinola/Teribe watershed.⁶⁷ In addition, sixteen of the study sites contained diadromous shrimp species.⁶⁸

All of these diadromous species have extraordinary life-cycles. The shrimp inhabit the river system up to its highest headwaters.⁶⁹ They reproduce in the river and depend on currents to carry their larvae to estuaries where they hatch.⁷⁰ As adults, they swim back upstream to reproduce. Large fish species, such as the *bocachica* or hogmullet (*Joturus pichardi*), migrate upstream to grow to adults in the headwaters of the rivers before heading back out to sea to reproduce and complete their lifecycle.⁷¹ The juveniles of these species are adapted to ascend the powerful rapids typical of the Park's rivers.⁷² Other fish species residing in the threatened rivers of the Park, such as the *anguila del mar* or American eel (*Anguilla rostrata*), also mature in the rivers and then migrate to the sea to reproduce.⁷³ The construction of the dams will impede these phenomenal migrations, leading to extirpation of these species in the dammed rivers. The dams are likely to cause the loss of at least ten of the migratory species inhabiting these rivers.⁷⁴ In fact, the Environmental Impact Assessment (EIA) for the Bonyic dam concedes that the populations of migratory fish species above the dam will disappear.⁷⁵ In part, this is because the variety of migratory patterns exhibited by diadromous fish in the Park makes

⁶⁵ See *id.* at 20-23. La Amistad International Park varies from 90 meters to 3,335 meters (m) in elevation. See Angehr, *supra* note 11, at 107. The Bonyic dam will be built on the Bonyic River at 205 m above sea level. See Bonyic EIA, *supra* note 42, at 2. The Chan 75 dam will be built at 72 m above sea level on the Changuinola River. See Chan 75 EIA, *supra* note 52, at 49. The Chan 140 dam will be built at 140 m above sea level on the Changuinola River. See Chan 140 EIA, *supra* note 52, at 48. The Chan 220 dam will be built at 215 m above sea level on the Changuinola River. See Chan 220 EIA, *supra* note 52, at 47.

⁶⁶ Mafla, *supra* note 61, at 19.

⁶⁷ See *id.* Biomass is defined as the "weight per unit area of plants, animals or microbes." It is an important indicator of "ecosystem functioning" and of the relative importance of types of organisms in an ecosystem. STANLEY I. DODSON ET AL., *ECOLOGY* 398, 102 (Oxford University Press 1998). For instance, diadromous species represent a diverse array of aquatic species within La Amistad International Park, but they also represent 75-100 % of total aquatic biomass. Thus, the extirpation of diadromous fish in this area would effectively remove nearly all aquatic life from these rivers.

⁶⁸ Mafla, *supra* note 61, at 19.

⁶⁹ William O. McLarney, *History Repeats? Hydro Dams and the Riverine Ecosystems of MesoAmerica – The Case of the La Amistad Biosphere Reserve (Panama) and its Implications*, 3 (Article submitted to the George Wright Forum, In Preparation), available at <http://www.georgewright.org/234mclarney.pdf>. In almost all of the sites surveyed, Asociacion ANAI found both of the families of diadromous shrimp (Palaemonidae and Atyidae) known from the region. See Mafla, *supra* note 61, at 23.

⁷⁰ Mafla, *supra* note 61, at 23.

⁷¹ *Id.* at 21.

⁷² McLarney, *supra* note 69, at 3.

⁷³ Mafla, *supra* note 61, at 22.

⁷⁴ Cordero, *supra* note 40, at 44. These include the American eel/anguila del mar (*Anguilla rostrata*), the mountain mullet/sartén (*Agonostomus monticola*), the hogmullet/bocachica (*Joturus pichardi*), the river goby/chuparena (*Awaous banana*), the burro grunt/ronco (*Pomadasyis crocro*), the bigmouth sleeper/guavina (*Gobiomorus dormitor*), the titi/chupapiedra (*Sicydium adelum*), the crawfish/langostino (Palaemonidae), and the burro (Atyidae). *Id.* (This list is shown in Annex 3).

⁷⁵ See Bonyic EIA, *supra* note 42, at V-134.

adequate mitigation impossible.⁷⁶ In total, the hydroelectric dams will cause the loss of seventy-five percent of aquatic biodiversity in 704 kilometers of rivers that flow within the Park and its buffer zone.⁷⁷

Case studies on the effects of dams in similar types of rivers in Puerto Rico suggest that the loss of these aquatic species is inevitable if dam construction continues.⁷⁸ Similar dams in Puerto Rico have decimated diadromous shrimp and fish species in rivers where the composition of aquatic species is similar to that of Bocas del Toro.⁷⁹ Increases in sedimentation, changes in the aquatic insect community, and increases in algal biomass are some of the most devastating consequences observed in Puerto Rico; these same results are likely to occur in La Amistad International Park.⁸⁰ Little if any foresight has been given to these consequences.

Furthermore, although the high biodiversity of the Park is well-documented, the environmental authority of Panama lacks detailed information on the species that exist in the rivers inside the Park.⁸¹ The Park's management plan contains information about some aquatic species, but fails to mention the importance of diadromous species.⁸² As Dr. William McLarney, an aquatic biologist who has extensively studied the Changuinola/Teribe watershed, has stated, "It is the height of imprudence to destroy things before you even know what they are."⁸³ The dams will inevitably and permanently alter the river ecosystem of the Park, leaving the rivers void of tremendous aquatic biodiversity—one of the reasons for which the Park is listed as a World Heritage site.

ii. Construction of the dams will also cause harm to threatened and endangered terrestrial species by upsetting the Park's ecosystem.

In addition to the direct loss of aquatic biodiversity, the dams will also have detrimental effects on threatened and endangered mammal and amphibian species dependent on fish and shrimp for their diet.⁸⁴ For instance, the nationally endangered *gato de agua* or neotropical river

⁷⁶ Jordan Interview, *supra* note 53.

⁷⁷ Mafla, *supra* note 61, at 29. *See also* Mafla e-mail, *supra* note 61.

⁷⁸ *See* Mafla, *supra* note 61, at 32.

⁷⁹ *See* Jonathan P. Benstead et. al., *Effects of a Low-head Dam and Water Abstraction on Migratory Tropical Stream Biota*, 9 ECOLOGICAL APPLICATIONS 656, 656 (1999). Large dams completely block upstream passage of diadromous species. *Id.* Even smaller dams, called low-head dams, have been shown to have a drastic impact on diadromous shrimp, with up to 62 % mortality of shrimp larvae. *Id.*

⁸⁰ *See* James G. March et al., *Damming Tropical Island Streams: Problems, Solutions and Alternatives* 53 BIOSCIENCE 1069, 1071 (2003).

⁸¹ *See* E-mail from Dr. William O. McLarney, Director – Talamanca Stream Biomonitoring Program, Asociacion ANAI, to Jason Gray, Law Clerk, International Environmental Law Project (Jan. 2, 2007) (on file with authors) [hereinafter McLarney e-mail].

⁸² *See* La Amistad International Park Management Plan, *supra* note 39, at 43-44. The Park's management plan devotes two small paragraphs to fish species within the Park. It identifies three types of fish species: primary, secondary, and periphery species. It claims that the primary and secondary species, which are non-diadromous, make up 40% of the biomass. The plan does not address the importance of diadromous species, presumably the remaining 60%. *Id.*

⁸³ McLarney e-mail, *supra* note 81.

⁸⁴ The Operational Guidelines state that a "serious decline in the population of the endangered species or the other species of outstanding universal value for which the property was legally established to protect" qualifies as an ascertained danger. Operations Guidelines, *supra* note 2, at §IV(B) ¶ 180(a)(i). For purposes of this petition,

otter (*Lontra longicaudis*) feeds exclusively on fish and crustaceans, such as shrimp.⁸⁵ With near total elimination of shrimp above the dam, otters will lose their main source of nutrients. Additionally, flooding to create reservoirs in the Park's buffer zone will destroy existing riverbanks, which provide important otter habitat. Furthermore, amphibians, including six species endemic to the mountains of the Park, depend on the rivers for their survival and fish for their food.⁸⁶ Altering the structure of the watershed through dam construction and removing the main source of food for these species, likely portends extinction of these endemic amphibians.⁸⁷ This is a grave loss of the world's biodiversity as amphibious species around the world are facing catastrophic decline and increasing rates of extinction.⁸⁸

The dams will also cause the redistribution of other nationally endangered species, such as the jaguar and ocelot.⁸⁹ While not solely dependent on fish, large cats include fish in their diet and will have to range outside of the protected areas of the Park to supplement their diets with fish species.⁹⁰ This is an example of a ripple effect on an entire food chain. As the fish die out, animals which feed on fish, such as river otters, jaguars, and ocelot, will be forced to find new sources of fish. As small animals dependent on fish disappear or move elsewhere, species which feed on them, such as the *puma americano* or puma (*Felis concolor*), will also have to alter their eating habits and roaming patterns.⁹¹

“endangered” refers to those species which are nationally threatened and listed on the Panamanian List of “Especies en Peligro de Extinción,” codified as Ley 23 del 23 enero de 1967, and the Resolución Dir. 002-80, available at <http://www.anam.gob.pa/PATRIMONIO/especies%20en%20extincion.htm> [hereinafter Panama Endangered Species List]. (This list is shown in Annex 4). Many of these species are also listed as “near-threatened” or “endangered” under the IUCN Red List. See The 2006 IUCN Red List of Threatened Species Website, <http://www.iucnredlist.org/> [hereinafter IUCN Red List].

⁸⁵ Eduardo Carrillo-Rubio et al., *Neotropical River Otter Micro-Habitat Preference in West-Central Chihuahua, Mexico*, 21 IUCN OTTER SPECIALIST GROUP BULLETIN 10, 10 (2004), available at http://www.iucnosg.org/Bulletin/Volume21/Carillo_Rubio_Lafon_2004.pdf. See also Cordero, *supra* note 40, at 29.

⁸⁶ United Nations Environment Program-World Conservation Monitoring Centre Website, Protected Areas Programme, Amistad, http://www.unep-wcmc.org/protected_areas/data/wh/amistad.html [hereinafter UNEP Amistad Website].

⁸⁷ “At least a 122 species of amphibians have gone extinct since 1980, and about a third of all known species-1,856 of 5,743-are considered threatened with extinction.” Smithsonian National Zoological Park, Conservation and Science at the Smithsonian's National Zoo, Spotlight on Zoo Science: Breaking the Fall of Frog, <http://nationalzoo.si.edu/ConservationAndScience/SpotlightOnScience/frogdeclines20061001.cfm>.

⁸⁸ *Id.*

⁸⁹ Dams are known for “displac[ing] animals.” World Commission on Dams 2000, *supra* note 44, at 75. The jaguar is listed as “near threatened” on the IUCN Red List. IUCN Red List, *supra* note 84. A species is listed as “near threatened” when it does not qualify for critically endangered, endangered, or vulnerable now listings, but it will likely qualify for a threatened category in the near future. *Id.* The ocelot is also listed as “near threatened” on the IUCN Red List. *Id.* However, both species, are listed as “endangered” on Panama's Especies en Peligro de Extinción. See Panama Endangered Species List, *supra* note 84.

⁹⁰ The jaguar's diet includes freshwater fish. Defenders of Wildlife, Wildlife, Jaguar Ecology and Biology, <http://www.defenders.org/wildlife/new/bigcats/jaguar/bio.html>. Ocelot depend on many prey species, including spawning fish and crustaceans. IUCN Species Survival Commission, Cat Specialist Group – Cat Species Information, Ocelot, http://lynx.uio.no/lynx/catsportal/cat-website/20_cat-website/home/index_en.htm. See Dodson, *supra* note 67, at 209. Animal foraging behavior assumes that an animal will follow the “optimal foraging theory,” which states that a forager will maximize the net rate of energy gain relative to distance to the foraging sites. Thus, if the distance to the nearest source of fish-nutrients is sufficiently far, animals like jaguars may relocate to those areas, changing their distribution patterns in, or potentially outside, the Park. See *id.* at 210-11.

⁹¹ See Dodson, *supra* note 67, at 210-211. This is an example of the “food web” relationship. *Id.* Puma in their southern rangers tend to feed on small to medium-sized species. IUCN Species Survival Commission, Cat

The reservoirs created by the dams also threaten the natural ecosystem of the Park and its buffer zone.⁹² Their waters may become unproductive for vegetation, for fish not extirpated by the dams, and for other species that rely on the rivers for food and habitat.⁹³ The flooding will drown much of the terrestrial plant life, including large trees. As these trees start decomposing, they will release nitrates and phosphates into the reservoir.⁹⁴ The presence of mass quantities of nitrates and phosphates will lead to rapid vegetative and algal growth.⁹⁵ This rapid vegetative growth strips the water of oxygen, making it uninhabitable and completely unproductive as a food source for species that once depended on it, sending ripples through the Park's natural food chain and ecosystem.⁹⁶

iii. The creation of reservoirs will deteriorate the exceptional natural beauty of La Amistad International Park.⁹⁷

Construction of dams within the buffer zone of La Amistad International Park threatens to detract from the exceptional natural beauty of the Park. The Operational Guidelines list “reservoirs which flood important parts of the property” as a specific example of an ascertained threat which will deteriorate “the natural beauty or scientific value of the property.”⁹⁸ In addition to its outstanding biodiversity values, La Amistad International Park enjoys World Heritage status due to its “exceptional natural beauty.”⁹⁹ This natural beauty stems from the geographic, hydrologic, and vegetative characteristics of the Park. Spectacular views exist from the high mountains in the Cordillera de Talamanca, looking out over pristine forests and the roaring rapids of the Teribe, Bonyic, and Changuinola Rivers. The dams will alter this view drastically, primarily because the reservoirs will disrupt the flow of the rivers.¹⁰⁰ Flooding will claim virgin forest, leaving behind only dead remnants of these centuries-old trees. In sum, viewpoints looking over the Changuinola/Teribe watershed will no longer portray the natural beauty for which the Park is famed.

Specialist Group – Cat Species Information, Puma, http://lynx.uio.no/lynx/catsportal/cat-website/20_cat-website/home/index_en.htm.

⁹² See Ente Regulador Concession rights, *supra* note 41. The Bonyic dam will flood 18.5 ha. Its reservoir will reach up to 240 meters above sea level. This reservoir will extend 2 km from the dam up to the boundary of the Park. See Bonyic EIA, *supra* note 42, at II-5. The Chan 75 dam will flood 940 ha, although the EIA states that when one subtracts the area of rivers and streams already in existence, the total area flooded will be 750 ha. The resulting reservoir will reach up to 147-155 meters above sea level. See Chan 75 EIA, *supra* note 52, at 66-68. The Chan 140 dam will flood 490 ha, and 390 ha when the rivers and streams are subtracted. The reservoir will reach up to 222 meters above sea level. See Chan 140 EIA, *supra* note 52, at 65-67. The Chan 220 dam will flood 1,100 ha, or 1,000 when the rivers and streams are subtracted. Its reservoir will reach up to 326 meters above sea level. See Chan 220 EIA, *supra* note 52, at 64. The reservoirs of the Changuinola Dams will not reach into the Park, but are located in the Palo Seco Protected Forest, the Park's buffer zone. These reservoirs will nonetheless have an impact on the aquatic biodiversity, the terrestrial biodiversity, and the scenic beauty of La Amistad International Park. See generally Cordero, *supra* note 40.

⁹³ See Cordero, *supra* note 40, at 29.

⁹⁴ Dodson, *supra* note 67, at 133.

⁹⁵ *Id.* at 99.

⁹⁶ *Id.*

⁹⁷ Operational Guidelines, *supra* note 2, at §IV(B) ¶ 180(a)(ii).

⁹⁸ *Id.*

⁹⁹ See generally World Heritage Amistad Webpage, *supra* note 12.

¹⁰⁰ See Bonyic EIA, *supra* note 42, at II-10. (negative effects on the physical environment).



Photo by Linda Barrera (2006)

Flooded forest Bayano Reservoir, caused by Bayano hydroelectric dam. Construction of the dam was completed in 1976; it is located in the Province of Panama, Panama.

2. The dams and associated development have already caused armed conflict and raise the specter of further discord between Panamanian officials and indigenous communities near the Park.

The government of Panama's disregard of the interests of indigenous people living in the buffer zone of the Park has increased the likelihood of armed conflict, which will exert pressure on the Park's land and resources. Armed conflict has already occurred between the government of Panama and the Naso indigenous group because the management plan allows for developing the hydroelectric potential of the Park at the expense of indigenous lands contiguous to the Park through flooding and road construction.¹⁰¹ The Naso had originally agreed to discuss the dam in exchange for the recognition of their lands as an autonomous region, known as Comarca.¹⁰² However, the Comarca still has not been granted. This fact, coupled with the failure of the Panamanian government and the owner of the hydroelectric project to adequately inform the Naso community about the impacts of the dam has ignited armed conflict.¹⁰³ In addition, when negotiating with the Naso, the government violated the traditional political structure and decision-making process of the indigenous group.¹⁰⁴ This violation of indigenous rights

¹⁰¹ Paiement, *supra* note 47, at 9-10. The Naso indigenous group includes eleven communities, four of which live in the Park's buffer zone, near the access road and the Bonyic dam on the Bonyic River. Cordero, *supra* note 40, at 49. These four communities are Sieyic, Bonyic-Huecso, Solon, and Soby, and include an approximate total of 168 households. Sanchez Interview, *supra* note 54. See also Cordero, *supra* note 40, at 49.

¹⁰² Paiement, *supra* note 47, at 7.

¹⁰³ Sanchez Interview, *supra* note 54. "The inadequacy of information given to the Naso . . . illustrates the fact that the project implementation process has not been carried out in a just way." Emily Weidner, *The involvement of the Naso people in the implementation process of the Hydroelectric Project of Bonyic: The information received, its source, and its effectiveness* 22 (School for International Training 2004).

¹⁰⁴ Acción de Amparo de Garantías Constitucionales presentada por el Licdo. HECTOR HUERTAS en representación de Los Señores VALENTIN SANTANA Y ADOLFO VILLAGRA, contra la presunta orden de hacer contenida en la Resolución N° 2 de 17 abril de 2005 emitida por el Director Nacional de Política Indigenista (Entrada N° 768-05) (May 24, 2006). (Lawsuit brought on behalf of the Naso people against the Panamanian

exacerbated the armed conflict between the government forces and the Naso people, the majority of whom oppose the Bonyic Dam.¹⁰⁵



Photo by Jason Jacques Paiement (2005)
Panamanian armed policemen at a Naso General Assembly meeting.

Their conflict with the government has encouraged the Naso people to seek legal and financial redress for their harms. First, the Naso brought suit against the Panamanian government in the Supreme Court of Panama.¹⁰⁶ The Supreme Court ruled against them on procedural issues, but the Naso are considering seeking a remedy before the Inter-American Human Rights Commission.¹⁰⁷ Second, they convinced the Inter-American Development Bank (IDB), one of the financial backers of the Bonyic dam project, to pull its funding from the project. The IDB cited the potential social, political, and environmental impacts of the Bonyic project as reasons for not financing the dam.¹⁰⁸ However, the Panamanian government continues

government, for disregard of traditional Naso rights and governance structure) [hereinafter Naso Lawsuit]. The Naso are governed by an elected king, from the Santana lineage. Paiement, *supra* note 47, at 6. Prior to negotiations with the hydroelectric company in charge of the Bonyic project, the Naso elected Tito Santana as king. *Id.* at 8. During negotiations, the Panamanian government, Tito Santana, and the company did not adequately inform the Naso community about their dam project. For these reasons, the Naso General Assembly, the highest authoritative body of the indigenous group, elected to depose Tito Santana and elect Valentin Santana as king to be the true representative of the Naso communities' interests. *Id.* at 8-9. The Panamanian government refused to recognize this decision, and maintained its support for Tito by sending in special police forces to intimidate the Naso people into supporting Tito Santana and the dam project. *Id.* "Panama's Director of Indigenous Affairs immediately issued statements signally [sic] the Government's willingness to continue to recognize Tito Santana as the maximum authority of the Naso people." *Id.*

¹⁰⁵ Sanchez Interview, *supra* note 54. See also Letter from Valentin Santana, King of the Naso, to Whom it may concern (Feb. 13, 2007) (Annex 5). (explaining the conflict between the Naso people and the Panamanian government).

¹⁰⁶ Naso Lawsuit, *supra* note 104.

¹⁰⁷ *Id.* The Court held that the cause of action (Acción de Amparo de Garantías) was not the proper action for the suit. *Id.* See also Sanchez Interview, *supra* note 54.

¹⁰⁸ Letter from Robert H. Montgomery, Head, Environmental and Social Unit, Private Sector Department, Inter-American Development Bank, to Osvaldo Jordan, President, Alianza para la Conservacion y el Desarrollo,

to support the construction of the hydroelectric dam against the will, traditions, and rights of the Naso people.¹⁰⁹ Despite the Naso efforts, the construction of the Bonyic dam is underway, and the situation remains tense and could negatively affect the Park.

In addition to the Naso conflict, the Ngöbe indigenous communities living along the Changuinola River in the Park's buffer zone also face the potential for armed conflict. Several factors have fueled conflict that has resulted in displacement of Ngöbe into the Park and which will exert further pressure on the Park's land and resources. First, the growing number of indigenous settlements and non-indigenous cattle ranches has resulted in a scarcity of land outside the Park.¹¹⁰ The scarcity of land causes non-Ngöbe people to try to take Ngöbe land, which have given rise to further conflict between Ngöbe and non-indigenous people and resulted in greater numbers of Ngöbe moving out of the buffer zone and into the Park.¹¹¹ Second, this area has a history of violence, including human bloodshed between Ngöbe and non-indigenous colonizers.¹¹² As recent evidence of this violence, the Ngöbe have killed livestock to prevent further colonization of their territory by cattle ranchers.¹¹³ Third, general racial discrimination by non-indigenous people and by the government has particularly affected the Ngöbe.¹¹⁴ Taken together, these factors have produced a potentially volatile situation within the Park and its buffer zone.

That the situation concerning indigenous groups near the Park is explosive is evident.¹¹⁵ In June 2006 police used excessive force to breakup demonstrations against the dams on the Changuinola River.¹¹⁶ Development projects and displacement of people have the potential to cause conflict anywhere they occur. However, according to Osvaldo Jordan, a PhD candidate in political science, in the case of the Ngöbe people, who are "faced with a history of violence, land scarcity, racial discrimination, and these hydroelectric projects which will flood their lands, the potential for further armed conflict is much greater."¹¹⁷

Many of the other concerns related to the dams are likely to compound existing discontent. Population increases for a labor force to construct the dams will lead to more settlement in the Park's buffer zone, and perhaps the Park, as well as heightened competition for resources. Access roads exacerbate this threat, increasing the likelihood of settlement within the Park and on traditional indigenous territory, which will cause confrontations between indigenous groups and non-indigenous people.¹¹⁸ In fact, one of the greatest concerns of the Naso

Jose Yunis, Attorney, Natural Resources Defense Council, and Aaron Goldzimer, Social Scientist, Environmental Defense (July 21, 2005) (on file with authors).

¹⁰⁹ Paiement, *supra* note 47, at 8-9. "The Government persists in its single minded determination to recognize the one candidate friendliest to their wishes (i.e. the hydro project) against the will, traditions and rights of the majority of the Naso people." *Id.* at 11.

¹¹⁰ Jordan Interview, *supra* note 53.

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.* In 2001, some of the Ngöbe killed water buffalo which had been set loose in Ngöbe territory by colonizers. *Id.*

¹¹⁴ *Id.*

¹¹⁵ Jordan Interview, *supra* note 53.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ See Cordero, *supra* note 40, at 30.

community is the danger that outsiders will take over their traditional lands.¹¹⁹ Furthermore, flooding from the reservoirs will force Ngöbe people out of their lands along the Changuinola River.¹²⁰ As the Operational Guidelines suggest, the potential for armed conflict is a threat to the integrity of the Park.¹²¹

3. Human encroachment unrelated to the dams currently threatens the integrity of La Amistad International Park.

Human encroachment activities, such as settlement, landholding, and illegal hunting are harming the Park's ecosystem. For instance, indigenous settlements established after the creation of the Park continue to increase with little government oversight, causing significant loss of habitat. The Park's management plan classifies these settlements as a critical threat to the Park and recognizes that most settlements and landholdings exist without title or possessory rights.¹²² Indigenous settlements within the Park continue to expand into other areas of the Park due to reproductive growth.¹²³ Many of these settlements are not actually fixed villages, but comprise dispersed family homes, farms, and pasture for livestock.¹²⁴ The management plan identifies four settlements of indigenous Ngöbe people existing in the Park.¹²⁵ However, according to Ruben Gonzalez, a sociologist who has conducted studies in the area, at least six indigenous Ngöbe settlements consisting of approximately 500-600 inhabitants exist inside the Park, near the Changuinola River.¹²⁶ One of these settlements, Nueva Zelandia, comprises approximately thirty families.¹²⁷

The Ngöbe are highly mobile and travel as family clans; when a settlement reaches around 150 people, some families will move on to form new settlements.¹²⁸ Each community must clear forest to build homes and create pastureland, reducing the amount of habitat for threatened and endangered species.¹²⁹ In fact, the Ngöbe cut significant numbers of

¹¹⁹ Sanchez Interview, *supra* note 54. The Naso have been struggling to have their lands legally recognized as a "comarca," or autonomous region to prohibit outsider invasion. The government has promised to recognize this comarca, but only on the condition that the Bonyic dam is built, which will negatively affect the Naso's lands. Paiement, *supra* note 47, at 7.

¹²⁰ Jordan Interview, *supra* note 53.

¹²¹ Operational Guidelines, *supra* note 2, at §IV(B) ¶ 180.

¹²² La Amistad International Park Management Plan, *supra* note 39, at 56. (Cuadro 4.17). Most of the settlements and landholdings do not have legal documents or property title. *Id.* The management plan indicates that the indigenous communities are comprised of Ngöbe, Bugle, and Naso peoples. *Id.* However, this is gravely incorrect. Sanchez Interview, *supra* note 54. The indigenous communities living in the Park are Ngöbe. Telephone Interview with Ruben Gonzalez, Secretary of Social Matters, Alianza para la Conservacion y el Desarrollo, in Panama (Feb. 10, 2007) [hereinafter Gonzalez Interview].

¹²³ Gonzalez Interview, *supra* note 122.

¹²⁴ Jordan Interview, *supra* note 53.

¹²⁵ La Amistad International Park Management Plan, *supra* note 39, at 59. The management plan indicates that there are at least four settlements: Quebrada Miel, Valle Libre, Culebra, and Bajo Colubre. *Id.*

¹²⁶ Gonzalez Interview, *supra* note 122. Gonzalez identified the following settlements: Quebrada Miel, Valle Libre, Bajo Colubre, Nueva Zelandia, Cabecera de Culebra, and Cerro Fabrega. *Id.* Often, these settlements are difficult to find on a map and settlement names are imprecise. *E-mail* from Osvaldo Jordan, President, Alianza para la Conservación y el Desarrollo, to Jason Gray, Law Clerk, Internacional Environmental Law Project (Mar. 5, 2007) (on file with authors).

¹²⁷ Gonzalez Interview, *supra* note 122.

¹²⁸ *Id.*

trees to create pasture for their livestock.¹³⁰ The Ngöbe raise cattle for subsistence and for sale in the markets on the Pacific and Caribbean sides of the Park.¹³¹ In order to reach these markets, they cross the Park with their cattle in tow.¹³² Additionally, once the land is depleted of resources, they sell it to non-indigenous ranchers.¹³³ The government presence in these areas is virtually non-existent.¹³⁴ As a consequence, residents do not understand that they are living within a protected Park.¹³⁵ The Ngöbe have expressed that they will continue to expand, regardless of the Park's protected designation.¹³⁶ In spite of increasing loss of habitat, the government has not made a serious effort to curtail the ever-expanding illegal settlements.

Furthermore, landholdings, claimed mostly by non-indigenous people, have also significantly increased since the Park's World Heritage designation.¹³⁷ The Panamanian government estimates that between 400 and 500 people have landholdings inside the Park, often for farming and cattle ranching.¹³⁸ Most of the landholders reside in towns outside of the Park, such as Boquete and Cerro Punta on the Pacific side of the Park.¹³⁹ The government has not been able to stop this human encroachment into the Park. For instance, people have continued to illegally claim land inside the Park.¹⁴⁰ Farming and ranching activities have resulted in devastation of forests as trees are cut down in an attempt to appropriate land.¹⁴¹ Throughout the Park, land-use practices for cattle and agriculture have greatly fragmented habitat for threatened and endangered species.

¹²⁹ *Id.*

¹³⁰ *Id.* The management plan states that there is no difference between the settlements inside and outside the Park. Both types of communities depend on cattle ranching for their subsistence. La Amistad International Park, *supra* note 39, at 59.

¹³¹ Gonzalez Interview, *supra* note 122.

¹³² *Id.*

¹³³ *Id.*

¹³⁴ *Id.* Reportedly, some settlements do have small schools, but no permanent teachers. *Id.* The management plan states that the settlements lack basic services, including schools, clinics, and other infrastructure. In general, the settlements lack any government development support. La Amistad International Park Management Plan, *supra* note 39, at 59.

¹³⁵ Gonzalez Interview, *supra* note 122.

¹³⁶ *Id.*

¹³⁷ The Park's management plan defines "landholding" as land inside the Park which is utilized for agriculture and cattle ranching, and is claimed by people who live outside the Park, in towns such as Boquete and Cerro Punta. La Amistad International Park Management Plan, *supra* note 39, at 59.

¹³⁸ *Id.* The great majority of indigenous and non-indigenous landholders do not have legal title to this property. *Id.*

¹³⁹ *Id.*

¹⁴⁰ Miranda Interview, *supra* note 50.

¹⁴¹ *Id.*



Photo by Carlos Alfaro (circa 2005)
Cleared land inside the Park.



Photo by Carlos Alfaro (circa 2005)
Aerial view of deforestation in the Park.

Local environmental groups have filed lawsuits against illegal landholders. In one incident, an environmental group in Boquete, a town in Chiriqui Province abutting the Park, reported a man clearing forest to build a road leading to his illegal claim inside the Park.¹⁴² The group filed a lawsuit to enjoin this particular activity, but the government has failed to prosecute all such actions and the problems continue.¹⁴³ In addition, in Las Nubes, another town in Chiriqui Province near the Park's boundary, several corporations claim rights to land within the Park.¹⁴⁴ These corporations are the subject of a lawsuit because they have deforested large portions of the Park.¹⁴⁵ Furthermore, some of these corporations continue to violate the laws protecting the Park and, in some instances, have constructed ecotourism infrastructure inside the Park.¹⁴⁶ Thus far, the government has not redressed the controversy.¹⁴⁷ Taken together with the indigenous settlements, these landholdings have cleared approximately 4,000 ha of forest, or two percent of the Park, between 1986 and 2000.¹⁴⁸ The current level of deforestation is unknown.

Illegal hunting, or poaching, is also a critical human encroachment issue affecting La Amistad International Park. The management plan for the Park acknowledges this threat, which has reduced the numbers of threatened and endangered species inside the Park.¹⁴⁹ According to a resident of Boquete, hunting clubs from the area enter the Park frequently and have been seen returning with animals such as the endangered Central American tapir, peccaries (*Tayassu pecari*

¹⁴² *Id.* Ezequiel Miranda leads the environmental group which brought suit against the illegal landholder near Boquete. This group, the Asociacion para la Conservacion de la Biosfera, is a community-based organization dedicated to protecting the nucleus of the Amistad Biosphere Reserve.

¹⁴³ *Id.*

¹⁴⁴ E-mail from David Samudio, Officer, FUNDICCEP, to Linda Barrera, Law Clerk, International Environmental Law Project (Feb. 18, 2007) (on file with authors) [hereinafter Samudio Email].

¹⁴⁵ *Id.*

¹⁴⁶ Boris Gomez, *Mujeres de Las Nubes defienden la tierra*, La Prensa, May 8, 2004, available at <http://mensual.presna.com/mensual/contenido/2004/05/08/hoy/nacionales/1669206.html>.

¹⁴⁷ Samudio E-mail, *supra* note 144.

¹⁴⁸ Binational Report, *supra* note 17, at 32.

¹⁴⁹ See La Amistad International Park Management Plan, *supra* note 39, at 57. (Cuadro 4.17 Areas criticas en el PILA). Poaching of certain species is a critical threat because "it puts in danger the populations of species in their natural state." *Id.* Poaching has been listed as a threat in over forty-percent of World Heritage sites in developing countries. Jim Thorsell, *Nature's Hall of Fame: An Overview of the World Heritage Convention and its Relevance to the South Pacific Region 5* (IUCN and the World Heritage Convention – Audio Visual Training Module 2002), available at www.sprep.org/roundtable/documents/WorldHeritageConvention-NaturesHall.doc.

and *Tayassu tajuca*), and jaguar.¹⁵⁰ The poachers reportedly enter the Park through three unofficial, but well-known entrances in Boquete.¹⁵¹ While actual numbers on the amount of species under threat from hunting do not exist, uncontrolled poaching continues to pose a grave danger to the Park's outstanding biodiversity.



Photo by Octavio Guerrero (2006)
A jaguar poached outside of Boquete.

4. La Amistad International Park is also threatened by inadequate management and a lack of enforcement capacity.

In addition to the dangers described above, La Amistad International Park faces a number of dangers due to inadequate management and a lack of enforcement capacity, warranting the Park's listing on the List of World Heritage in Danger. The four hydroelectric dams and the population growth needed to build the dams are not only dangers in themselves; they also stand to compromise Panama's relatively new management plan for the Park and Panama's limited enforcement capabilities. The dams bring a host of new development threats to the Park and further exacerbate existing threats that the management plan has yet to mitigate. Moreover, Panama has little enforcement capabilities to properly implement its management plan or to deal adequately with the development associated with the dams. These threats are interrelated and lead to cascading consequences that threaten the outstanding universal values and integrity for which the Park was listed as a World Heritage site. An "in danger" listing would enable Panama to seek the guidance, expertise, and resources of the World Heritage Committee and its consultants to improve the structure and goals of its management plan as well as to effectively implement and enforce the plan.

¹⁵⁰ Miranda Interview, *supra* note 50. See also Panama Endangered Species List, *supra* note 84. "Sport hunting clubs from David, Concepcion and Volcan," which enter through Boquete and other places on the Pacific side of the Park, have put endangered large mammal and orchid species at risk through their illegal activities. La Amistad International Park Management Plan, *supra* note 38, at 14. (Cuadro 3.5 Actores del PILA, según los actores claves y los funcionarios de ANAM (Chiriqui-Bocas del Toro)). Illegal commercial hunters are from the towns of Jurutungo, Cotito, Santa Clara, Los Pozos, Cerro Punta, Boquete, and Orqueta, which are outside of the Pacific side of the Park; and El Silencio and the Costa Rican border, on of the Caribbean side of the Park. *Id.*

¹⁵¹ *Id.*

The Operational Guidelines provide several criteria for the protection and management of World Heritage sites that State Parties should have in place at the time of a site's nomination and that State Parties should sustain to ensure adequate protection and management of the integrity of the outstanding universal values of World Heritage sites. First, and of central importance, is the goal of ensuring that the integrity of the site at the time of inscription is maintained or enhanced.¹⁵² All management actions with a potential effect on World Heritage sites should further this "maintain and enhance" standard. Second, the Operational Guidelines provide that State Parties should ensure that adequate protection exists at all necessary levels to safeguard the integrity of the property.¹⁵³ Third, each State Party must assure through regulatory and legislative action that the site is protected from development and other adverse changes.¹⁵⁴ Fourth, each site must have an adequately delineated boundary, and the boundary should encompass an area sufficient to protect the site from human encroachment and resource exploitation.¹⁵⁵ Finally, the Operational Guidelines encourage State Parties to create buffer zones managed according to complimentary legal protections to protect sites from use and development.¹⁵⁶

If these guidelines are not upheld or a State Party is ill-equipped to implement or enforce its management plan, then an "in danger" listing may be necessary to reform and supplement State Party efforts. This is the case with La Amistad International Park. Despite some effort to develop a management plan with certain protective goals, Panama has granted dam concessions to multinational companies to take advantage of the hydrographic nature of the Park's rivers. These dams, along with Panama's incapacity to implement the management goals for the Park, are likely to coalesce into catastrophe for the outstanding universal values of La Amistad International Park. The current management regime fails the central goal of maintaining and enhancing the integrity of World Heritage sites but could be salvaged with help from the World Heritage Committee.

a. Panama has not taken adequate regulatory and legislative action to protect the Park from development and has not adequately managed the Park's buffer zone.

In a sharp departure from the Operational Guidelines, Panama has opted to grant concessions for hydroelectric dams to be built in the Park's buffer zone. The ensuing development and the dams themselves represent adverse changes to the Park that the Operational Guidelines counsel against and are "modifications" to the buffer zone subject to World Heritage Committee approval.¹⁵⁷ In the case of La Amistad International Park, regulatory and legislative measures and a buffer zone must protect the Park's biodiversity, including threatened and endangered species and their habitats, and the natural beauty of the Park. However, Panama's management plan for its portion of La Amistad International Park and its management of the

¹⁵² Operational Guidelines, *supra* note 2, at §II(F) ¶ 96.

¹⁵³ *Id.* at §II(F) ¶ 97.

¹⁵⁴ *Id.* at §II(F) ¶ 98.

¹⁵⁵ *Id.* at §II(F) ¶¶ 99, 101.

¹⁵⁶ *Id.* at §II(F) ¶¶ 103-104.

¹⁵⁷ *Id.* at §II(F) ¶ 107.

Park's buffer zone have failed to protect the Park from the damaging effects of hydroelectric development.

i. The Resolutions granting the dam concessions constitute a regulatory action that will deteriorate the Park rather than protect it.

Panama has taken the regulatory action of granting concessions for the four hydroelectric dams within La Amistad International Park's buffer zone despite the fact that the dams will have devastating consequences for the Park's biodiversity—a central reason for listing the Park as a World Heritage site. The Panamanian national legislation that established La Amistad International Park, upon which the management plan for the Park is based, was written with this hydroelectric development in mind.¹⁵⁸ One of the plan's management goals provides for conservation of the Park's biodiversity; the other goal protects the hydrographic watersheds of the upper Changuinola and Teribe Rivers for hydroelectric development in the buffer zone.¹⁵⁹ Thus, the management plan for the Park identifies the construction of hydroelectric dams as a critical threat to the Park, but it also embraces the development potential of the Changuinola/Teribe watershed for hydroelectric purposes.¹⁶⁰ In fact, the plan lists the concession of hydroelectric projects as a major mechanism for funding the management of the Park.¹⁶¹ These conflicting goals pose a conundrum for the Park's managers and other influential decision-makers: When the development of the hydroelectric potential harms biodiversity, whether biodiversity conservation or hydroelectric development takes precedence is unclear.¹⁶²

As a result, Panama granted the concessions following woefully inadequate EIAs.¹⁶³ The EIAs consider only the aquatic species consumed by humans, ignoring the remainder of species and their ecological importance, including most of the extraordinary diadromous species inhabiting the Park's rivers.¹⁶⁴ Furthermore, the EIAs consider only the migratory patterns of adult fish, thus failing to address the migratory needs of juveniles, larvae, and eggs.¹⁶⁵ Because of these deficiencies in the EIAs, the plans for the dams currently do not provide adequate mitigation to allow for the survival of diadromous species.¹⁶⁶ In fact, the EIAs did not seriously

¹⁵⁸ Park Enactment Directive, *supra* note 5.

¹⁵⁹ Park Enactment Directive, *supra* note 5. "Proteger las cuencas hidrográficas superiores de los ríos Teribe y Changuinola, asegurando su estabilidad y calidad hídrica para el aprovechamiento de su potencial hidroeléctrico, considerado el mayor del país." La Amistad International Park Management Plan, *supra* note 39, at 2. "Proteger una muestra significativa de la biodiversidad biológica de una de las zonas mas ricas en fauna y flora que aún permanecen poco alteradas en la Republica de Panamá." La Amistad International Park Management Plan, *supra* note 39, at 2.

¹⁶⁰ *See id.* at 57, 60, 62.

¹⁶¹ *See id.* at 122. One of the arguments in favor of the dams is that revenues from the hydroelectric projects will help finance ANAM's patrolling of the Park. *See* Mafla, *supra* note 61, at 33.

¹⁶² *See* Mafla, *supra* note 61, at 24.

¹⁶³ *See* Ente Regulador Concession rights, *supra* note 41.

¹⁶⁴ Mafla, *supra* note 61, at 24.

¹⁶⁵ *Id.*

¹⁶⁶ *See id.* at 25-27. The Changuinola dam EIAs toy with the idea of fishways, which are fish passageways built to attempt to allow migrating species to pass through the dams. However, these options will fail because these mitigating strategies do not differentiate between the many different migration strategies. Some adult fish migrate downstream to spawn in the ocean and their juveniles migrate upstream. Others migrate upstream to spawn in the headwaters and their juveniles migrate downstream. Different species migrate at different times of the year. Species vary in size, strength, temperature needs, and speed. The EIAs do not address any of these differences.

consider the only alternative for the survival of these species: rivers without dams. Additionally, the EIAs do not address the effect that the population growth and resettlement associated with the dams will have on biodiversity.¹⁶⁷ Putting the Park's protection and preservation management policies second to hydroelectric development conflicts with the Operational Guidelines and will ultimately lead to the demise of the integrity of the Park's outstanding universal values. If the World Heritage Committee steps in with advice and expertise perhaps the extraordinary aquatic biodiversity and other important biodiversity of the Park will be preserved for future generations.

ii. Panama has appropriately established a buffer zone for the Park but is using it to destroy the values of the Park rather than preserve them.

The Operational Guidelines encourage State Parties to create buffer zones to aid protection of World Heritage sites and suggest that State Parties manage buffer zones in accordance with complementary legal restrictions.¹⁶⁸ The management plans for the Park and buffer zone clearly demonstrate that Panama is not managing the buffer zone in accordance with complementary legal restrictions. In fact, although Panama has created a buffer zone for the Park, it has managed it and the Park with an eye toward hydroelectric development.¹⁶⁹ Planning for the dams in the buffer zone, when the dams will inevitably impede the migrations of a significant number of diadromous species, is unequivocally the opposite of "complementary." Thus, despite the fact that Panama is ostensibly managing the Park to conserve its biodiversity, building the dams in the buffer zone does nothing to protect the Park.¹⁷⁰ Unfortunately, recent regulatory action under the current management plans for the Park and the buffer zone will inextricably upset the natural ecosystems for which the Park is renowned. With proper guidance, the management plan for La Amistad International Park can be strengthened to ensure that the Park is adequately protected and that the buffer zone is actually a "buffer" from threats to the Park's outstanding universal values.

Aside from falling short of complementary legal protection, the dams constitute a "modification" to the buffer zone which must meet the approval of the World Heritage Committee.¹⁷¹ Buffer zones must contain "attributes that are functionally important as a support to the property and its protection."¹⁷² Thus, buffer zones are an integral part of World Heritage site management, if not legally a part of the site. Because of the importance of buffer zones, the World Heritage Committee has a vested interest in ensuring that the area adequately protects the integrity of the relevant World Heritage site. The buffer zone for La Amistad International Park was designated, in part, to protect the biodiversity of the Park, but through the dam concessions Panama is effectively eliminating the characteristics of the buffer zone that

Furthermore, in instances in which fishways have been used in the Tropics, the results have been one-hundred percent failure. *Id.*

¹⁶⁷ See Bonyic EIA, *supra* note 42, II-6; Chan 75 EIA, *supra* note 52, at 84; Chan 140 EIA, *supra* note 52, at 80; and Chan 220 EIA, *supra* note 52, at 79.

¹⁶⁸ Operational Guidelines, *supra* note 2, at §II(F) ¶ 104.

¹⁶⁹ See Palo Seco Resolution, *supra* note 60.

¹⁷⁰ See Mafla, *supra* note 61, at 24.

¹⁷¹ Operational Guidelines, *supra* note 2, at § II(F) ¶ 107.

¹⁷² *Id.* at §II(F) ¶ 104.

support the protection of the Park's biodiversity. The World Heritage Committee should immediately engage Panama in dialogue about this modification to La Amistad International Park's buffer zone; to fail to do so will lead to catastrophic consequences for this portion of the world's heritage.

b. Panama has failed to mark a clear boundary for the Park and lacks the capacity to adequately protect the Park from human interference.

As the Operational Guidelines suggest, “the delineation of boundaries is an essential requirement in the establishment of effective protection” of World Heritage sites.¹⁷³ Commensurate with the establishment of an effective and protective boundary is the enforcement capacity needed to ensure that the boundary is well-patrolled and well-regulated. La Amistad International Park lacks both a clear boundary and the enforcement and management capacity to effectively monitor the boundary and prevent interference with the ecological stability of the Park. Engagement by the World Heritage Committee could improve this situation and potentially halt severe human encroachment.

i. La Amistad International Park lacks a clearly marked and enforceable boundary.

La Amistad International Park entirely lacks a well-defined boundary. Although the management plan sets forth a schedule for the maintenance of the delineation signs around the Park, the initial delineation of the boundary has not occurred.¹⁷⁴ In fact, since the boundary of the Park is unknown, communities around the Park have expressed confusion as to where they are allowed to engage in certain activities and which areas are off-limits.¹⁷⁵ As a result, as discussed thoroughly above, communities have routinely moved into the Park to set up settlements and have exploited the resources of the Park. Without a clear boundary, which would at least warn communities of their encroachment, La Amistad International Park suffers due to human interference. The lack of a clear boundary is a severe impediment to the protection of the outstanding universal values of the Park.

ii. The Park's management authority lacks the capacity to adequately prevent dangerous human encroachment

The influx of population and new development and infrastructure associated with the dams, combined with the lack of a clear and well-marked boundary, will stress the Park's minimal management capacities, which will further exacerbate existing dangers to the integrity of the Park. Even without any additional population or development, the Park's management authorities have failed to implement existing management goals to monitor and control human encroachment. The result, to date, has been a slow degradation of the integrity of the Park's outstanding universal values. The development associated with the dams will bring much more pressure to bear on the already taxed and limited management resources leading to potentially catastrophic consequences for the Park.

¹⁷³ *Id.* at § II(F) ¶ 107.

¹⁷⁴ La Amistad International Park Management Plan, *supra* note 39, at 108.

¹⁷⁵ Gonzalez Interview, *supra* note 122.

A striking number of examples exist that indicate that Panama lacks adequate capacity to fulfill even the modest monitoring and enforcement goals in its management plan for La Amistad International Park. First, although the plan provides for the surveillance of areas of existing human settlements and cattle ranching activities along the Changuinola River on the Caribbean side of the Park, this rarely occurs.¹⁷⁶ Second, the plan calls for the construction of a guard post between the Ngöbe settlements living inside the Park, but to date this post lacks a guard.¹⁷⁷ In light of this, the Ngöbe settlements have moved into the Park unimpeded by management officials.¹⁷⁸

Third, the management authorities have not implemented the monthly monitoring and patrols of critical areas of the Park to prevent illegal hunting and logging.¹⁷⁹ The plan states that it requires four park guards on the Pacific side of the Park (6,000 ha in Chiriqui Province).¹⁸⁰ These guards work two-person shifts and are charged with monitoring the six official entries and three known unofficial entries along the Pacific border of the Park.¹⁸¹ However, the guards spend most of their time at the principle guard post for the Pacific side of the Park, dealing with administrative and tourism matters and do not have sufficient time, personnel, or capacity to monitor the Park's other entrances.¹⁸²

The situation on the Caribbean side is even more dire. The plan provides for eight Park guards on the Caribbean side of the Park (201,000 ha in Bocas del Toro Province).¹⁸³ While people debate the actual number of guards on the ground, the same inability to effectively monitor exists as in Chiriqui Province.¹⁸⁴ There are four official entrances on the Caribbean side and an unknown number of unofficial entrances.¹⁸⁵ However, the guards spend most of their time at the principle guard post for the Caribbean side of the Park, on the Teribe River, leaving the other entry points and thousands of hectares unmonitored.¹⁸⁶ Alarming, over the past two years, the government has only sanctioned one person, for a total of twenty dollars, in the entire

¹⁷⁶ See La Amistad International Park Management Plan, *supra* note 39, at 102, 122. Gonzalez Interview, *supra* note 122.

¹⁷⁷ See *Id.* at 102, 122. The management plan calls for a monitoring post between Nueva Zelandia and Culebra, two expanding Ngöbe communities within the Park on the upper Changuinola River basin. *Id.* at 122. Gonzalez Interview, *supra* note 122.

¹⁷⁸ Gonzalez Interview, *supra* note 122.

¹⁷⁹ La Amistad International Park Management Plan, *supra* note 39, at 62, 107, 122.

¹⁸⁰ *Id.* at 87.

¹⁸¹ E-mail from FUNDICCEP, to Linda Barrera, Law Clerk, International Environmental Law Project (Feb. 12, 2007) (on file with authors). The six official entries on the Pacific side of the Park are: Jurutungo, Las Nubes, Los Pozos de Volcan, Cotito, Guadalupe, and Culebra. *Id.* These entries extend from Boquete to the border with Costa Rica, but vigilance of the entries is inadequate since the Park guards remain at Las Nubes, the principle guard post. *Id.* There are many unofficial entries to the Park that are not monitored, including three entries near Boquete town, where Park guards are rarely seen. Miranda Interview, *supra* note 50.

¹⁸² *Id.*

¹⁸³ La Amistad International Park Management Plan, *supra* note 39, at 87.

¹⁸⁴ Sanchez Interview, *supra* note 54.

¹⁸⁵ *Id.* The official entries include: Wesko, Guabo Yorkin, Boca Chica, and Buena Selva. *Id.*

¹⁸⁶ *Id.* These Park guards are staying mostly in the Wesko post and hardly seem to cover any other areas. *Id.* See also Gonzalez Interview, *supra* note 122.

Province of Chiriqui for illegal hunting in the Park.¹⁸⁷ Equally worrisome, coordinated management activities are lacking between the two sides of the Park in Panama, and between Panama and Costa Rica.¹⁸⁸ Lack of coordination inhibits the effective management of the threats facing La Amistad International Park.

C. Supplemental Factors

1. The decision of the World Heritage Committee can often be decisive if it can be given before the property becomes threatened.

Unfortunately, La Amistad International Park is already threatened with serious and specific ascertained dangers. However, the Park is also threatened with potential danger—if the Park continues to be inadequately managed, the ascertained dangers already identified will worsen and more will ensue. The World Heritage Committee’s advice could motivate Panama to actively manage and ameliorate the dangers to La Amistad International Park caused by hydroelectric dams, armed conflict, human encroachment, and inadequate management.

2. In the case of ascertained dangers, deteriorations should be judged by the intensity of their effects and analyzed on a case-by-case basis.

The ascertained dangers of hydroelectric dams, armed conflict and human encroachment, and their implications for La Amistad International Park, including deleterious effects on the Park’s hydrology, aquatic biodiversity, threatened and endangered species, and natural beauty, are the most intense threats facing the outstanding universal values of La Amistad International Park World Heritage site. Decisive action will preserve the Park’s values for future generations.

3. The World Heritage Committee should consider certain factors for appraising potential dangers.

The Operational Guidelines suggest that in the case of potential danger, the World Heritage Committee should consider the threats within normal evolutions of social and economic frameworks, note the impossibility of ascertaining certain threats, such as armed conflict, and realize that some threats are not imminent. Most of these factors do not apply. Aside from the ascertained dangers of hydroelectric dams and human encroachment, armed conflict has already occurred in the Park’s buffer zone. The potential danger for future armed conflict remains imminent as laborers move into the buffer zone and as indigenous people are displaced due to flooding because of the dams.

¹⁸⁷ Although the management plan lists poaching as a threat, according to ANAM’s website, they have only sanctioned one person in Chiriqui Province for illegal hunting since 2005. Autoridad Nacional del Ambiente Website, Multas y Sanciones, http://www.anam.gob.pa/sanciones/sanciones_regional.html (last visited Feb. 10, 2007).

¹⁸⁸ Binational Report, *supra* note 17, at 38. The Panamanian portion of the Park, found in Chiriqui and Bocas del Toro Provinces is fragmented. *Id.* Coordination between Costa Rica and Panama is inexistent. *Id.*

4. The Committee should take into account any cause of unknown or unexpected origin.

The causes of the dangers in La Amistad International Park World Heritage site are known: hydroelectric dams, armed conflict, human encroachment, and inadequate management. The only unknown is the speed and extent of further deterioration due to these threats.

IV. Major Operations are Necessary for La Amistad International Park's Conservation.

La Amistad International Park has endured as one of the most pristine areas in the world. It contains higher levels of endemism and biodiversity than any other protected area of its size. It extends over an incredible range of altitudinal diversity and protects the largest forest of Mesoamerica.¹⁸⁹ In one word, La Amistad International Park is unique. Without action, the Park faces the loss of its uniqueness, its biodiversity, and its integrity. The global community and particularly the State Parties that act as stewards of La Amistad International Park—Panama and Costa Rica—must act to mitigate or halt the threats posed by construction of hydroelectric dams, armed conflict, human encroachment, and inadequate management and enforcement. The World Heritage Committee can take the first step by recognizing La Amistad International Park as a World Heritage site “in danger.”

The Operational Guidelines provide support for corrective action when the factors that threaten the property are “amenable to correction by human action.”¹⁹⁰ This action may be “administrative or legislative . . . such as the cancelling of a major public works project or the improvement of legal status.”¹⁹¹ In the case of La Amistad International Park, all of the threats facing the Park are amenable to human action, including specifically the actions that the Operational Guidelines advocate, such as revoking the dam concessions and improving the management goals of the Park.

A. Corrective measures for the effects of the dams

The construction of the four hydroelectric dams in the Park's buffer zone poses the most serious and severe danger to the Park's integrity. Permanently halting the construction of these dams and revoking the concessions represent the only truly effective mitigation mechanisms. Because of the extensive diversity of the migratory aquatic species that make their home in the Park's rivers, mitigation methods such as fish-passageways are inadequate to reduce the inevitable harm to these species. No matter how built, the dams will impede the migrations of these truly amazing species, eventually resulting in total extirpation of these species from the Park's rivers. Without doubt, an effective program of corrective measures should consider halting construction of the dams. A program of corrective measures should also consider developing other alternatives for producing energy, including ways in which the indigenous communities themselves can benefit from these alternative sources of energy.

¹⁸⁹ Angehr, *supra* note 11, at 107. The altitudinal variation of the Park ranges from near sea-level to 3,300 meters. *Id.*

¹⁹⁰ Operational Guidelines, *supra* note 2, at §IV(B) ¶ 181.

¹⁹¹ *Id.*

Furthermore, corrective measures should be taken to reduce the effects of any development activities and any resulting population growth within the Park's buffer zone. First, management authorities must insist on reducing the ecological footprint of the roads and construction. For instance, creating temporary access roads instead of permanent roads and controlling vehicle use of those roads would help mitigate the pollution, erosion, and access to the area. Second, any labor force must be managed so as to reduce permanent settlement by laborers in the area. The food, water, and housing for these people should be supplied by the dam construction companies, and should not be garnered from the natural resources of the buffer zone or the Park.

Corrective measures to mitigate the effects of the dams include the following:

- Stop the dam construction
- Develop alternatives for energy production
- Strengthen Park management to control population growth and resource use
- Manage access roads to reduce the threat of illegal hunters, loggers, and colonizers

B. Mitigating future armed conflict

The second threat to the Park arises from the danger of armed conflict which has occurred in the past between indigenous groups and government forces, and may also occur between indigenous groups.¹⁹² In order to mitigate this threat, the Panamanian government should work to respect the indigenous decision-making and electoral process. More importantly, the government should begin to secure indigenous lands and recognize their land rights and titles. For instance, Panama should grant the Naso their long-awaited autonomous region, or Comarca. In addition, the government could sign the Convention concerning Indigenous and Tribal Peoples in Independent Countries (Convention 169) on Indigenous Rights or adopt legislation with similar provisions.¹⁹³ Convention 169 recognizes the need for governments to “consult” indigenous groups “through appropriate procedures and in particular through their representative institutions” for any action or administrative decision which might directly affect them.¹⁹⁴ In addition, it requires governments to ensure that indigenous traditions and land uses are considered and respected.¹⁹⁵ It also requires that indigenous ownership is recognized. Finally, Convention 169 recognizes “the right of these peoples to participate in the use, management and conservation of these resources.”¹⁹⁶

¹⁹² Jordan Interview, *supra* note 53.

¹⁹³ Convention concerning Indigenous and Tribal Peoples in Independent Countries, June 27, 1989, 28 I.L.M. 1382 (entered into force Sept. 5, 1991), *available at*, International Labour Organization, ILO Work on Indigenous and Tribal Peoples, Standards and Supervision, Conventions and other relevant instruments, Indigenous and Tribal Peoples Convention, 1989, <http://www.ilo.org/ilolex/cgi-lex/convde.pl?C169> (last visited February 19, 2007) [hereinafter Convention 169].

¹⁹⁴ *Id.* at Art. 6 §1 ¶ a.

¹⁹⁵ *Id.* at Art. 13-14.

¹⁹⁶ *Id.* at Art. 15 § 1.

If any dam development project occurs, many people, including several Naso and Ngöbe villages will have to be relocated. Care should be taken by the government to relocate populations to suitable lands. These populations, however, should not be relocated within the buffer zone or the Park. The indigenous people should have the ability to decide where they will move. Relocation should be onto lands suitable for their needs, including food, water, and rangeland for livestock, and should include just compensation. Displaced persons must improve or regain their previous standard of living.

Thus, mitigating the treat of armed conflict should require the following:

- Recognizing and securing indigenous land rights
- Granting the Naso people their Comarca
- Signing or adopting legislation similar to Convention 169
- Fair and adequate relocation

C. Corrective actions for human encroachment

Human encroachment has occurred partly because the Park does not have an adequately marked boundary. One corrective measure to address this problem would simply be to properly identify the boundary, with clear markers indicating that the Park is a World Heritage site. In addition, the people living inside and outside the Park must be adequately apprised of the importance of the Park, its protected status, their rights and responsibilities in regards to their actions, and the legal consequences if they stray from those responsibilities. Furthermore, for the indigenous people living in settlements inside the Park, the government should work with them to develop co-management strategies to protect the integrity of the Park.

Additionally, the management authorities should work to stop current and future illegal encroachment. Landholdings for agriculture and cattle ranching must be reclaimed by Park authorities. Access roads to illegal claims within the Park must be destroyed and unofficial entries must be blocked. Park guards must increase their monitoring of the Park and enforcement of existing legislation so as to reduce the number of people claiming land, reduce the amount of illegal hunting and logging, and sanction violators. The establishment of manned checkpoints in and outside of the Park would help with this effort.

In order to effectively reduce the human encroachment threats, the management authorities should do the following:

- Properly and adequately define the Park's boundary
- Educate people inside and outside the Park about its protective status, their rights and responsibilities, and sanctions for violating the law
- Adopt a co-management scheme with the indigenous Ngöbe communities living in the Park
- Reclaim illegal landholdings within the Park
- Destroy access roads to the Park
- Block unofficial entrances
- Increase monitoring patrols

- Enforce existing laws

D. Improved Management and Enforcement

In the long run, all of the corrective measures proposed within this petition must be sustained through the improvement and maintenance of the Park's management and enforcement. The management authority should work to enact and enforce adequate regulatory and legislative measures which will maintain and enhance the integrity of the Park. Specifically, this will include monitoring plans to patrol and enforce the Park's buffer zone, boundary, and interior. The current management plan provides for monitoring and patrols, but they need to be more effectively implemented. In addition, the Park staff must be increased. The current level of staffing is inadequate to adequately monitor any part of the Park, much less to enforce its protected status. This staff should be highly trained, large enough to cover the entire Park, and well-equipped. Funding to improve the status of these Park guards would greatly improve the existing inadequacies.

Further, management plans should consider the Park as a whole. The management authority needs to conduct a comprehensive species inventory for the whole Park, to better manage for threatened and endangered species and their habitats. In addition, coordination between the two Panamanian sides of the Park, in Chiriqui and Bocas del Toro Provinces, could improve. Coordinated patrols, education, and other activities would ensure a better management of the Park, its biodiversity, and its importance as World Heritage. Furthermore, management must also consider coordination with the Costa Rican portion of La Amistad International Park. Threats to the Park's integrity in Panama may also exist in Costa Rica, and a joint effort will better protect the whole of the Park.

Management issues are the second most-immediate factor threatening the Park after the pending construction of the hydroelectric dams. However, better management is also the longest term solution to current and future threats to the Park. Therefore, corrective action to improve management and enforcement should include the following:

- Implement the current schedule for monitoring and patrols in the 2004 management plan
- Increase Park guard staff, and provide them with effective training and adequate equipment to protect the Park
- Conduct a comprehensive species inventory for management of species and their habitats
- Coordinate management activities between the Pacific and Caribbean sides of the Park
- Coordinate management activities between the Panamanian and Costa Rican portions of La Amistad International Park

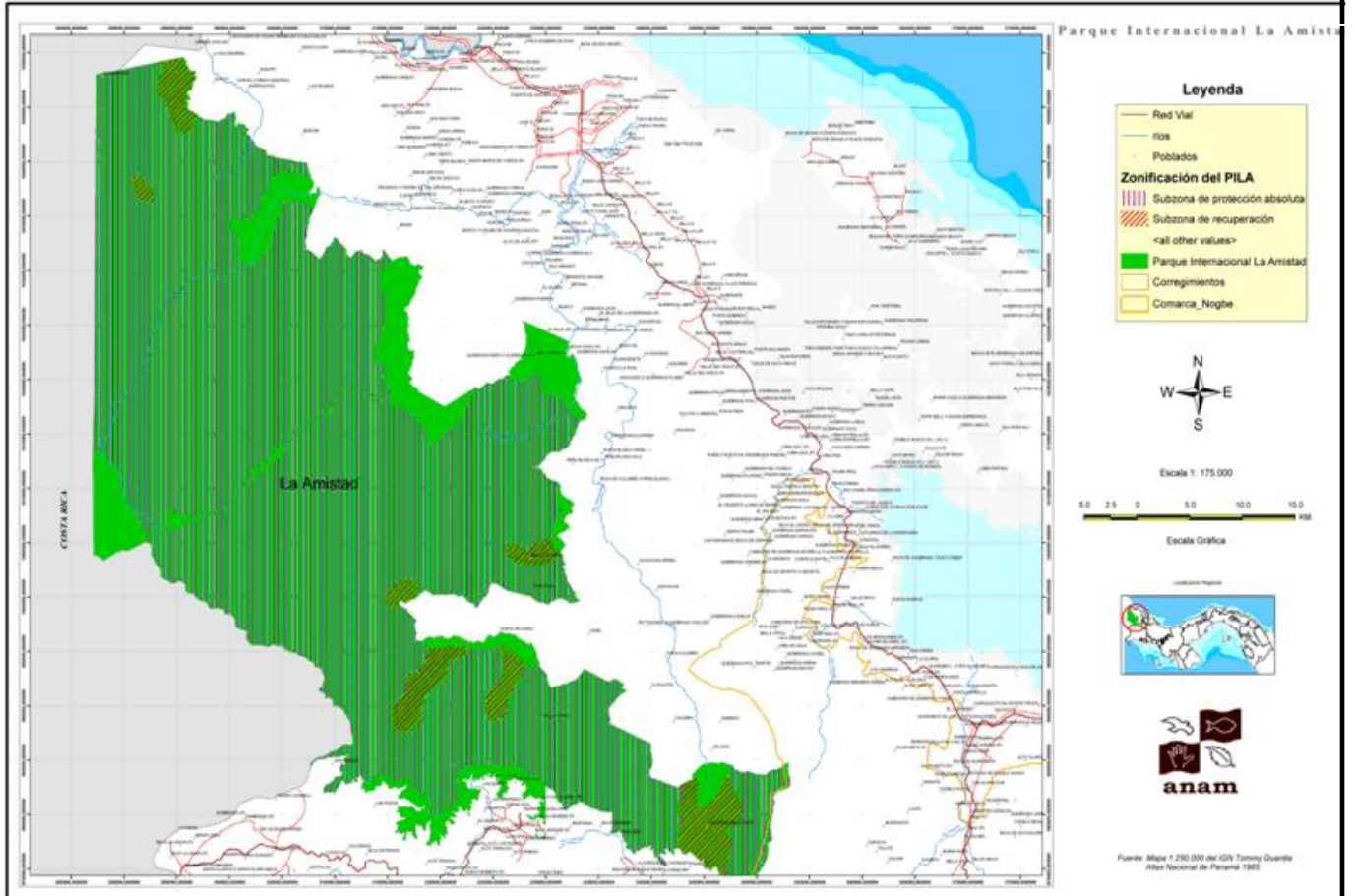
A program of corrective measures should consider all of the above factors. Taken together, these measures could help minimize some of the threats to the integrity of La Amistad International Park. An "in danger" listing, accompanied by a program of corrective measures and financial resources, will decrease the threats to the outstanding universal values of the Park.

V. Conclusion

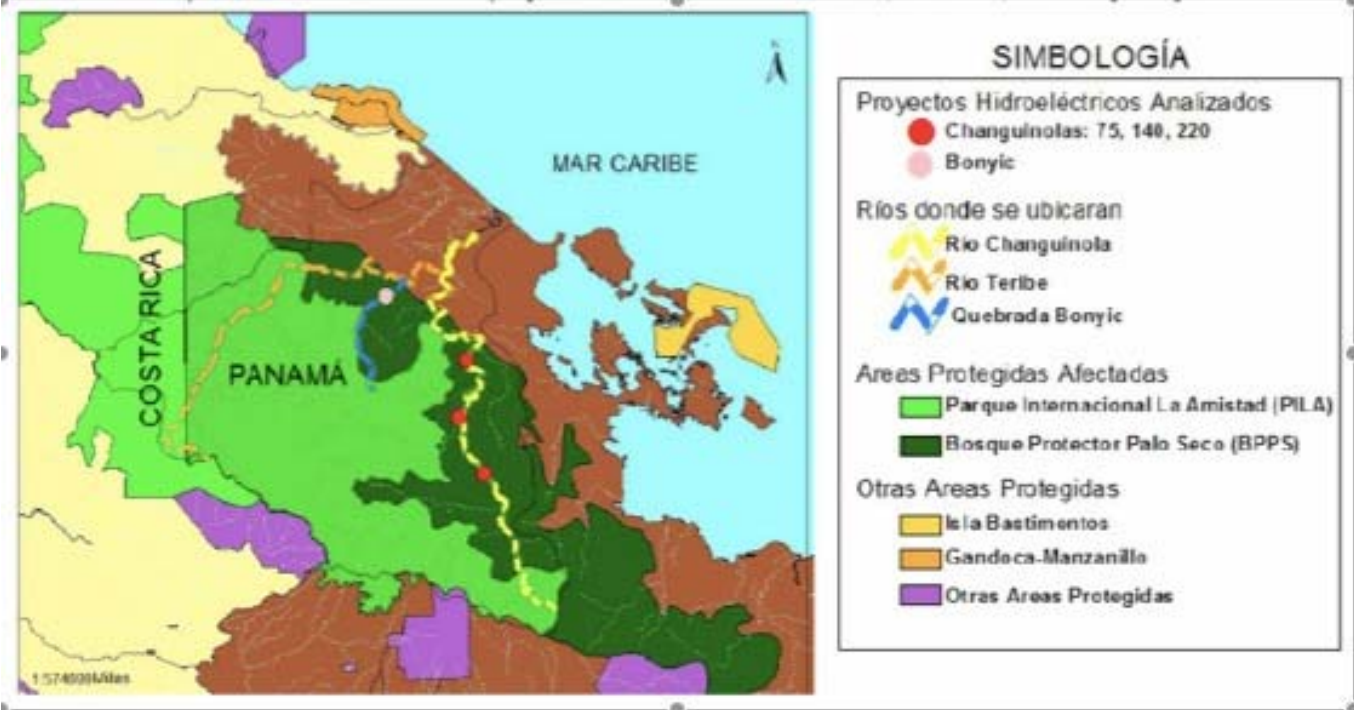
La Amistad International Park faces unprecedented, serious and specific dangers to its integrity, its outstanding universal value, and to the reasons for its inclusion on the World Heritage List. Decisive action from the World Heritage Committee is needed to ensure that the unique characteristics for which the Park was listed remain intact. Cooperation is needed now, and Petitioners urge the World Heritage Committee, the global community, and especially Panama and Costa Rica to work together to preserve the natural heritage of La Amistad International Park. In the words of a community leader from Boquete, Panama, “we want to emphasize that we have to take care of what is left of the Park.”¹⁹⁷

¹⁹⁷ Telephone Interview, Ezequiel Miranda, President, Asociación para la Conservación de la Biosfera, in Panama (Mar. 6, 2007).

Annex 1 – Map of La Amistad International Park



Annex 2 – Map showing the Dams on the Bonyic and Changuinola Rivers



Source: Cordero, *supra* note 40, at 14.

Annex 3 – List of aquatic species facing extirpation from the Park

Aquatic, diadromous species facing extirpation				
	Scientific name	Common name (English)	Common name (Spanish)	Categoria of Diadromy
1	<i>Anguilla rostrata</i>	American Eel	Anguila del mar	Catadromous
2	<i>Agonostomus monticola</i>	Mountain mullet	Sarten	Anfidromous
3	<i>Joturus pichardi</i>	Hog mullet	Bocachica	Catadromous
4	<i>Awaous banana</i>	River goby	Chuparena	Anfidromous/catadromous
5	<i>Pomadasys crocro</i>	Burro grunt	Ronco	Anfidromous
6	<i>Gobiomorus dormitor</i>	Bigmouth sleeper	Guavina	Catadromous/anfidromous
7	<i>Sicydium adelum</i>	Titi	Chupapiedra	Anfidromous
8	<i>Sicydium altum</i>	Titi	Chupapiedra	Anfidromous
9	Palaemonidae	Freshwater prawns	Langostino	Anfidromous
10	Atyidae	Shrimp	Burro	Anfidromous/catadromous

Source: MARIBEL H. MAFLA ET AL., CARACTERIZACION ICTIOLOGICA Y VALORACION DE HABITATS EN RIOS DEL PARQUE INTERNACIONAL LA AMISTAD, CUENCA CHANGUINOLA/TERIBE PROVINCIA BOCAS DEL TORO (PANAMA): UN TRABAJO INICIAL PARTICIPATIVO Y COMUNITARIO 44-45 (Asociación ANAI 2005)

Annex 4 –Panama Endangered Species List

Panama Endangered Species List				
Especies en Peligro de Extincion				
Scientific name	Common name (English)	Common name (Spanish)	Occurs in La Amistad International Park?	
Birds				
1	<i>Tinamus major</i>	Great Tinamou	Perdiz de Arca	Yes
2	<i>Crypturellus soui</i>	Little Tinamou	Perdiz de Rastrojo	Yes
3	<i>Crax rubra</i>	Great Curassow	Pavón y Pava Rubia	Yes
4	<i>Penelope purpurascens</i>	Crested Guan	Pava Cimba o Roja	Yes
5	<i>Nothocercus bonapartei</i>	Highland Tinamou	Perdiz Serrana	Yes
6	<i>Ortalis cinereiceps</i>	Grey-Headed Chachalaca	Paisana	Yes
7	<i>Chamaepetes unicolor</i>	Black Guan	Pava Negra o Norteña	Yes
8	<i>Dendrocygna autumnalis</i>	Black-Bellied Whistling Duck	Guichichi	No
9	<i>Cairina moschata</i>	Muscovy Duck	Pato Real	No
10	<i>Pharomachrus mocinno</i>	Resplendent Quetzal	Quetzal	Yes
11	<i>Harpia harpyja</i>	Harpy Eagle	Aguila Harpía	Yes
12	<i>Ara ararauna</i>	Blue and Gold Macaw	Guacamaya Azul	No
13	<i>Ara ambigu</i>	Great Green Macaw	Guacamaya Verde	Yes
14	<i>Ara macao</i>	Scarlet Macaw	Guacamaya Bandera	No
15	<i>Ara chloroptera</i>	Red and Green Macaw	Guacamaya Roja	No
16	<i>Amazona ochrocephala</i>	Yellow-Crowned Amazon	Loro Moña Amarilla	no data (n/d)
17	<i>Ara severa</i>	Chestnut-Fronted Macaw	Guaquita	No
18	<i>Odontophorus gujanensis</i>	Marbled Wood-Quail	Gallito de Monte	Yes
19	<i>Anas platyrhynchos</i>	Mallard	Anade Real	No
20	<i>Sarkidiornis melanotos</i>	Comb Duck	Pato Crestudo	No
21	<i>Anas acuta</i>	Northern Pintail	Pato Rabudo	n/d
22	<i>Anas clypeata</i>	Northern Shoveler	Pato Cuchara	No
23	<i>Anas americana</i>	American Wigeon	Pato Calvo	n/d
24	<i>Aythya affinis</i>	Lesser Scaup	Pato Pechiblanco	No
25	<i>Aythya collaris</i>	Ring-Necked Duck	Pato Collar	Yes
26	<i>Oxyura dominica</i>	Masked Duck	Pato Tigre	Yes
			Torcaza o Paloma	
27	<i>Columba leucocephala</i>	White-Crowned Pigeon	Coroniblanca	n/d
28	<i>Columba cayennensis</i>	Pale-Vented Pigeon	Torcaza Común	Yes
29	<i>Columba speciosa</i>	Scaled Pigeon	Paloma Escamosa	Yes
30	<i>Columba nigrirostris</i>	Short-Billed Pigeon	Tres-Peso-Son	Yes
31	<i>Columba subvinacea</i>	Ruddy Pigeon	Paloma Rojiza	Yes
32	<i>Zenaida asiatica</i>	White-Winged Dove	Paloma Aliblanca	No
33	<i>Zenaida macroura</i>	Mourning Dove	Paloma Rabiaguda	Yes
34	<i>Geotrygon lawrencii</i>	Purplish-Backed Quail-Dove	Paloma Morena	Yes
35	<i>Geotrygon costaricensis</i>	Buff-Fronted Quail-Dove	Paloma Costarrriqueña	Yes
36	<i>Geotrygon violacea</i>	Violaceous Quail-Dove	Paloma Violácea	No
37	<i>Geotrygon chiriquiensis</i>	Chiriqui Quail-Dove	Gorra Azul	Yes
38	<i>Falco peregrinus</i>	Peregrine Falcon	Halcón Peregrino	n/d
Mammals				
1	<i>Odocoileus virginianus</i>	White-Tailed Deer	Venado Cola Blanca	n/d
2	<i>Mazama americana</i>	Red Brocket Deer	Venado Corzo	n/d
3	<i>Mazama gouazoubira</i>	Brown Brocket Deer	Venado Corzo-Chocolate	n/d
4	<i>Tapirus bairdii</i>	Baird's Tapir	Macho de Monte - Tapir	Yes
5	<i>Tayassu pecari</i>	White-Lipped Peccary	Puerco de Monte	Yes
6	<i>Tayassu tajacu</i>	Collared Peccary	Saíno	Yes
7	<i>Agouti paca</i>	Spotted Paca	Conejo Pintado	n/d
8	<i>Trichechus manatus</i>	West Indian Manatee	Manatí	No

9	<i>Felis concolor</i>	Puma	León o Puma Americano	Yes
10	<i>Panthera onca</i>	Jaguar	Tigre o Jaguar	Yes
11	<i>Felis pardalis</i>	Ocelot	Manigordo u Ocelote	Yes
12	<i>Leopardus wiedii</i>	Margay	Tigrillo o Margay	Yes
13	<i>Felis yagouaroundi</i>	Jaguarundi	Tigrillo Congo	Yes
14	<i>Hydrochaeris hydrochaeris</i>	Capybara	Poncho o Capibara	n/d
15	<i>Speothos venaticus</i>	South American Bush Dog	Perro de monte	No
16	<i>Aotus lemurinus</i>	Lemurine Owl Monkey	Jujuná o Mono Nocturno	Yes
17	<i>Ateles fusciceps</i>	Brown-Headed Spider Monkey	Mono Araña Negro	No
18	<i>Saguinus oedipus</i>	Cotton-Top Tamarin	Mono Tití	No
19	<i>Ateles geoffroyi</i>	Black-Headed Spider Monkey	Mono Colorado	Yes
		Central American Squirrel		
20	<i>Saimiri oerstedii</i>	Monkey	Mono Ardilla	Yes
21	<i>Alouatta palliata</i>	Howler Monkey	Mono Aullador	Yes
22	<i>Cebus capucinus</i>	White-Throated Capuchin	Mono Cariblanco	Yes
23	<i>Dasyprocta punctata</i>	Central American Agouti	Ñeque	n/d
24	<i>Myrmecophaga tridactyla</i>	Giant Anteater	Oso Caballo	Yes
25	<i>Tamandua mexicana</i>	Northern Tamandua	Oso Hormiguero	n/d
26	<i>Cyclopes didactylus</i>	Silky Anteater	Tapacara o Gato Balsa	Yes
27	<i>Dasybus novemcinctus</i>	Nine-Banded Armadillo	Armadillo	n/d
28	<i>Cabassous centralis</i>	Naked-Tailed Armadillo	Armadillo Rabo de Puerco	n/d
29	<i>Urocyon cinereoargenteus</i>	Gray Fox	Gato de Monte	n/d
30	<i>Procyon cancrivorus</i>	Crab-Eating Raccoon	Gato Manglatero	No
31	<i>Procyon lotor</i>	Northern Raccoon	Gato Manglatero	n/d
32	<i>Lutra longicaudis</i>	Neotropical River Otter	Nutria o Gato de Agua	Yes
33	<i>Nasua narica</i>	White-Nosed Coati	Gato Solo	n/d
Reptiles				
1	<i>Caretta caretta</i>	Loggerhead Turtle	Tortuga Cahuama	No
2	<i>Chelonia mydas</i>	Green Turtle	Tortuga Verde o Blanca	No
3	<i>Lepidochelys olivacea</i>	Olive Ridley Turtle	Tortuga Mulato	No
4	<i>Dermochelys coriacea</i>	Leatherback Turtle	Tortuga Canal	No
5	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	Tortuga Carey	No
6	<i>Geochelone carbonaria</i>	Red-Footed Tortoise	Tortuga Terrestre	n/d
7	<i>Caiman crocodilus fuscus</i>	Brown Caiman	Babillo o Caimán	No
8	<i>Crocodylus acutus</i>	American Crocodile	Lagarto Aguja	No
9	<i>Boa constrictor</i>	Boa Constrictor	Boa	n/d
10	<i>Iguana iguana</i>	Iguana	Iguana	Yes
Amphibians				
1	<i>Atelopus zeteki</i>	Panamanian Golden Frog	Rana Dorada	No
<p>Source: Panamanian List of “Especies en Peligro de Extincion,” codified as Ley 23 del 23 enero de 1967, and the Resolución Dir. 002-80, available at http://www.anam.gob.pa/PATRIMONIO/especies%20en%20extincion.htm. Source for occurrence in the Park: George Angehr, <i>Directory of Important Bird Areas of Panama</i> (Panama Audubon Society (2003); <i>An Illustrated Field Guide to the Birds of Panama</i> (Ediciones Balboa 2006); and ANAM, Biodiversidad, Parques Nacionales, Parque Nacional La Amistad, http://www.anam.gob.pa/parques/plianew.htm (last visited Feb. 5, 2007).</p>				

Annex 5 – Letter from the Naso King

DE : EOC

NO. DE FAX : 7589137

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Sieyéc, 13 de Febrero 2007
Sede del Pueblo NASO
Palacio del Rey.

Señalamos al Consejo NASO como autoridad de consulta del Pueblo y su Organización Alianza NASO, denuncia toda las irregularidades y Violaciones hechas por La Empresa Públicas de Medellín con el Proyecto Hidro-eléctrico Bongio dentro del Territorio.

En el 2004 se inicia el Proyecto Hidro eléctrico Bongio, autorizado por la empresa Públicas de Medellín, donde sus intervenciones fueron directamente de sobornar a las autoridades de turno llegando a tal extremo de dividir e irrumpir las normas tradicionales del Pueblo NASO manteniendo a un supuesto Rey destituido por La Comunidad NASO Tito Santana.

Además la Empresa permitió a empleados en horas laborables en estado de ebriedad y llegar a intimidar y Avanzar en arma Blanca en lugares donde manteníamos reuniones.

Como si esto fuera poco hizo la Empresa Sobrevolar varias veces en helicóptero en donde estaba concentrado la Asamblea del Pueblo NASO y eso fue el 2 de agosto 2004.

Queremos q, sean palpable que la intrusión de la Fuerza Pública (policía) que de una manera drástica e impositiva con armas de Alto Calibre, Bombas Lagrimógenas para desalojar del Palacio del Pueblo NASO que es tabaconido en el momento.

Que el único pecado del pueblo era estar en contra de la Hidro- eléctrica
(Enviamos Fotos).

Esto significa, claro manifiesto que el proceso en que ha llevado esta Empresa solo refleja la Falta de transparencia, honestidad con el fin de ejecutar de algún modo el Proyecto Hidro eléctrico - Bongio.

Causas:

Consideramos que la causa fundamental del conflicto ha sido generado por el gobierno de turno, ya que el interés de la Comunidad es de su Proyecto Comarca-Tjer-Di, y no de un Proyecto Hidroeléctrico

Además tenemos que señalar que las afectaciones de la empresa ha sido en contubernio con el gobierno y supuestos dirigentes destituidos que no viven en las comunidades y q, solo hace ruido el gobierno Central

El conflicto existente; Provocará en el futuro su inestabilidad, su existencia, la Integridad del Pita.

- 1- Su mala misión al parque personas con fines de acaparamiento de terrenos.
- 2- Incremento de casería, Extracción de recursos naturales, maderas, objetos arqueológicos.

El pueblo NASO siempre ha sido una barrera para que no ingrese personas de cualquier naturaleza al Parque.

Arayo P. Vargas
Presidente del
Consejo NASO
1-23-744

Julio Vargas
Presidente de
ALIANZA NASO.



Valentin Santana
Rey del Pueblo NASO

1PI-3345

Luis A. Guzmán R.
Secretario: 1-18-1919