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World Heritage Patrimoine mondial

35 COM

Distribution limited / limitée

Paris, 6 May / 6 mai 2011

Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION
ORGANISATION DES NATIONS UNIES
POUR L'EDUCATION, LA SCIENCE ET LA CULTURE

CONVENTION CONCERNING THE PROTECTION OF THE WORLD
CULTURAL AND NATURAL HERITAGE

CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
MONDIAL, CULTUREL ET NATUREL

WORLD HERITAGE COMMITTEE / COMITE DU PATRIMOINE MONDIAL

Thirty-fifth session / Trente-cinquième session

Paris, France / Paris, France
19-29 June 2011 / 19-29 juin 2011

Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger.

Point 7 de l'Ordre du jour provisoire: Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

**Lorentz National Park (Indonesia) (N 955)
Parc national de Lorentz (Indonésie) (N 955)**

24 January to 3 February 2011

This mission report should be read in conjunction with Document:
Ce rapport de mission doit être lu conjointement avec le document suivant:

WHC-11/35.COM/7B.Add

UNESCO World Heritage Centre – IUCN

Draft MISSION REPORT

Reactive Monitoring Mission to the Lorentz World Heritage Site, Indonesia

24 January to 3 February, 2011



Lake Habema, Lorentz National Park WHA
Photo credit: Geoff Vincent

Geoff Vincent, IUCN Consultant

Glaudy Perdanahardja, UNESCO Jakarta, Representing the World Heritage Centre

February 2011

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1 ACKNOWLEDGEMENTS

The mission team acknowledges the assistance provided by people from the following organisations:

Republic of Indonesia: Directorate General of Forest Protection and Nature Conservation,
Ministry of Forestry
Directorate of Socio-Cultural Affairs and International Organisation of
Developing Countries, Ministry of Foreign Affairs
Provincial Government of Papua
Regency of Jayawijaya
Regency of Lanny Jaya

Freeport Mining Indonesia
WWF Indonesia - Sahul
The Samdhana Institute

2 LIST OF ACRONYMS

| | |
|-----------|---|
| ASEAN | Association of Southeast Asian Nations |
| BTNL | Balai Taman Nasional Lorentz (Lorentz National Park Bureau) |
| LNP | Lorentz National Park |
| MoF | Ministry of Forestry |
| OUV | Outstanding Universal Value |
| PHKA | Perlindungan Hutan dan Konservasi Alam (Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry) |
| PTFI | Freeport Indonesia, the Indonesian mining affiliate of Freeport-McMoRan Copper & Gold Inc (USA) |
| WWF Sahul | Worldwide Fund for Nature's eastern Indonesian region |

3 EXECUTIVE SUMMARY

From 24 January to 3 February 2011, a joint UNESCO/IUCN monitoring mission visited the Lorentz National Park and World Heritage property in accordance with **Decision 34 COM 7B.13**, adopted by the World Heritage Committee at its 34th session (Brasilia, 2010). The mission was the second undertaken to assess the conservation status of the property and the impact of illegal activities on its values and integrity. The current mission looked into the status and impacts of road construction and forest dieback on the property's Outstanding Universal Value, the implementation of the recommendations of the 2008 mission, the status of illegal activities and other threats affecting the Outstanding Universal Value of the property and the management effectiveness of the property. The main conclusions and recommendations are summarized below.

On the basis of information obtained, the mission concludes that the Outstanding Universal Value of the property is currently being maintained. However, the lack of recognition of the national park and its World Heritage status, and the lack of cooperation and coordination between national, provincial and local governments represent a serious potential threat to the property's OUV.

The mission expressed concern with a number of activities, currently on-going or planned within the property, which are not compatible with its World Heritage status. The key activity of concern is the construction of the Habema-Nduga-Kenyem road in the northern part of the park, which has apparently continued despite a number of meetings, undertakings and directives at various levels of government which have sought to halt construction. Lack of clarity in jurisdiction and accountability between national, provincial and local government levels substantially reduces the ability of the park management agency (Balai Taman Nasional Lorentz) to resolve this impasse.

The mission was informed that road construction in LNP is a priority for the Papuan provincial government. Having created ten local government regencies with jurisdiction over parts of the property, an integrated transport strategy to provide access and services to the regencies is now being implemented. It is the mission's view that, if this strategy is allowed to progress as planned, road construction will have significant localised environmental impacts. More importantly, the provision of roads linking the new regencies will segment the property and, in the absence of appropriate planning constraints, will facilitate other potentially conflicting landuses within the park, including expansion of human settlement, illegal logging, introduction of invasive species, poaching and uncontrolled tourism use.

The mission team visited the Lake Habema region of the park to view road construction and its impacts and to discuss management issues with park staff and customary owners. It is evident that BTNL's conservation philosophy complements the customary owners' traditional reverence for the natural resources of their land. The customary owners view their rights over the land as paramount, and seek concessions and compensation from governments and their agents for any activities undertaken on the land.

The Lake Habema road also provides important access for customary owners to Wamena, the capital of Jayawijaya Regency. However, the mission confirms that insensitive road construction techniques have led to significant local impacts on fragile montane and alpine landscapes and the introduction of a pathogen into the temperate *Nothofagus* forests in the vicinity of the Lake Habema road. Whilst there has been some progress in developing a research program to determine the cause of the dieback in the *Nothofagus* forest and implementation of a suitable treatment, this program has not yet commenced.

The mission also looked at management effectiveness of BTNL, the Ministry of Forestry's agency for the property. It is apparent that, whilst significant progress has been made since the establishment of BTNL in 2006, particularly in recruitment of staff and establishment of management infrastructure, little has been achieved in addressing management issues on the ground. This is primarily due to lack of technical expertise and lack of knowledge about ecosystem form and function.

Management Planning for the property has progressed since the production of the 2007-2012 Strategic Plan. A draft management plan is in the final stages of preparation after extensive consultation with Regency governments. A zonation plan has also been prepared with the assistance of WWF Sahul. However, both plans are seriously flawed in that the allocation of zones in the park is not based on the property's OUV. The inscribed World Heritage property has been progressively impacted by human use zones to such an extent that without a change in approach it will not be possible to effectively manage the property.

With regard to other threats affecting the OUV of the property, the mission found that little had changed since the 2008 mission. There is evidence of low-level logging for subsistence in the northern part of the park and some poaching in the lowlands.

In conclusion, the mission is concerned with ongoing and planned activities inside the property which are incompatible with its World Heritage Status. The Government of Indonesia should make a clear commitment to stop road construction within the property pending a thorough environmental assessment of the relevant parts of the integrated transport strategy for Papua and should initiate revision of the current planning and community engagement processes using the 2007-2012 Strategic Plan and World Heritage management effectiveness evaluation tools to guide progress. The mission team is concerned that the capacity of BTNL to manage the Property is sub-optimal due to lack of technical expertise and knowledge and inadequate research programs.

The mission also notes the following specific recommendations:

- R1.** Convene a meeting of the Ministries of Forests, Public Works and the Coordinating Ministry of Social Welfare to agree a strategy for the protection in perpetuity of the Outstanding Universal Value of LNP.
- R2.** Establish an inter-governmental forum to facilitate understanding and cooperation between National, Provincial and local levels of government and park management.
- R3.** Develop and implement a strategy to engage customary owners in park management decision-making.
- R4.** Ensure the immediate cessation of road construction in LNP.
- R5.** Immediately commence rehabilitation of the new Habema-Nduga-Kenyem road, including rehabilitation of constructed roads, reinstatement and stabilisation of soil profiles and drainage lines and revegetation of disturbed areas.
- R6.** Commission a Strategic Environmental Assessment of the integrated transport program for Papua as it relates to LNP to inform decision making about future management of the park and the preservation of its OUV. This assessment should identify the least environmentally damaging transport options for the alpine region of the property, including alternatives to road building.
- R7.** Undertake Environmental Impact Assessments of any future projects which are likely to affect the values and integrity of the property.

- R8.** Urgently seek external assistance to build staff capacity to manage complex ecological, technical and sociological issues.
- R9.** Undertake a community outreach program among the local people to raise awareness and improve understanding of the existence, values and benefits of the park.
- R10.** Review the budgeting and resource allocation processes for LNP to ensure that resources are applied to address the greatest threats to the Outstanding Universal Value of the property.
- R11.** Reinvigorate the proposal to establish Friends of Lorentz and a foundation to harness NGO and international input and financial support for management of the park.
- R12.** Undertake a review of the draft Management Plan and Zonation Plan for LNP using protection of OUV as the primary basis for zone allocation.
- R13.** Immediately implement the proposal to conduct research into *Nothofagus* dieback in LNP.
- R14.** Develop management guidelines to contain the spread of dieback disease and provide guidelines to customary owners and other authorities undertaking any activities in LNP.
- R15:** Organize, in cooperation with UNESCO, IUCN and other interested parties, a workshop to review the current planning and work programming arrangements for LNP to assist implementation of the above recommendations related to improved ecological, technical and sociological input and management capacity. This workshop should use the 2007-2012 Strategic Plan as the basis for developing planning and programming priorities and the IUCN publications [World Heritage Convention: Effectiveness 1992-2002 and Lessons for Governance](#) and [Evaluating Effectiveness : A framework for assessing the management of protected areas](#) as the basis for reviewing management arrangements. The mission proposes that the State party would request assistance from the World Heritage Fund for this workshop.
- R16:** Initiate appropriate high level discussions to resolve jurisdictional conflicts and impasses between national, provincial and regency governments and customary owners to assist implementation of the above recommendations related to governance of the property.



Customary owner Papa Halioké Yelipele welcomes the mission team to Lorentz (photo credit Geoff Vincent)

4 BACKGROUND TO THE MISSION

Lorentz National Park is located in Indonesia's Papua Province, along the Pegunungan Mandala range which features the Carstenz Pyramid (4884masl), the highest peak in South East Asia. The national park covers an area of around 2.35 millions hectares, making it the largest conservation area in the world.

In 1919, the Dutch Colonial Government established the Lorentz Nature Monument which became the first formal protection of the core area of its landscape. However, the protected status was abolished due to conflicts with local people over unresolved land ownership in 1956. The Indonesian Government established a Strict Nature Reserve (Cagar Alam) in 1978 with an area of 2,150,000ha. Lorentz National Park (2,505,600 ha), was established by the Ministry of Forestry decree in March, 1997, including an eastern extension (Mt.Trikora, Mt.Rumphius, Lake Habema area) and coastal and marine areas.

Lorentz National Park is the only protected area in the world which incorporates a continuous, intact transect from snow cap to tropical marine environment, including extensive lowland wetlands. Located at the meeting point of two colliding continental plates, the area has a complex geology with on-going mountain formation as well as major sculpting by glaciation and shoreline accretion which has formed much of the lowland areas. These processes have led to a high level of endemism and the area supports the highest level of biodiversity in the region. The area also contains fossil sites that record the evolution of life on New Guinea. With all of these values, the property was nominated by the Government of Indonesia in 1998 and listed as a natural World Heritage Site in 1999 under criteria viii (Earth's history and geological features); ix (Ecological process); and x (Biodiversity and threaten species).

At its 23rd World Heritage Session in Marrakesh, Morocco, the Committee noted that as per the request of 25 October 1999 from the Indonesian authorities, an adjustment of approximately 150,000 hectares was made to exclude oil exploration concessions in the south-east corner of the Park. The Committee accepted this reduction in the size of the property and agreed with the new boundaries. The modified size of the site is now about 2.35 million hectares.

The World Heritage Committee through its 28th session in Suzhou, China 2004 invited the State Party to commission an independent environmental audit of the impacts of the Habema Road, particularly the evidence linking impacts of the road to dieback disease in the temperate *Nothofagus* forests. However, no response was received by the committee. Under decision 31 COM 7B.18, the Committee reiterated its request to commission an independent environmental audit of the proposed Lake Habema Road, as requested at its 28th session. In addition, the committee also requested the State Party to invite a joint World Heritage Centre/IUCN mission to assess the state of conservation of the property, in consultation with all relevant stakeholders.

A joint World Heritage Centre/IUCN mission to Lorentz National Park was conducted on 26 March - 8 April 2008 and resulted in a list of recommendations to the Committee which were then incorporated into decision 32 COM 7B.15. The mission recommended *inter alia* that new illegal road construction should cease and that the old road be rehabilitated and its impacts mitigated. In line with the recommendation, the mission requested the state party to engage with local and provincial governments in resolving the threat of road development and potential impacts arising from decentralisation of government (the creation of new Regencies). In addition, the mission also requested that the causes of the die-back disease threatening the *Nothofagus* forests in the Lake Habema region be identified and controlled. In relation to illegal logging issues in the Lake Habema region, the mission endorsed the engagement of all indigenous communities within the property to identify options for sustainable development. However, the priority recommendations of the 2008 reactive monitoring mission have not been implemented, and extensive threats to the property in the Lake Habema region and southern lowland region have resulted in these areas of the property becoming seriously degraded.

The Committee at its 34th session in Brazil 2010 urged the state party to fully implement the recommendations of the 2008 reactive monitoring mission and to prioritize those which are most urgent, in particular to cease all road construction in the Lake Habema region and rehabilitate old constructed roads and mitigate the impacts; identify and control the spread of die-back disease threatening the Nothofagus forest. The committee also requested the state party to convene an international workshop in 2010 to explore all options for effective management of the property and to invite a joint reactive monitoring mission in 2010 to assess the impact of road construction, forest dieback, illegal logging, poaching and illegal fishing on the property's values and integrity.

5 NATIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF THE WORLD HERITAGE PROPERTY

5.1 Protected area legislation

Lorentz National Park was established by Ministerial Decree in 1997 by Law No.41 on Forestry of 1999. Law No. 5 of 1990 concerning Conservation of Biodiversity and Ecosystem also applies.

5.2 Institutional framework

The national government of the Republic of Indonesia is responsible for the management of Lorentz National Park and for ensuring that the provisions of the World Heritage Convention in respect of the property are met. The Head of the Lorentz National Park Bureau (Balai Taman Nasional Lorentz) is responsible to PHKA within the MoF in Central Government.

5.3 Management structure

In 2006, the Minister of Forestry, by regulation 29/2006 established the BTNL. BTNL operates from new headquarters in Wamena with three decentralised operational sections in Timika, Dekai and Ilaga. The Bureau is headed by a manager who directs the activities of 78 staff.

5.4 Response to the recognition of values under international treaties and programmes (World Heritage Convention, Ramsar Convention, Biosphere Reserve etc.)

LNP is designated as an ASEAN Heritage Site.

6 IDENTIFICATION AND ASSESSMENT OF ISSUES / THREATS

6.1 Government decentralisation and Provincial development

Under arrangements put in place by President Megawati in 2001 (Special Autonomy Law No. 21), Papua province was granted Special Autonomy status, giving the provincial government substantial self-governing powers, including the retention of revenue generated in the province and additional national Government funding. In 2008, the provincial government created six new local government Regencies (Kabupaten) in the mid-mountain region of Papua. These Regencies are responsible for the provision of services to the people living in those areas with consequent pressure for development of services (particularly transportation services) across the Park. Ten Regencies now have part of LNP within their boundaries (see Map 1 Annex 7). To date the administrative boundaries of the new regencies are unclear. In addition, both the provincial government and the ten Regencies have responsibility for forest management and conservation within their jurisdictions. Furthermore, the customary owners of the land now encompassed by LNP do not recognise any sovereignty over the land other than their own. This was confirmed by

a high level provincial official who stated that *“There is no state land in Papua, it all belongs to the people”*.

These overlapping jurisdictions and ambiguous accountabilities generate tensions in the mid-mountain region of Papua which constitute an escalating threat to sound management of LNP to the extent that the Lorentz National Park Bureau is virtually powerless to oppose development pressures from provincial and local governments. In addition, the lack of meaningful consultation between the Lorentz Park Bureau and the customary owners of the land result in the customary owners entering into arrangements, including the receipt of compensation payments, with provincial and Regency governments and their contractors who undertake works in the park contrary to national legislation.

Recommended Response to Threat:

- R1.** Convene a meeting of the Ministries of Forests, Public Works and the Coordinating Ministry of Social Welfare to agree a strategy for the protection in perpetuity of the Outstanding Universal Value of LNP.
- R2.** Establish an inter-governmental forum to facilitate understanding and cooperation between National, Provincial and local levels of government and park management.
- R3.** Develop and implement a strategy to engage customary owners in park management decision-making.

6.2 Road construction

6.2.1 Lake Habema Road

The Lake Habema road was constructed in 1989, reportedly to provide tourist access to Lake Habema. Construction was funded by the Jayawijaya regency. The road also services indigenous communities to the west of the lake in the area of Kuyawage. Much of the initial damage caused by road construction has now stabilised, although poor route choices, insensitive construction techniques and lack of maintenance of this road ensure that erosion and rock falls continue to contribute to environmental degradation in the vicinity of the road and further downslope (see photos 6-8 , Annex 8). The road is still used by customary owners for transport to and from Wamena, although poor construction techniques, particularly where the road crosses watercourses, and lack of maintenance means that the journey is becoming increasingly hazardous. Customary leaders have recently requested the Ministry of Public Works to rehabilitate and maintain the road in good condition.

Tourist use of the road is reportedly low. BTNL has constructed 15 camping shelters, each about 4 metres square, in the area immediately north of Lake Habema for tourist use (see photo 9, Annex 8). Use of these facilities has apparently not eventuated to any significant degree, and some of the shelter materials have been appropriated by customary owners for their use.

6.2.2 Habema-Nduga-Kenyem road

The 2008 monitoring mission observed that illegal construction of a new road had commenced east of Lake Habema.

It was reported to this mission that the BTNL halted road construction in 2008 and reported the circumstances to the Director General of PHKA. The Ministry of Forestry then wrote to the Governor

of Papua to cease road development, but the Papuan provincial government recommenced construction in 2009 (see Photo 11, Annex 8).

The Governor of Papua's staff report that more than 90% of transportation in the province is carried out by air. Papua has more than 430 airstrips and private company investment in air cargo services continues to escalate. However, air transport is very expensive for transportation of goods, particularly building materials (the World Bank (2007) reported that the Papua Government provided an air transportation subsidy of approximately USD 400,000). To overcome this and meet the development demands of the province, the Papuan government is introducing an integrated transport program incorporating transport by air, river and road. The Habema-Nduga-Kenyem road is being constructed under this program using Development of Papua Fund money (national funding), to connect Wamena (currently only accessible by air) to other Regencies.

As reported to this mission by the staff of Jayawijaya Recency, the most economical means of achieving this connection is via Timika, 240 km south west of Wamena. Given that the Jayapura to Wamena road, which was constructed in the 1970's, is now derelict and unrecoverable, it is proposed that goods be transported from Timika (Mimika Regency) by boat to Kenyem in the Sawa Erma area on the Pomats River (Asmat Regency) thence by road to Yuguru (Nduga Regency), Lake Habema and Wamena (Jayawijaya Regency). It is also proposed that roads be constructed from Kuyawage (west of Lake Habema) north west to Tiom (a village in western Jayawijaya Regency), west to Ilaga in Lanny Jaya Regency and on to Puncak Jaya Regency further to the north.

The entire 174 km of road has reportedly been surveyed and designed at grades less than 10%. Construction has proceeded some distance to the south west of Lake Habema, but this mission was unable to determine that distance or if road construction was still in progress because of hazardous watercourse crossings. A sign about 3 km west of the intersection with the old Lake Habema road (see photo 11, Annex 8) indicates that construction recommenced in 2009 with an estimated completion time of 270 days. The road construction contractor PT Arwana Ratu Indah reportedly paid the customary owners of the land IDR 200 million (about USD 22,000) in compensation for construction of the road. In 2010 MoF requested the provincial government to halt new road development in the Lake Habema area and conduct a viability study on the planned route. The Papuan government insists that construction of the Habema-Nduga-Kenyem road will continue because it is one of eleven of the provincial government's priority projects to implement its integrated transport program for the province.

In 2008 the Ministry of Home Affairs held a meeting inviting the PHKA to discuss the Habema-Nduga-Kenyem road. A recommendation from that meeting was that MoF needed to prepare guidelines for Papua province for road construction in protected areas. This recommendation has not been actioned. In 2009 MoF wrote to the Papuan government and all of its local government regencies requiring feasibility studies for all proposed road construction projects in protected areas but this has not been implemented.

After a meeting with the coordinating Minister for Social Welfare in 2008 the then Minister of Forests asked the coordinating Minister to organise a meeting of all stakeholders to discuss the road but this has not occurred. In 2008 the Indonesian President asked the Minister of Home Affairs to establish a special intergovernmental working group chaired by the Director General of Regional Development to investigate the road and facilitate discussion between parties. The working group was asked to find solution to the road development issue in Lorentz. This has not been actioned.

Despite repeated requests to national, provincial and local governments for access to documentation about the integrated transport program for Papua and supporting maps, surveys and design documentation for road construction, none was provided to the mission.

In 2010, MoF wrote twice to the Coordinating Ministry of Social Welfare seeking a meeting to resolve road development in Lorentz. In response, the Coordinating Ministry of Social Welfare has convened an inter departmental meeting on 1st April 2011 to discuss the threat of road development in the Lake Habema region and potential impacts arising from decentralisation of government. MoF and the Ministry of Public Works were invited to the meeting. Following the request from PHKA, the Directorate of Highways (Bina Marga), Ministry of Public Works has halted road development in the Lake Habema Region and has instructed its regional office in Papua to cease road development in the Lake Habema Region until MoF issues a permit. In addition, the Ministry of Public Works has undertaken to work closely with Ministry of Forestry regarding road development in the Lake Habema Region.

As a result of the April 1 2011 meeting, it appears that construction of the Habema-Nduga-Kenyem road has once again been halted. However, this requires verification on the ground by the BTNL. In addition, the immediate commencement of rehabilitation works is required to lessen the visual appearance of the road scar from elsewhere in the park (see photo 10, Annex 8) and stabilise the extensive peatlands, bogs and highly erosive soils which were excavated to accommodate the road (see photos 13-18, Annex 8).

Whilst the impacts of the roads constructed in the Lake Habema region of the park have been relatively localised if road construction recommences and the road is completed as proposed by the Papuan integrated transport program, large areas of LNP will be opened to other threatening processes including human settlement, illegal logging and poaching, introduction of alien species and uncontrolled tourist access. Unless the broader implications of this proposed development strategy are specifically addressed by national, provincial and regency governments, the OUV of significant parts of the property will be directly threatened.

It is interesting to note that Tsinga village, southeast of PTFI's Grasberg mine, demonstrates that transport problems can be resolved other than by building roads. The ridge-top airstrip gives access to climbing tourists as well as customary owners (see photo 20, Annex 8). The Mimika Regency subsidises air transport costs for the local community, such that aircraft rental for a 6-seater plane, normally IDR 16 million (approx. USD 1800) per hour is reduced to IDR 850,000 (approx. USD 95) per hour or IDR 140,000 (approx. USD 16) per passenger.

Recommended Response to Threat:

- R4.** Ensure the immediate cessation of road construction in LNP.
- R5.** Immediately commence rehabilitation of the new Habema-Nduga-Kenyem road, including rehabilitation of constructed roads, reinstatement and stabilisation of soil profiles and drainage lines and revegetation of disturbed areas.
- R6.** Commission a Strategic Environmental Assessment of the integrated transport program for Papua as it relates to LNP to inform decision making about future management of the park and the preservation of its OUV. This assessment should identify the least environmentally damaging transport options for the alpine region of the property, including alternatives to road building.
- R7.** Undertake Environmental Impact Assessments of any future projects which are likely to affect the values and integrity of the property.

6.3 Management effectiveness

In 2007 the State Party established a special management body, the Lorentz National Park

Bureau (Balai Taman Nasional Lorentz) for LNP, headquartered in Wamena in Papua Province on the north eastern corner of the park. The Bureau employs 78 staff comprising 10 professionals, 5 administrative staff and 46 forest rangers based in Wamena, and 17 operational staff based in three decentralised sections at Timika, Dekai and Iliga. Most of the staff based in Wamena are still undergoing training as probationary candidates for permanent civil service. As they qualify for permanency, some of these staff will be progressively allocated to the operational sections. A further 5 staff per section are planned to be allocated this year. Of the 78 staff, 30 are Papuan and of these, 11 are indigenous to the mid-mountain region.

The mission noted that the park staff have limited knowledge or experience of contemporary protected area management principles or practice, including basic park management programs. For example, the survey of the park boundary remains uncompleted and there are no boundary identification signs in place within the park. This is a barrier to local people's appreciation of the existence of the park and of its OUV. This issue is exacerbated by the lack of vehicles and equipment (the mission observed only 1 LNP Bureau-branded vehicle and there are no watercraft for management of the extensive marine, estuarine or river systems in the park) and the prohibitive cost of fuel.

To implement the decision of the 34th meeting of the World Heritage Committee (decision: 34 COM 7B.13, Brasilia, Brazil, 2010), the PHKA, held an International Workshop on the Effective Management of the World Heritage Site, LNP in Jakarta on 29th November 2010.

Park budgets to date have been expended largely on the establishment of administrative infrastructure including a new headquarters building in Wamena. Section managers from the 3 operational areas of Timika, Dekai and Ilaga list lack of staff, lack of equipment, lack of accommodation for field staff, over-use of resources by local people and conflict with regency governments as key issues.

The current year's budget and allocations to activities are as follows (USD 1 = IDR 9000 approx.):

| No | Activities | Budget (IDR) | % |
|----|---------------------------------|----------------------|------------|
| 1 | Zoning socialization | 88,750,000 | 0.9 |
| 2 | Networking development | 71,460,000 | 0.7 |
| 3 | Planning coordination | 94,500,000 | 3.0 |
| 4 | Planning & reporting | 48,050,000 | 0.5 |
| 5 | Office operation | 490,550,000 | 5.0 |
| 6 | Park status coordination | 41,000,000 | 0.4 |
| 7 | Office facilitation development | 1,907,165,000 | 19.3 |
| 8 | Office construction | 1,451,035,000 | 14.7 |
| 9 | Cases handling | 20,000,000 | 0.2 |
| 10 | Tourism route survey | 82,410,000 | 0.8 |
| 11 | Community development | 91,050,000 | 0.9 |
| 12 | Office equipment development | 604,045,000 | 6.1 |
| 13 | conservation awareness program | 91,880,000 | 0.9 |
| 14 | Office operation | 3,681,159,000 | 37.3 |
| 15 | Park protection | 344,400,000 | 3.5 |
| 16 | Capacity development | 92,200,000 | 0.9 |
| 17 | Data & information | 308,090,000 | 3.1 |
| 18 | Orchid propagation | 25,240,000 | 0.3 |
| 19 | Forest die back assessment | 54,080,000 | 0.5 |
| 20 | Forest fire prevention | 94,100,000 | 1.0 |
| | Total | 9,881,164,000 | 100 |

This budget clearly indicates that most resources are directed to infrastructure development and operation (Items 1, 7, 8, 12 and 14 total over 83% of the budget), whilst only 16% is allocated to direct management activity.

The 2007-2012 Strategic Plan has now been adopted, although on-ground action has been delayed whilst a management plan and zonation plan are being prepared. These plans are now nearing completion and have been subject to extensive consultation with Regency governments, facilitated by WWF Sahul.

However, the premise upon which both plans are based is flawed. This is best demonstrated in the case of the zonation plan. The foundation of the plan is that the entire park should be core or primary conservation zone. However, subsequent zones based on human use requirements are then overlaid, with the result that the core zone becomes fragmented and considerably reduced in size. Furthermore, an entire biome, the alpine nival zone, has been zoned for utilization (eg tourism development) presumably because it lacks vegetation (see Map 2, Annex 7).

Recommended Response to Threat:

- R8.** Urgently seek external assistance to build staff capacity to manage complex ecological, technical and sociological issues.
- R9.** Undertake a community outreach program among the local people to raise awareness and improve understanding of the existence, values and benefits of the park.
- R10.** Review the budgeting and resource allocation processes for LNP to ensure that resources are applied to address the greatest threats to the Outstanding Universal Value of the property.
- R11.** Reinvigorate the proposal to establish Friends of Lorentz and a foundation to harness NGO and international input and financial support for management of the park.
- R12.** Undertake a review of the draft Management Plan and Zonation Plan for LNP using protection of OUV as the primary basis for zone allocation.

6.4 *Nothofagus* dieback

As has been reported since the 2004 monitoring mission, *Nothofagus* forest in the vicinity of the Lake Habema road has suffered from an insidious dieback disease, the cause of which is yet to be determined.

This mission observed that the dieback downslope of the road appears to have stabilised somewhat (see photos 1-3 at Annex 8). However, dieback now appears to be occurring upslope of the road (photos 4 and 5, Annex 8). The cause of this is unknown, but may be due to the activities of the customary owners as they walk through the forest spreading the disease pathogen from soil adhering to their feet or tools.

On a flight from Timika to the PTFI Grasberg mine site, it was observed that the mine access road traversed extensive areas of *Nothofagus* forest, with no dieback being apparent.

An agreement has been negotiated between the Ministry of Forestry and the University of Papua to study the extent, causes and potential responses to *Nothofagus* dieback in Lorentz . This study is scheduled to commence later this year.

Recommended Response to Threat:

- R13.** Immediately implement the proposal to conduct research into *Nothofagus* dieback in LNP.
- R14.** Develop management guidelines to contain the spread of dieback disease and provide guidelines to customary owners and other authorities undertaking any activities in LNP.

6.5 Status of other threats

6.5.1 Illegal Logging

Illegal logging has previously been reported (monitoring missions 2004 and 2008) along the Lake Habema road in the north east of the park and in the Asmat region in the south east. This mission observed the continuation of small-scale logging operations on the Lake Habema road. These activities are regarded by most people, including forest management authorities, as subsistence logging undertaken by customary owners to provide timber for shelters and garden fences. There was no evidence of large-scale logging activity in areas visited by the mission and licenses to transport of timber are not issued unless the applicant owns land in the Forest Conversion Zone, outside the Park boundary.

6.5.2 Illegal Fishing

Interviews with LNP Bureau staff revealed that there was little likelihood of inshore trawl fishing developing into a major management issue. The boundary is patrolled by police and the Indonesian navy and because of the extreme tidal range and shallow inshore waters, vessels found it difficult to navigate close to the shoreline. However, the marine section of the property should be officially marked to facilitate effective management.

6.5.3 Aquatic Weeds:

Although no invasion of the property by water hyacinth (*Eichornia crassipes*) has been detected, vigilance and preventative action to prevent the spread of this and other alien species into the extensive wetlands and waterways of the property should be initiated.

6.5.4 Poaching

While the mission was visiting Timika, the Berita Kita newspaper, produced locally by Freeport Indonesia reported illegal poaching of 11,000 pig-nosed tortoise in a single shipment (*Carettochelys insculpta*). The head of the Natural Resources Conservation Center (BKSDA) of Department of Forestry in Timika reported that the poacher collected the turtle eggs illegally in Asmat region. The poacher then incubated the eggs in a village in the Asmat region and raised the young tortoises until they were old enough to be exported to Surabaya. It was reported that the tortoises had been intercepted in the district and were returned to a river in Lorentz under the supervision of Mimika Regency and Freeport Mining staff. Implementation of Recommendations R9 and R10 will assist in detecting future poaching activities.

7 ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

LNP was inscribed on the World Heritage List in 1998 under natural criteria (i), (ii) and (iv) (post-1999 natural criteria (viii), (ix) and (x)). The mission concludes that **the Outstanding Universal Value of the Property is currently being maintained.**

Values for which the property is inscribed:

The property continues to represent on-going geological processes in the development of landforms and significant geomorphic and physiographic features (Criterion (viii)). Located at the meeting point of two colliding continental plates, the property has a complex geology with on-going mountain

formation as well as major sculpting by glaciation and shoreline accretion which has formed much of the lowland areas. The property continues to represent significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals and continues to support high levels of endemism (Criterion (ix)). As far as can be determined without comprehensive surveys, the property continues to contain 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 (Criterion (x)).

The *Integrity of the property* is currently being maintained. Although fragile glaciated landscapes in the Lake Habema region have been damaged by road construction and a pathogen has been introduced which causes dieback in temperate *Nothofagus* forest in the vicinity of the Lake Habema road, the majority of these landscape types in the property remains intact. However, as noted previously, if the planned implementation of an integrated transport strategy for Papua is fully implemented, extensive road construction will segment the property and lead to other damaging landuses. The mission is of the view that such uncontrolled and unplanned activity could ultimately degrade or threaten the OUV of the property so as to constitute a basis for inscription of LNP on the List of World Heritage in Danger.

The mission is concerned that both management planning and management capacity, whilst improving, are currently inadequate to meet the challenges of such a large and complex area. It was clear to the mission that key strategies proposed in the 2007-2012 Strategic Plan for participatory planning, protection, biodiversity conservation, cultural heritage conservation and sustainable use have not been implemented. If this lack of action continues, the mission is of the view that the integrity of the property could be threatened. The mission considers that the main reasons for this are inadequate staff training and inadequate resourcing of on-ground management programs, combined with overlapping or conflicting jurisdictional issues at all levels of government.

The Mission suggests that a thorough review of planning and work programming processes be undertaken by MoF and BTNL to ensure that the resources allocated for management are applied to the highest priority tasks (that is, activities that identify, address and monitor the most significant threats to the property's OUV) by the most efficient and effective means possible. The mission further suggests that this process should be accompanied by a comprehensive review of management and governance arrangements between national, provincial and local government levels and customary owners to resolve the current jurisdictional conflicts.

Recommended Response to Threat:

- R15:** Organize, in cooperation with UNESCO, IUCN and other interested parties, a workshop to review the current planning and work programming arrangements for LNP to assist implementation of the above recommendations related to improved ecological, technical and sociological input and management capacity. This workshop should use the 2007-2012 Strategic Plan as the basis for developing planning and programming priorities and the IUCN publications [World Heritage Convention: Effectiveness 1992-2002 and Lessons for Governance](#) and [Evaluating Effectiveness : A framework for assessing the management of protected areas](#) as the basis for reviewing management arrangements. The mission proposes that the State party would request assistance from the World Heritage Fund for this workshop.
- R16:** Initiate appropriate high level discussions to resolve jurisdictional conflicts and impasses between national, provincial and regency governments and customary owners to assist implementation of the above recommendations related to governance of the property.

8 CONCLUSION AND RECOMMENDATIONS

On the basis of the evidence seen by the mission, the mission concludes that the natural values, as currently stated (i.e. those which led to the LNP being inscribed as a World Heritage Site in 1999), would appear to be being maintained. However, in relation to governance and management of the site, comprehensive reviews of current arrangements should be undertaken to assist the State Party to implement improvements in the future and enable future reactive monitoring missions to more effectively assess the state of conservation of the site.

The mission has the following conclusions and recommendations, based on the issues identified in the preceding sections:

The mission recommends that the State Party:

- R1.** Convene a meeting of the Ministries of Forests, Public Works and the Coordinating Ministry of Social Welfare to agree a strategy for the protection in perpetuity of the Outstanding Universal Value of LNP.
- R2.** Establish an inter-governmental forum to facilitate understanding and cooperation between National, Provincial and local levels of government and park management.
- R3.** Develop and implement a strategy to engage customary owners in park management decision-making.
- R4.** Ensure the immediate cessation of road construction in LNP.
- R5.** Immediately commence rehabilitation of the new Habema-Nduga-Kenyem road, including rehabilitation of constructed roads, reinstatement and stabilisation of soil profiles and drainage lines and revegetation of disturbed areas.
- R6.** Commission a Strategic Environmental Assessment of the integrated transport program for Papua as it relates to LNP to inform decision making about future management of the park and the preservation of its OUV. This assessment should identify the least environmentally damaging transport options for the alpine region of the property, including alternatives to road building.
- R7.** Undertake Environmental Impact Assessments of any future projects which are likely to affect the values and integrity of the property.
- R8.** Urgently seek external assistance to build staff capacity to manage complex ecological, technical and sociological issues.
- R9.** Undertake a community outreach program among the local people to raise awareness and improve understanding of the existence, values and benefits of the park.
- R10.** Review the budgeting and resource allocation processes for LNP to ensure that resources are applied to address the greatest threats to the Outstanding Universal Value of the property.
- R11.** Reinvigorate the proposal to establish Friends of Lorentz and a foundation to harness NGO and international input and financial support for management of the park.
- R12.** Undertake a review of the draft Management Plan and Zonation Plan for LNP using protection of OUV as the primary basis for zone allocation.
- R13.** Immediately implement the proposal to conduct research into *Nothofagus* dieback in LNP.

- R14.** Develop management guidelines to contain the spread of dieback disease and provide guidelines to customary owners and other authorities undertaking any activities in LNP.
- R15:** Organize, in cooperation with UNESCO, IUCN and other interested parties, a workshop to review the current planning and work programming arrangements for LNP to assist implementation of the above recommendations related to improved ecological, technical and sociological input and management capacity. This workshop should use the 2007-2012 Strategic Plan as the basis for developing planning and programming priorities and the IUCN publications [World Heritage Convention: Effectiveness 1992-2002 and Lessons for Governance](#) and [Evaluating Effectiveness : A framework for assessing the management of protected areas](#) as the basis for reviewing management arrangements. The mission proposes that the State party would request assistance from the World Heritage Fund for this workshop.
- R16:** Initiate appropriate high level discussions to resolve jurisdictional conflicts and impasses between national, provincial and regency governments and customary owners to assist implementation of the above recommendations related to governance of the property.



Lowland rainforest Mimika Regency, Lorentz National Park (photo credit: Geoff Vincent)

ANNEXURES

ANNEX 1: TERMS OF REFERENCE

Reactive Monitoring Mission Lorentz National Park World Heritage property, Indonesia

24 January to 3 February 2011

The objective of the monitoring mission is to undertake an assessment of the State of Conservation the Lorentz National Park World Heritage property, as requested by the World Heritage Committee at its 34th session (Decision **34COM 7B.13**). The mission will assess the factors affecting the Outstanding Universal Value of the property and in particular review the reported threats to the integrity of the property as well as its current status of management and protection. The mission team will be composed of Glaudy Perdanahardja representing the World Heritage Centre and Geoff Vincent representing IUCN.

In particular, the mission should assess the following key issues:

- a) Assess the status and impacts of road construction in the Lake Habema region and forest dieback on the property's Outstanding Universal Value;
- b) Assess the implementation of the recommendations of the 2008 mission, in particular:
 - a. Cessation of all road construction in the Lake Habema region, rehabilitation of recently constructed roads and mitigation of their impacts, and
 - b. Identification and control of the dieback disease threatening the *Nothofagus* forests in the Lake Habema region;
- c) Review the status of illegal logging, poaching, illegal fishing and trawling, the lack of marking of the seaward boundary of the marine section of the property, and invasive species, as well as any other threats affecting the Outstanding Universal Value of the property;
- d) Review the management effectiveness of the property, in particular the implementation of management plans, available staffing and budgets of the management authority, their capacity to effectively conserve the Outstanding Universal Value of the property, and any collaborative and participatory management options which could contribute to its effective management;

The mission team should be able to conduct the necessary field visits to the property to make these assessments, and in particular visit the areas mentioned above. The mission team should also hold consultations with the Indonesian authorities at national, regional and local levels, in particular the park management authority as well as all relevant other stakeholders, including the companies involved in the different activities as well as representatives of local communities and local and national NGOs, including WWF Papua Sahul. The mission team should further meet with representatives of the park authority and PT Freeport to review the collaborative monitoring programme for monitoring mining impacts on the property, particularly in the Southern Lowlands Region.

Based on the results of the above mentioned assessment and discussion with the State Party representatives, the mission team will develop recommendations to the Government of Indonesia and the World Heritage Committee to conserve the OUV of the property and improve its conservation and management.

The mission team will prepare a concise mission report in English on the findings and recommendations of this Monitoring Mission following the standard format.

ANNEX 2:

Lorentz National Park (Indonesia) (N 955)

Decision: 34 COM 7B.13

The World Heritage Committee,

1. Having examined Document WHC-10/34.COM/7B,
2. Recalling Decision **32COM 7B.15**, adopted at its 32nd session (Quebec City, 2008),
3. Welcomes that the Draft Management Plan for 2010-2013 is being prepared in collaboration with WWF Papua Sahul;
4. Notes with grave concern that the priority recommendation of the 2008 reactive monitoring mission, i.e. ceasing road construction and addressing forest die-back, have not been implemented, and that extensive threats to the property in the Lake Habema and southern lowland regions have resulted in these areas of the property becoming seriously degraded;
5. Urges the State Party to fully implement the recommendations of the 2008 mission and to prioritize those which are most urgent, in particular:
 - a) Cease all road construction in the Lake Habema region and rehabilitate recently constructed roads and mitigate their impacts, and
 - b) Identify and control the die-back disease threatening the Nothofagus forests in the Lake Habema region;
6. Also urges the State Party to undertake a Strategic Environmental Assessment (SEA) of the Strategic Plan for Lake Habema, which includes provisions for additional roads, in order to identify the least environmentally damaging transport options for the alpine region of the property, including alternatives to road building;
7. Requests the State Party to convene an international workshop in 2010 to explore all options for the effective management of Lorentz National Park, with the participation of international donors, international and local NGOs, local communities, PT Freeport, IUCN, and the World Heritage Centre, and encourages the State Party to submit a request for International Assistance to support the workshop;
8. Also requests the State Party to invite a joint World Heritage Centre/IUCN reactive monitoring mission in 2010 to assess the impacts of road construction, forest dieback, illegal logging, poaching and illegal fishing on the property's values and integrity;
9. Calls upon the international community to support the State Party in resolving the severe constraints to the effective operation of the park management including funding, limited monitoring and surveillance equipment, and limited staff capacity and technical expertise;
10. Further requests the State Party to submit to the World Heritage Centre, by **1 February 2011**, a report on the state of conservation of the property, and progress on the implementation of the recommendations of the 2008 monitoring mission, in particular the cessation of damaging road construction, rehabilitation of existing roads, mitigation of impacts, and research into forest die-back, for examination by the World Heritage Committee at its 35th session in 2011.

ANNEX 3: MISSION ITINERARY AND PROGRAMME

| Day/Date | Time | Activity | Remarks |
|---|-------------------------|--|--|
| Day 0 Monday, 24/01/2011 | 15.10 – 18.40 | Flight from Sydney to Jakarta (QF 41) | |
| Stay at Ambhara Hotel, Jakarta | | | |
| Day I Tuesday, 25/01/2011 | 09:00 - 10:00 | Briefing with Deputy Director UNESCO Jakarta Office | UNESCO House Jalan Galuh II No. 5, Kebayoran Baru, Jakarta Tel: +62-(0)21-7399818 |
| | 13:00 – 15:00 | Briefing at the Directorate General of Forest Protection and Nature Conservation (PHKA), Ministry of Forestry. | Gedung Manggala Wanabakti Block VII, 7 th floor, Jln. Jenderal Gatot Subroto Jakarta Tel./fax: +62-21-5720229 |
| | 15:30 – 17:00 | Meeting with Samdhana Institute | Gedung Manggala Wanabakti Block VII, 7 th floor, Jln. Jenderal Gatot Subroto Jakarta Tel./fax: +62-21-5720229 |
| | 22:30 - 08:25, 26/01/11 | Flight from Jakarta – Jayapura by Garuda Indonesia (GA 652) | UNESCO Office Jakarta <u>Contact Person</u> Mrs. Rahmawati (Itot), HP : +816901260 |
| Day II Wednesday, 26/01/2011 | 13:00 – 15:00 | Meeting with Papua Province at Jayapura | Organized by BKSDA and WWF <u>Contact Person:</u> Mr. IGN Suteja, HP : +0811591801 |
| | 16.00 – 18 :00 | Meeting with WWF Sahul | Organized by WWF Sahul <u>Contact Person:</u> Mr. Benja Mambai, HP: +812 4809407 |
| Stay at Hotel Yasmine, Jayapura | | Booked | |
| Day III Thursday, 27/01/2011 | 08:00 – 09:00 | Flight from Jayapura – Wamena by Trigana Air | <u>Contact Person:</u> Mrs. Mariana Rahawarin, HP : +081 380811132 |
| | 10:00 – 12:00 | Meeting with Jayawijaya District | Organized by Lorentz National Park and WWF Sahul <u>Contact Person</u> Mrs. Mariana Rahawarin, HP : +081 380811132 Mr. Benja Mambai, HP: +812 4809407 |
| | 12:00 – 13:00 | Lunch | Organized by Lorentz National Park <u>Contact Person:</u> Mariana Rahawarin, HP : +081 380811132 |
| | 14:00 – 16:00 | Meeting with Lorentz National Park Heritage | <u>Contact Person:</u> Mr. Yunus Rumbarar, HP +812483425 |
| | 16.00 – 18.00 | Meeting with WWF Sahul | Mr. Benja Mambai HP: +812 4809407 |
| Stay at Hotel Baliem Palimo, Wamena | | Booked | |

| Day/Date | Time | Activity | Remarks |
|--|---------------|--|---|
| Day IV Friday, 28/01/2011 | 08:00 – 19:00 | Fieldtrip to Lake Habema | Organized by Lorentz National Park and WWF Sahul <u>Contact Person</u> Mrs.Mariana Rahawarin,HP :+081 380811132 Mr. Benja Mambai, HP: +812 4809407 |
| Stay at Hotel Baliem Palimo, Wamena | | Booked | |
| Day V Saturday, 29/01/2011 | 09:00 – 11:00 | Meeting with Nduga District at Wamena | Organized by Lorentz National Park and WWF Sahul <u>Contact Person</u> Mrs.Mariana Rahawarin,HP :+081 380811132 Mr. Benja Mambai, HP: +812 4809407 |
| | 13:35 – 14:20 | Flight from Wamena – Jayapura by Trigana (TGN) 282 | Organized by Lorentz National Park and WWF Sahul <u>Contact Person</u> Mrs.Mariana Rahawarin,HP :+081 380811132 Mr. Benja Mambai, HP: +812 4809407 |
| Day VI Sunday, 30/01/2011 | 09:25 – 10:40 | Flight from Jayapura – Timika by Garuda (GA 653) | UNESCO Office Jakarta <u>Contact Person</u> Mrs. Rahmawati (Itot), HP : +816901260 |
| | 16:00 –18:00 | Meeting with Freeport | Organized by PT. Freeport <u>Contact Person</u> Mr. A. Putrantoyo,HP :+081 29238278 |
| Stay at Hotel Rimba, Timika, IDR 907,500 | | Booked | |
| Day VII Monday, 31/01/2011 | 06:00 – 08:00 | Flyover to Grasberg by Helicopter | Organized by PT. Freeport <u>Contact Person</u> Mr. A. Putrantoyo,HP :+081 29238278 |
| | 11:00 – 15.05 | Flight from Timika to Jakarta by GA 653 | UNESCO Office Jakarta <u>Contact Person</u> Mrs. Rahmawati (Itot), HP : +816901260 |
| Stay at Ambhara Hotel, Jakarta | | | |
| Day VIII Tuesday, 01/02/2011 | 10:00 – 12:00 | Briefing at the Directorate General of Forest Protection and Nature Conservation (PHKA), | Gedung Manggala Wanabakti Block VII, 7 th floor,Jln. Jenderal Gatot Subroto Jakarta Tel./fax: +62-21-5720229 |
| Stay at Ambhara Hotel, Jakarta | | | |
| Day IX Wednesday, 02/02/2011 | 14.00 – 15.00 | Briefing with Director UNESCO Jakarta Office | UNESCO House Jalan Galuh II No. 5,Kebayoran Baru, Jakarta 12110 Tel: +62-(0)21-7399818 |
| | 20.40 – 07.40 | Flight from Jakarta to Sydney (QF 42) | |
| Day X Thursday, 03/02/2011 | 09.30 – 11.00 | Flight from Sydney to Melbourne (QF 421) | |

ANNEX 4 DECISION OF WORLD HERITAGE COMMITTEE ON LISTING LORENTZ, MARAKESH, 1999

| | |
|--------------------|-----------------------|
| Property | Lorentz National Park |
| Id. N° | 955 |
| State Party | Indonesia |
| Criteria | N (i) (ii) (iv) |

The Committee recalled that the Bureau at its twenty-third session requested the Centre to inform the Indonesian authorities of a number of aspects suggested by IUCN dealing with the management of the site, and in particular: (a) the priority need to continue the process of management planning for the Park with full involvement of the local stakeholders; (b) encouragement for the proposed establishment of a Foundation which would assist in the management of the Park; (c) possible twinning arrangement with the Wet Tropics World Heritage site in Australia; (d) appointment of a Park Director and support staff; (e) the concern over development projects that would affect the Park, for example the proposed Timika/Mapurajaya road and any expansion of mining activity towards the Park boundary so as not to conflict with Lorentz National Park's nomination as a World Heritage site. A letter from the Indonesian authorities was received noting their agreement with all of the above.

Several delegates and observers noted the issues of the mining concessions surrounding the site, the proposed 6% reduction of the site and the adjacent oil concessions as well as other potential impacts to the sites, such as road construction and visual impacts.

The Chairperson, in thanking the Committee for the extensive debate and consideration of the matter, suggested that the following points be transmitted to the State Party:

- a. The Committee noted that as per the request of 25 October 1999 from the Indonesian authorities, an adjustment of approximately 150,000 hectares were made to exclude oil exploration concessions in the south-east corner of the Park. The Committee accepted this reduction in the size of the property and agreed with the new boundaries as submitted in Map C (see Annex V). The modified size of the site is now about 2.35 million hectares.
- b. The Committee recognized the potential risks and threats as indicated in the IUCN evaluation and requested the State Party to consider these in actions concerning the site.
- c. The Committee encouraged further action on the proposed Trust Fund that would assist in strengthening conservation in Lorentz National Park.
- d. The Committee requested that a monitoring mission be undertaken to gauge progress three years after inscription.

The Delegate of Australia noted that his country still has not been officially informed about the suggestion of twinning arrangements between the Wet Tropics of Queensland and Lorentz National Park, but will be willing to co-operate if invited by the State Party.

The Committee decided to inscribe the site under natural *criteria (i), (ii) and (iv)*.

The site is the largest protected area in Southeast Asia (2.35 mil. ha.) and the only protected area in the world which incorporates a continuous, intact transect from snow cap to tropical marine environment, including extensive lowland wetlands. Located at the meeting point of two colliding continental plates, the area has a complex geology with on-going mountain formation as well as major sculpting by glaciation and shoreline accretion which has formed much of the lowland areas. These processes have led to a high level of endemism and the area supports the highest level of biodiversity in the region. The area also contains fossil sites that record the evolution of life on New Guinea.

ANNEX 5: COMPOSITION OF MISSION TEAM

The mission team comprised:

IUCN

Mr. Geoff Vincent

Director
G.W. Vincent & Associates Pty Ltd
PO Box 10
Cheshunt
Victoria 3678
Australia
Tel: +61-418179949
Email: Geoff_vincent@hotmail.com

UNESCO

Mr. Glaudy Perdanahardja

Technical Advisor for Capacity Building and Policy development
Environmental Sciences Unit
UNESCO Office, Jakarta
UNESCO House
Jalan Galuh II No. 5, Kebayoran Baru
Jakarta 12110, Indonesia
Tel.: +62-21-7399818
Fax: +62-21-72796489
Email: g.perdanahardja@unesco.org

ANNEX 6

List and contact details of people met

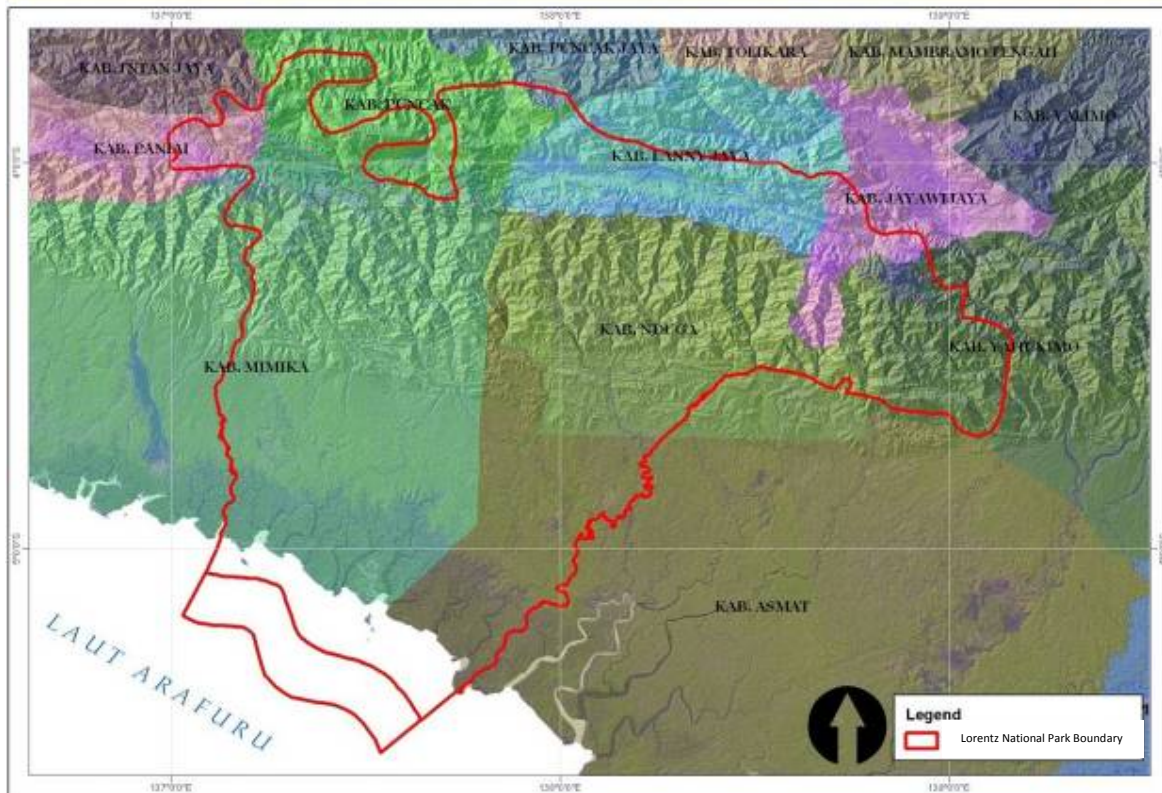
In preparation, further detail to be added

| | | |
|-----------------------------|---|---|
| Puspa Dewi Liman, | Deputy Director for Environmental Services, Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry; Republic of Indonesia | Manggala Wanabakti Building, Block I, 14 th Floor Jalan Jenderal Gatot Subroto, Jakarta 10270 Tel/fax: +62-21-5731794 Email: pdliman@gmail.com |
| Mr. Munawir Ahmad | Head of National Park Section Directorate of Conservation Areas Directorate-General of Forest Protection and Nature Conservation (PHKA), Ministry of Forestry | Manggala Wanabakti Building, Block VII, 7th Floor Jalan Jenderal Gatot Subroto, Jakarta 10270 Tel./Fax: +62-21-5720229 HP: +81374078060 Email: wiratns@yahoo.com |
| W. Sunani Ali Asrori | Directorate of Socio-Cultural Affairs and International Organisation of Developing Countries Ministry of Foreign Affairs | Ex BP7 Building, 8 th Floor Jalan Taman Pejambon No. 6, Jakarta 10110 Tel: +62-21-3441508 Ext 5608 Fax: +62-21-3507950 Email: ali_asrori@yahoo.com |
| Pete Wood | Samdhana Institute | Jl. Guntur No. 32 Bogor 16561 Indonesia Phone/fax: 62 251 8318947 Cell: 62 812 110 6262 Email: pete.n.wood@gmail.com |
| Muhammad Gunawan | Freeport Consultant | Jl. Dr. Shardjo No. 102 Jakarta 12960 Indonesia Cell: 62 812 400 86882 Fax: 6221 829 7741 Email: ogun_gunawan@yahoo.com |
| Benja Mamba | WWF Sahul | Cell: 62 812 4809407 Email: BMambai@wwf.or.id |
| Harry Joharsyah | PT Freeport Indonesia | Jl. Mandala Raya Selatan No.1 Kuala Kencana 99920 Mimika, Papua, Indonesia Phone: 62 901 432913 |

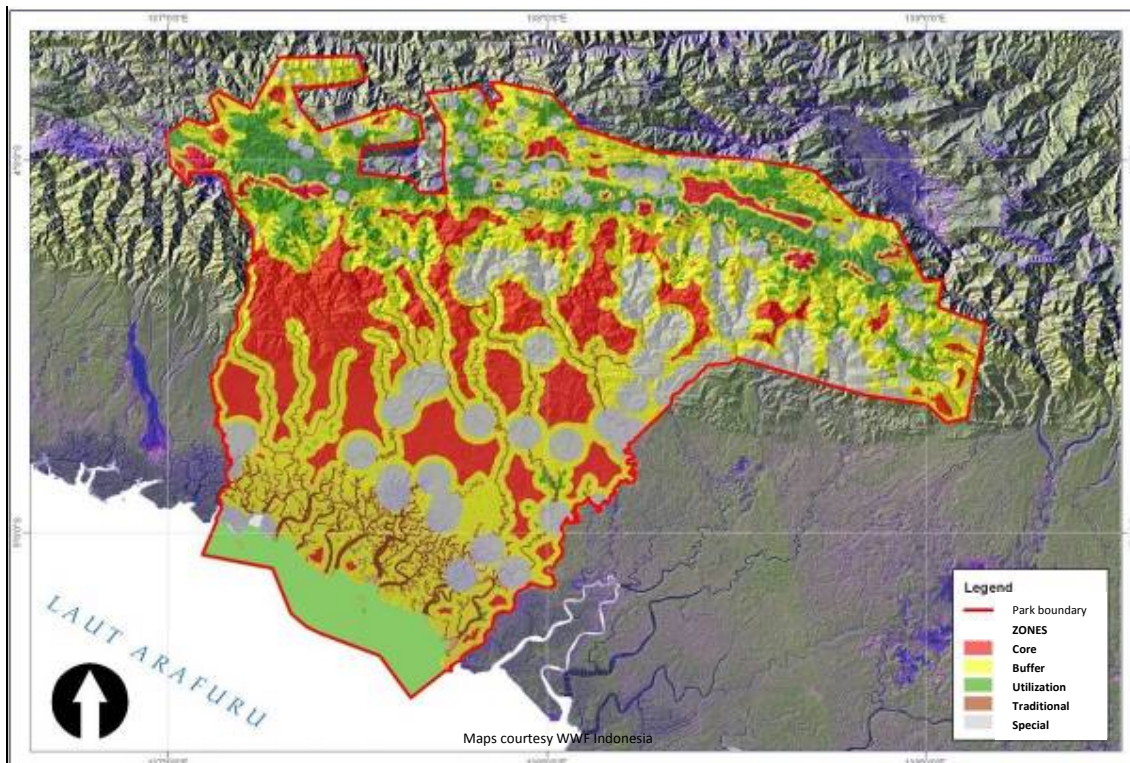
| | | |
|--|-----------------------|--|
| | | Fax: 62 901 432070 Email: Harry_Joharsyah@fmi.com |
| Yunus Rumarar | Lorentz National Park | Cell: 62 812 483 425 |
| 2nd Assistant of Governor of Papua | | |
| 1st Assistant of Bupati Jayawijaya Regency | | |
| 2nd Assistant of Bupati Jayawijaya Regency | | |
| Head of BAPEDA Jayawijaya Regency | | |
| Acting Bupati of Lanijaya Regency | | |
| Head of BKSDA Timika | | |

ANNEX 7

Map 1: Administrative boundaries for Regencies (Kabupaten) in Lorentz National Park



Map 2: Lorentz National Park Zonation Plan (draft)



ANNEX 8 Photographs showing issues of integrity

Photos 1-3: Time series of one site on the Lake Habema Rd approximately 24 km west of Wamena (about 1 km inside the park boundary) illustrating progression of dieback in *Nothofagus* forest adjacent to the road.



Annex 8 continued

Photo 4: Recent canopy dieback upslope of the Lake Habema road, Lorentz National Park



Photo 5: recent canopy dieback upslope of Lake Habema road



Annex 8 continued

Photo 6: Batter collapse, erosion and track diversion, Lake Habema road.



Photo 7: Construction damage downslope of Lake Habema road



Annex 8 continued

Photo 8: Hazardous watercourse crossing on Lake Habema Road



Photo 9: Camping shelters constructed between Lake Habema road and the lakeshore



Annex 8 continued

Photo 10: Habema-Nduga-Kenyem road viewed from Lake Habema road.



Photo 11: Junction of Habema-Nduga-Kenyem road and Lake Habema road. The former runs to the south of the lake (left) the latter to the north (right)



Annex 8 continued

Photo 12: Construction notice on Habema-Nduga-Kenyem road detailing construction authority, construction timetable and contractor..



Photo 13: Construction of Habema-Nduga-Kenyem road through fragile peat bog.



Annex 8 continued

Photo 14: Temporary bridging and extensive erosion on Habema-Nduga-Kenyem road.



Photo 15: Temporary bridging and extensive erosion on Habema-Nduga-Kenyem road.



Annex 8 continued

Photo 16: Hazardous bridging and extensive erosion on Habema-Nduga-Kenyem road.



Photo 17: Extensive erosion on Habema-Nduga-Kenyem road.



Annex 8 continued

Photo 18: Customary owners use the Lake Habema road for transport to Wamena.



Photo 19: Customary owners use the Lake Habema road for subsistence logging operations.



Annex 8 continued

Photo 20: Tsinga village, southeast of Freeport's Grasberg mine, demonstrates that transport problems can be resolved other than by building roads. The ridge-top airstrip gives access to climbing tourists as well as customary owners,

