

TReeS News No.70

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UN International Year of Forests – 2011

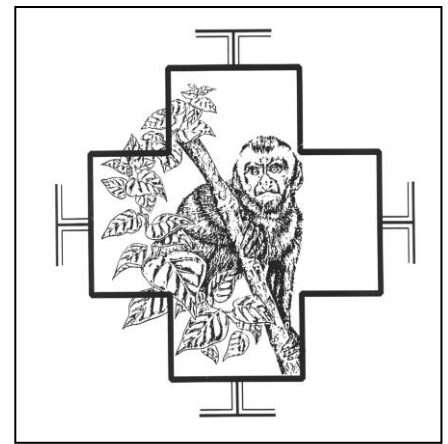
& 25th Anniversary of TReeS

Further to the reports in TReeS news No.69, this edition of the TReeS Newsletter also looks at some of the threats and issues currently impacting on the Madre de Dios region of south-east Peru.

It features new data and research with respect to mining, dam building and road building in Madre de Dios. The focus is specifically on the impact of the Inter-Oceanic Highway down which TReeS committee member John Forrest and two TReeS members – Tony Morrison and Kevin Morgan - have travelled this year.

Currently on the internet the Peruvian television programme 'Cuatro Poder' can be seen highlighting both the wonders of the Tambopata region and the threats to it at –

http://www.youtube.com/watch?v=W9MwObFf_vw



InterOceanic Highway Map Key

- █ = Route Iñapari (Peru / Brazil border) to Puente Iñambari (403.9kms).
- █ = Route (Tramo 3) Urcos to Puente Iñambari (289.6kms).
- █ = Route (Tramo 4) Azangaro to Puente Iñambari (304.7kms).

There are three routes to the Peruvian coast –

- via Cuzco, Abancay and Nazca (and on to Lima).
- via Juliaca, Puno and Moquegua.
- via Juliaca and Arequipa to Matarani, the largest port that can be directly accessed on the coast.



Growing gold-mining threat in Madre de Dios

As global gold prices have risen over the last 2 years and the InterOceanic highway has been completed a growing number of migrants - estimated at 200 per day - have been arriving in Madre de Dios. Peru is the world's fifth largest gold producer and over 30 tonnes, a fifth of Peru's gold output, comes from Madre de Dios. An ounce of gold costs \$400-500 to produce but the profit that can be made is currently double that.

The migrants have settled along the InterOceanic highway and their wood frame and plastic encampments line the Highway for many kilometres around Nueva Arequipa midway between P.Maldonado and Mazuko, an area now known as La Pampa. This area lies within the 'Zona de Amortiguamiento' (Buffer zone) to the Tambopata National Reserve.

In two years the small Guacamayo valley running north from the Highway down to the river Madre de Dios has changed out of all recognition as the forest has been removed and the land churned up so it is now a 'lunar landscape'. The forest has completely gone and it is now potmarked with stagnant mercury-polluted pools (See Photo).

Over the last 7 years it is estimated that deforestation in Madre de Dios has increased seven fold with 7,000 hectares lost in the Guacamayo and Colorado/Pukiri areas alone. In total it is estimated that nearly 40,000 hectares of forest has been lost in Madre de Dios over the last two decades, mainly in the Huaypetue valley. In addition, the use and dumping of chemicals such as mercury - estimated at over 30 tonnes per year - is seriously polluting the hydrological system.

In June the President of Madre de Dios flew over the region to view the impacts on the Huaypetue, upper Malinowski and La Pampa areas.

In early November, over 1,000 police and military officials embarked upon the six month long Aurum 1 operation to remove some of the operations of the <40,000 miners working in Madre de Dios. Over 100 dredges and filter systems used by the miners to process the sediment for gold were destroyed. A large dredge can harvest gold worth up to \$45,000 per day.

The operation will also target related activities such as human trafficking, child prostitution (2,000 are now estimated to work in mining town *prostibars*), illegal logging, enslavement, and the animal trade.

Research suggests that gold miners can earn up to \$50 per day though many earn less than this whereas manual wages in the Andes rarely exceed \$5 per day. The sector is totally unregulated - the Madre de Dios regional government received only \$20,000 in tax in 2010 but previous attempts to control the sector have met with violent protests.

Before he left office President Garcia hailed the 'triumph of man over nature' with the completion of the InterOceanic highway but recent developments suggest that President Humala may view threats to the environment and biodiversity differently.



Informal mining in the Guacamayo valley - from the air



Informal miners homes along the Inter-Oceanic Highway

Paola Moschella (Beca recipient 2010): '*Ocupación y uso del territorio en la quebrada Guacamayo, Madre de Dios*' - a study of land use and perceptions of the environmental impact of gold-mining in the Guacamayo drainage basin. In total Paola made four visits to the Guacamayo area to conduct interviews and surveys, take river water samples and GPS readings, between 2009 and 2011. She was able to map the changes that have occurred since 2007.

Interviews were conducted with representatives of local organisations, including the President of the Federation of mining in Madre de Dios (Fedemin) as well as mine owners and workers. Surveys were undertaken with 100 local people living in and around the Guacamayo area. Questions focused on -

- the impacts of deforestation on the environment and human activities;
- knowledge of the impact of mercury on the environment and human health;
- interest in measures to reduce mining impacts.

Water samples showed the same levels of mercury (<0.005mg/l) near the source and the mouth of the river Guacamayo. The vast majority of the population are involved, directly or indirectly, in mining. Only a small percentage of the population

InterOceanic Highway Report

Two branches of the InterOceanic Highway now connect Madre de Dios to the rest of Peru. Route 3 to Lima via Cusco, has now been joined by Route 4 to Juliaca and Arequipa (See Map on previous page)).

The two routes part at Puente Iñambari where the foothills of the Andes begin. Route 3 climbs steeply to Quincemil along a section that is likely to require major maintenance in future years. Already numerous tourist developments are taking place along this route.

Route 4 follows an old pack mule track that was only opened up to vehicles in the last decade. The first town is the single street settlement of San Gaban, a mining and hydro-electric power (HEP) station servicing centre, two hours from Mazuko. Though surrounded by low hills, it is still within the tropical region.

The Highway then snakes in a series of never ending hairpin bends, a further two hours (50kms), up the spectacular San Gaban gorge to the small sub-tropical mining town of Ollachea (2,665m). Ollachea is also the start / finish of a superb 3-4 day walk around the Ausengate massif which connects to the Cusco branch of the Highway.

The hairpin bends and steep climb continues 40kms to Macusani (4,400m), a bleak Andean town sited beneath the impressive peaks of the Sierra Carabaya. And self-proclaimed 'alpaca capital of the world'. The Highway then crosses its highest point at Abra Oquepuño (4873m) before descending to Juliaca.

Several buses a day now operate between Puerto Maldonado and Juliaca with a few continuing to Arequipa. This is the main routing that itinerant miners are using to enter Madre de Dios.



A short distance from Puente Iñambari towards Puerto Maldonado is the busy and fast growing mining town of Mazuko which services the gold-mining areas of Huaypetue, La Pampa and Malinowski.

Beyond Mazuko the InterOceanic Highway cuts straight across lowland rainforest. Many small settlements signposted as 'urban zones' hint at the changes that are likely to come. Approaching Puerto Maldonado there is increased forest clearance as speculators clear sites (See Photo below). This section of the road until a couple of years ago was impassable in the wet season but now Mazuko can be reached from P.Maldonado in a *combi* in a couple of hours.

In Puerto Maldonado the Highway enters along Jiron Cusco and passes over Jiron Rivero in a large concrete flyover adjoining Hotel Cabañaquinta. The road is lined with a concrete barrier as it turns in to Jiron Puno which leads directly on to the bridge – the longest in Peru (See Photo below). The bridge opened in October and though two way becomes one way for wide loads.



TReeS Becas - Appeal for Project reviewers

A couple more TReeS members with appropriate backgrounds as biologists are required to assist with the review of applications (in Spanish) from Peruvian students to receive a TReeS 'beca' (small grant) in 2012.

Reviews follow a set format and need to be undertaken over a 3-4 week period in the Spring. Applications are not lengthy and a review can, probably, be undertaken within an hour. There are usually about 10-12 applications per year but you could choose to review only those that relate to your specialism/field. Most of the applications are from undergraduate students and concern basic taxonomic investigations.

If you are interested, please e-mail details of your relevant experience to: **treesuk1@gmail.com**

TReeS Library - forthcoming deposits will include the following reports (those in Spanish are untranslated):

- *'Manu Expedition: Symbiosis, Behavioural Responses & Plant Adaptations'*, University of Aberdeen, 2010 expedition report;

- *'Ocupación y uso del territorio en la quebrada Guacamayo, Madre de Dios'* by Paola Moschella (preliminary and main reports);

- *'Amazonía Peruana en 2021: Explotación de recursos naturales e infraestructura'* by M.Dourojeanni, A.Barandiaran & D.Dourojeanni (SPDA) (2010).

TReeS Merchandise -

'The Lost City of Z' - TReeS has a limited number of copies of the new paperback edition available, plus a copy of a review of the book from the Times Literary Supplement by Dr John Hemming (ex-Director of the Royal Geographical Society).

Price: £8.99 (RRP: £8.99), including P & P.

New TReeS T-shirt (limited edition)

To celebrate 25 years of TReeS a limited edition full colour T-shirt (Large or Medium) reflecting the risks posed if large areas of tropical rainforest are destroyed has been produced.

We are grateful to two A-level Geography students for producing the design: Georgia Harries & Bradley Robinson.

Price: £12.50 or 2 for £22.00, including P & P.

All cheques payable to 'TReeS'.

***Details of other items of TReeS merchandise can be found at the TReeS website - www.tambopata.org.uk**

TReeS Membership

Members are reminded that the basic TReeS membership rate is now £15 / annum.

Membership is due on the **1st** of **January** each year.

We would be most grateful if members could amend their bank orders, if still necessary.

All cheques are payable to - 'TReeS'.

TReeS Membership:

£15 per annum

TReeS contact details -

**P.O.Box 33153,
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**www.tambopata.org.uk
treesuk1@gmail.com**

TReeS USA -

P.O.Box 842, Shasta Lake, CA96019-0842, USA.

TReeS USA is run by Bud and Margaret Widdowson.

All members in Canada and the USA are requested to pay their annual membership via TReeS USA.

TReeS committee 2011-2012

Sally Edwards

John Forrest

Dr Helen Newing

Huma Pearce

Elizabeth Raine

Daniel Turner

Rebecca Warren



Heliconia sp.

Iñambari Dam project cancelled

A three year campaign by a range of environmental and community groups has led to the cancellation of the proposed \$5billion Iñambari hydro-electric project. The project was the largest of five such projects proposed for rivers flowing down the eastern side of the Andes to supply electricity, principally, to Brazil. Only last year the Peruvian and Brazilian governments signed an energy agreement in which the dams were a major component. Brazilian companies would not only have built the dams but run them for 30 years, and this was one of the main points of local opposition.

The reservoir created by the dam would have flooded 410kms², including part of the Bahuaja-Sonene National Park (BSNP) and 120kms of the newly built InterOceanic highway, requiring a major rerouting of a central section of it. Furthermore, 15,000 small farmers would have been forced off their lands and 50 small towns flooded.

FENAMAD (the Federation of Native Peoples of Madre de Dios) opposed the project on the basis that they had not been consulted and the likely impacts on indigenous communities downstream from the dam in the lower Madre de Dios. No proper consultation process with communities to explain the possible impacts of a change in river flow and sediment was undertaken.

The BSNP would have been greatly threatened along its south-eastern flank by new roads created in conjunction with the construction of the dam and improved access by water once the lake had formed.



It is still possible that the Brazilian consortium EGASUR which was to have built the project will appeal the decision.

TReeS did not directly fund any activities linked to protests associated with the project but the TReeS representative in Peru has been involved with it through his work with the Cayetano Heredia University, in Lima. This has focused on trying to formulate alternative development projects for the area.

Prior Consultation Law

The new government has taken rapid action on several fronts with respect to the mining sector. A new Prior Consultation Law (*Ley de Consulta Previa*) was passed making it compulsory for government departments to consult indigenous groups and rural communities on development projects which could affect them or their ancestral territories though they don't have the right of veto. Former President Garcia had blocked such a law on the basis that indigenous groups might obstruct development projects that would benefit all Peruvians. Peru is now edging closer to complying with the ILO Convention 169 which it ratified in 1993.

However, in October the Head of INDEPA, a government indigenous affairs department, was dismissed for preventing the Argentine oil company Pluspetrol – one of the main operators of the huge Camisea gas project - from entering the Kugapakori-Nahua Communal Reserve of indigenous peoples living in voluntary isolation.

Peru News

In July Ollanta Humala was elected as Peru's 94th President with almost 52% of the valid votes cast, half a million more than his rival – Keiko Fujimori. Voters were swayed in the final few days by interventions from several important public figures such as the author Mario Vargas Llosa, opposed to a Fujimori taking power again. One of Humala's centre-left administrations' first acts was to deny the release from prison of ex-President Alberto Fujimori on the basis that the cancer he is suffering from is not terminal.

A review of the Energy and mining sector revealed socio-economic conflicts with 120 projects around Peru. In June five miners died, in Puno, in a month long protest after a large silver mining contract was awarded to the Canadian mining company – Bear Creek. The new government cancelled the contract.

A new windfall tax on mining company profits has also been introduced which it is hoped will generate \$1 billion over 5 years for social projects. However, the mining transnationals are likely to want a softer touch with respect to the rights of communities in return which would create a conflict of interests with the new Prior Consultation Law (see above).

STOP PRESS - in mid-December a government reshuffle shifted the government position to the right as several left of centre ministers were dropped from the cabinet including the Environment Minister, and the Minister for Culture, the well-known musician Susanna Baca. This suggests a more business friendly regime in an attempt to maintain economic growth and counteract the global downturn in demand for resources.

TReeS Supported Projects

* Programa de Becas (Small Grants program) 2011

Twelve applications were received this year from Peruvian biologists planning to undertake research in the southern Peruvian Amazon.

Eight grants were awarded (see below) the most to date and the total amount awarded was also the largest.

The Becas programme is an important contribution to the career development of young Peruvian scientists who will, potentially, be working in and promoting Amazonia for several decades to come. TReeS funding assists them in gaining all important field work skills that may allow them, subsequently, to join other more significant field research projects and conservation organisations.

Appeal: £25+ donations towards the cost of the 2012 and future grants programmes.

2011 Beca awards

***Juan Chillihuani:** University of San Antonio de Abad (UNSAAC), in Cusco, investigating the diversity of *Coleoptera*, in three locations in Madre de Dios. Amount awarded: \$930

***Carlos Guevara:** University of San Marcos (UNSM), in Lima, investigating the effect of mining on aquatic invertebrates in rivers in lowland Madre de Dios. Amount awarded: \$1,480

***Andre Ampuero:** University of San Marcos (UNSM), in Lima, evaluating aquatic molluscs in the lower Madre de Dios. Amount awarded: \$1,275

***Jorge Peralta:** University of San Marcos (UNSM), in Lima, investigating the diversity of aquatic and semi-aquatic *Heteropteros*, in the Tambopata Nature Reserve. Amount awarded: \$1,475

***Luis Razuri:** University of San Marcos (UNSM), in Lima, investigating the diversity of *Trichoptera*, in the Tambopata Nature Reserve. Amount awarded: \$1,173

***Guiliana Quezada:** University of San Marcos (UNSM), in Lima, and working in conjunction with WWF, modelling habitats along the Tambopata river. Amount awarded: \$910

***Yuri Caller:** University of San Antonio de Abad (UNSAAC), in Cusco, investigating the structural diversity of *Fabaceas* in Fundo San Antonio. Amount awarded: \$825

***Juan Rodriguez:** University of San Marcos (UNSM), in Lima, investigating the process of social change and ethnic identity transformation within the context of informal gold-mining in the lower Madre de Dios indigenous community of San José del Kerene. Amount awarded: \$1,430

Becas Feedback

* **Luis Figueroa (2008):** ‘*Estudio preliminar de Coleópteros Coprafagos (Scarabaeidae: Scarabeinae) en Tambopata, Madre de Dios*’. Two visits were made to the Explorer’s Inn, one in the dry and one in the wet season, to collect specimens. 874 specimens were collected from 38 species of the sub-family *Scarabaeinae* - 569 were collected in the dry season and 315 in the wet season.

More than twice as many were collected using traps set with human faeces (72%) compared to those set with decaying meat (28%). The species collected represented 6 of the 7 ‘tribus’ found in the Neotropics.

Onthophagus sp. (Clypeatus) was the most abundant species with 100 individuals captured. In traps set with faeces the most abundant was *Canthon monilifer* with 91 individuals while in the decaying meat traps the most abundant was *Dichotomius nr.batesi* with 73 individuals. The study provides useful technological data with respect to undertaking such a study and the results continue to confirm the high conservation status level of the forest adjoining the Explorer’s Inn - original Tambopata Reserved Zone.

***Karen Siu Ting (2009):** ‘*Variación geográfica de especies de anfibios de amplia distribución en el sureste de Perú*’. A study of amphibians using molecular, morphological and ecological information to identify new species that have been misidentified as common species. The study was based at the Los Amigos research station and at Albergue Inkatererra (ex-Cusco Amazónico). Fifty frog and toad species were collected and DNA extracted from them and sent for analysis at the Smithsonian Institute, in the USA.

***Junior Chactaya (2010):** ‘A comparative study of Ichthyofauna and the state of conservation of ox-bow lakes in The Tambopata Nature Reserve’.

Peru contains approx. 1,000 freshwater fish species of which 949 had been registered by 2008. Only two fish studies have previously been undertaken in the Tambopata area. One by the late Fonchi Chang, in 1998, identified 232 species.

Junior mapped lakes Condénados, Cocacocha, Tres Chimbadas and Sachavacayoc. 1,041 specimens were caught from 51 species (5% of all Peruvian fish species). Two thirds of the species were *Characiformes* (scaled fish), 12% *Silvriformes* (catfish) and 12% *Perciformes* (scaled fish with bony fins). At least ten fish were caught from 14 different species representing 88% of all specimens. Only one fish was caught from 14 species.

Lake Tres Chimbadas had the greatest abundance with 60% of all specimens caught, from 24 species. One species of *Characidae* accounted for 540 fish caught which was over half the fish caught in all the lakes. The lake was found to have the lowest pH, highest conductivity and highest oxygen levels.

In Cocacocha 208 fish were caught (20% of the total catch) from 25 species. In lakes Condénados 119 fish were caught (14%) from 22 species. In Sachavacayoc 85 fish (8%) were caught but it had the highest pH, and the lowest conductivity and oxygen levels.