

Park Profile - Perú Alto Purús Reserved Zone

Last Field Evaluation: July 2002 Publication Date: March 2003 Location: The province of Purús in the department of Ucayali and the province of Tahuamanu in the department of Madre de Dios. Year Created: 2000 Area: 2,724,263.68 ha Ecoregion: Southwestern Amazonian moist forests Habitats: Wet tropical forest and pre-montane wet tropical forest



Summary

Description

The Alto Purús Reserved Zone is located in Peru's central Amazon region, close to the Brazilian border. It contains vast biological diversity and pristine tropical forest ecosystems. The area was declared a reserved zone in 2000 and initially covered a broad expanse of land that included populated settlements and logging concessions. Later, the protected area was reduced to half of its original size, leaving the communities and existing logging concessions outside of the reserve area. The process to bring the protected area under proper management began in 2002, when The National Institute of Natural Resources (INRENA) allocated funding and personnel. The Alto Purús Reserved Zone presents an excellent opportunity to successfully manage a protected area from its inception.

Biodiversity

The zone contains vast biological diversity, a variety of ecosystems, and magnificent scenery. It has therefore been identified in the National Strategy for Protected Natural Areas–Master Plan (approved by Supreme Decree No. 010-99-AG) as a priority zone for biodiversity conservation in Peru.

The most prominent species of flora include: mahogany (*Swietenia macrophylla*), Cedar (*Cederla odorata*), Lupuna (*Chorisa integrifolia*), kapok tree (*Ceiba pentandra*), rubber tree (*Hevea brasiliensis*), Tornillo (*Cedrelinga catenaeformis*), Charapilla (*Coumarouna charapilla*), Mauriti Palm (*Mauritia flexuosa*), and Ungurahui palm (*Jessenia bataua*). Fauna include species that are in danger of extinction such as the giant otter (*Pteronura brasiliensis*), neotropical otter (*Lutra longicaudis*), black spider monkey (*Ateles*)

paniscus). Species considered vulnerable include the monk saki monkey (*Pithecia monachus*), the giant armadillo (*Priodontes maximus*), the jaguar (*Pantera onca*), tapir (*Tapirus terrestris*), the Roseate Spoonbill (*Ajaia ajaja*), the jungle condor (*Sarcoramphus papa*), the black caiman (*Melanosuchus niger*), the yellow-spotted Amazon river turtle (*Podocnemis unifilis*), the small-eared dog (*Atelocynus microtis*). Rare species include the Boa (*Boa constrictor*) and Anaconda (*Eunectes murinus*).

Threats

ParksWatch–Peru classifies the Alto Purús Reserved Zone as **vulnerable**, meaning that there is a high risk that the protected area will fail to protect and maintain biological diversity in the medium-term future. Measures should be taken to guarantee protection. The reserved zone is exposed to different threats: logging, extraction of forestry products, lack of management and control of the protected area, new immigration into the region, and highway construction projects. While their magnitude is currently not significant due to the character of the region, these threats are increasing, particularly illegal logging.



Purús River

Description

Physical description

The Alto Purús Reserved Zone is located on the eastern edge of the department of Ucayali, regarded as one of the most inaccessible and remote regions in Peru. The entire area is typical of the lowland jungle, with all the trademark species and communities, including several examples of fauna and flora of economic, scientific, and ecological interest.

Geographically the area is located on the Amazon plain, a flat area prone to flooding in the rainy season. Rains last from November to March, causing the water level in rivers and streams to rise considerably.

Geologically, the area contains alluvial material from the late quaternary period and residual clay from the upper tertiary, which dominate much of the basin with varying degrees of hydric layer erosion. There is abundant sand in the region, found in fluvial accumulations on old beaches of the Purús, Curanja, Cujar and Curiuja rivers.

The area is characterized by two major landscapes, alluvial plains and hills. Alluvial plains are present in the majority of the reserved zone. These were created when alluvial sediment was washed downstream by rivers and deposited on both sides of the main rivers. They are flat areas and made up of low-lying hydromorphic terraces, flood-prone low-lying terraces, non flood-prone low-lying flat terraces, undulating medium-altitude terraces and flat, concave high-altitude terraces.¹ Hills are located mostly in the west and southwest of the reserved zone, where the terrain includes hillocks, low slightly dissected hills, low moderately dissected hills, and low heavily dissected hills.² Soil orders in the area include alfisol, entisol, inceptisol, and ultisol.³

The climate lacks defined seasons, typical of a low tropical Amazon forest.⁴ Rainfall is extremely high from December to April (the annual average is around 2,600 mm) and low in the dry season between May and October. The average temperature is approximately 25°C, with extremes of 17°C and 35°C. Relative humidity averages between 75 to 82%.⁵

The following life zones have been identified: pre-montane wet tropical forest, transitional to wet tropical forest, wet tropical forest, extremely wet tropical pre-montane transitional forest, extremely wet pre-montane tropical forest.⁶

The Purús River flows toward Brazil. Within Peru, the Purús River is 483 kilometers long and, at its widest, 100 meters across. The 212 kilometer long Curanja River is a major tributary.

Bank erosion and isthmuses give rise to oxbow lakes. The ongoing collapse of concave areas where ravines are formed, coincide with the accumulation of earth and sands in the convex parts, forming extensive beaches. Despite its width, for the most part the Purús River lacks islands. The rivers in the province are not part of the Ucayali basin and therefore are not connected to the rest of the Ucayali region and the country. However, they do serve as an important and major communication link between Puerto Esperanza, native communities, and Brazil.

Regarding energy, seismic exploration has been carried out in the past but to date there is no superficial evidence of hydrocarbons. It is possible to affirm the terrain is not conducive to housing petroleum or gas.⁷

Biodiversity

Vegetation

The forestry resources are extremely heterogeneous and cover an estimated 14,099.7 km², or 79% of the total area of the province (17,847.76 km²). The following classification of forest types exclusively refer to tree cover and have been identified by INRENA: dense lowland forestry, dense highland forest, dense hillside forest, hydrophytic palm forest.⁸ On the other hand, a study carried out by AIDESEP, that essentially covers the forest close to the High Purús and Curanja rivers, classifies the forest in only two ways: low hillside forest and Pacal or bamboo (dense, semi-dense and dead).⁹



Curanja river – Photo DS.

Fauna

In the Alto Purús Reserved Zone there is little pressure on the wildlife, suggesting that there is rich, abundant fauna that has not been studied. Numerous endemic species are known to exist. According to Supreme Decree No. 013-99-AG (1999), the presence of species in different conservation categories include:

<u>Species in danger of extinction</u> include mammals such as the black spider money (*Ateles paniscus*), neotropical otter, (*Lutra longicaudis*), and giant otter, (*Pteronura brasiliensis*).

<u>Vulnerable species</u> include mammals such as: the red howler money, (*Aloutta seniculus*), the red titi, (*Callicebus cupreus*), the pygmy marmoset, (*Cebuella pygmaea*), Goeldi's marmoset, (*Callimico goeldii*), the red-bellied tamarin (*Saguinus labiatus*), red-necked owl monkey (*Aotus nancymae*), the black headed owl money, (*Aotus nigriceps*), the white-fronted capuchin, (*Cebus albifrons*), the black-capped capuchin (*Cebus apella*), Humboldt's woolly monkey, (*Lagothrix lagotricha*), monk saki monkey, (*Pithecia monachus*), Bolivian squirrel monkey (*Saimiri boliviensis*), squirrel monkey. (*Saimiri sciureus*), the giant armadillo (*Priodontes maximus*), giant anteater (*Myrmecophaga tridactila*), collared anteater, (*Tamandua tetradactila*), ocelote (*Leopardus pardalis*), margay (*Leopardus wieddii*), jaguar, (*Pantera onca*), Brazilian tapir, (*Tapirus terrestris*), and small-eared dog (*Atelocynus microtis*). Birds include: roseate spoonbill, (*Ajaia ajaja*), king vulture, (*Sarcoramphus papa*), blue and yellow macaw, (*Ara ararauna*), red-bellied macaw, (*Ara manilata*), and wood stork, (*Mycteria americana*). Reptiles include: narrow-snouted spectacled caiman, (*Caiman crocodylus*), black caiman, (*Melanosuchus niger*), yellow-spotted Amazon river turtle, (*Podocnemis unifilis*), and tartaruga (*Podocnemis expansa*).

<u>Rare species</u> include the six-tubercled river turtle, (*Podocnemis sextuberculat*), the boa (*Boa constrictor*), and anaconda, (*Eunectes murinus*).

<u>Species in an undetermined situation</u> include mammals: kinkajous (*Potos flavus*) brown brocket (*Mazama gouazoubira*). Birds: festive amazon, (*Amazona festiva*). Reptiles: matamata, (*Chelus fimbriatus*), Geoffrory's side-necked turtle, (*Phrynops geoffroanus*) and the gibba turtle, (*Phrynops gibbus*).

Abundant game species include: the collared peccary, (*Tayassu tajacu*), white-lipped peccary, (*Tayassu pecari*), paca, (*Agouti paca*), brown agouti (*Dasyprocta variegata*), the Red Brocket (*Mazama americana*), the Capybara (*Hydrochaeris hidrochaeris*) and the South American coati (*Nasua nasua*), among others, (INRENA 2000).¹⁰

Management

Administration

In Peru, natural protected areas come under the jurisdiction of the General Directorate for Natural Protected Areas, administered by the National Institute of Natural Resources (INRENA), an organization that forms part of the Ministry of Agriculture. The area is currently administered under the Law on Natural Protected Areas (Law No. 26834, June 30, 1997) and Supreme Decree No. 038-2001-AG. These laws are still in the process of being fine-tuned.

Since its creation and during the first two years of existence as a reserved zone, the INRENA representative in the capital of the province of Purús, Puerto Esperanza was formally responsible for the protected area. This civil servant's main role was forestry control and his position regarding the reserve was entirely nominal. He did not carry out any work related to the protected area.

There were several changes in management staff over the ensuing period and no one carried out any activities related to the area itself. Recently, in mid-2002, an official specifically and exclusively responsible for the protected area was appointed. Currently, and throughout 2003, work is being carried out to set up the administration. Park wardens and support personnel are being contracted, boats and motors are being purchased, control posts are being built and the central office, called the Main Headquarters of the Technical Unit of the Natural Alto Purús Reserved Zone, is being installed at Puerto Esperanza.

The protected area is currently administered as a special INRENA project on "Participation of Native Communities in Management of Natural Protected Areas in the Peruvian Amazon" (PIMA). This project is being implemented in five natural protected areas in Peru, including the Alto Purús Reserved Zone. To date the PIMA professional team has mainly consisted of anthropologists and social scientists, given the social nature of a participatory strategy such as the one proposed in this project.

The protected area still has not been definitively categorized, something that will be decided in a participatory manner with native communities in the region. It also does not have a management or master plan, but will be drafted by private entities to be convened via public bidding being coordinated by the PIMA project leadership.

Budget

The Budget for the management of the Alto Purús Reserved Zone comes from funds from the World Bank/Global Environmental Facility (GEF) and with the Peruvian government providing matching funds. The PIMA project, to be implemented in five natural protected areas, has a budget of US\$10 million, allocating US\$2 million to the Alto Purús Reserved Zone.

Boundaries

Originally the reserved zone had an area of 5,101,945 hectares under Supreme Decree No. 030-2000-AG. Later, under Supreme Decree No. 001-2002-AG, the area was reduced by 2,377,681.32 hectares to 2,724,263.68 hectares.

The current boundaries of the reserved zone are: to the north and east the Republic of Brazil, which also has protected areas on its border; to the south, the northeastern part of the department of Madre de Dios, including the headwaters of the river Las Piedras, Tahuamanu Yaco and Chandles; to the west the *divortium aquarium* that divides the Purús Basin from the Breu, Inuya and Sepahua river basins.



Map: INRENA

Human Influence

The original proposal for the Alto Purús Reserved Zone included 5,101,945 hectares and the area was home to a series of native communities and mestizo settlements with a total population between 5,000 and 6,000. Half of these settlements are located in an area that extends from the lower Peruvian part of the Purús river, between the Brazilian border and some 100 kilometers upriver. The other half are located on the middle and lower section of the Inuya and Sepahua rivers and along the Urubamba River. A small population is located on the Breu River, close to the Brazilian border.

When the territory for the reserved zone was reduced to its current 2'724,263.68 hectares, all the communities (with the exception of the Monterey community) fell outside the protected area. The aim was to create an unpopulated area that would be apt for the future declaration of a national park. However, all these communities remained in an area with a direct influence on the protected area.

The population in the province of Purús, concentrated in the eastern part of the reserve, outside but adjacent to the protected area, use the resources in the zone and number approximately 3,150. Ethnically, there are two main groups, a mestizo population (600 inhabitants settled in Puerto Esperanza) and an indigenous population (2,550 residents along the Purús and Curanja rivers).

The indigenous population is made up of the following ethnic groups: (in descending order of population size) Cashinahua, Sharanahua, Culina, Mastanahua, Amahuaca, Asháninka, Chaninahua and Yine, settled in 31 villages. Of those 23 have territorial recognition (indigenous community territories recognized by law¹¹) and the rest are made up of annexes and settlements that do not have titles. The smallest villages are made up of groups of between eight and 15 families, while the largest have between 18 and 30 families.



Native Community: Canta Gallo, Purús River

Together with the indigenous people that are present and in-contact with Western society, there are non-contacted indigenous groups (or those who seek voluntary isolation) reported in different sectors inside the protected area near the Alto Curanja river and near the headwaters of the Purús, Las Piedras, Yaco and Chandles rivers. Neither the ethnicity nor the number of groups has been determined. It is know that they are small groups of nomadic families that have established a migratory circuit, which allows them to practice their subsistence activities.

There are approximately 2,500 people living in the province of Atalaya. They are concentrated in the lands adjacent to the western part of the protected area of the Sepahua and Inuya rivers. They are mestizo and native residents from the Amahuaca, Yines and Nahua ethnic groups. This zone has access to the Ucayali River that reaches the departmental capital city of Pucallpa, which is connected to the rest of the country by road.

In Puerto Esperanza, the provincial capital, there is a police station, a military outpost (Rural Settlement Military Unit UMAR), a Sub-prefecture, a Transitory Regional Administration Council (CTAR), a Health Ministry office, a Migration and Naturalization office, and a municipality with a mayor and city council. It is the political and economic hub of the region, with a decisive influence over the Alto Purús Reserved Zone. The local population sells local products in Puerto Esperanza and are forced to buy necessities from stores whose prices are triple the national average.

The local population, in particular the indigenous population, engages in small-scale farming, hunting, fishing, and gathering forestry products for subsistence needs. The logging industry does employ some local residents, providing them with a very modest income that allows them to buy staple goods.

Access

The only direct and official access route to the Alto Purús Reserved Zone is by air from Pucallpa. There is a paved landing strip in Puerto Esperanza that can be used by light aircraft and midsized planes. There are no regular flights. All flights are chartered, mainly by loggers who monopolize air transport in the area. Occasionally the government supports flights bringing aid to local residents. There are no roads and there is no way to reach the area by river from Peruvian territory.

There is river access from Brazil, but this route is rarely used. The Purús region is one of Peru's most inaccessible areas by boat. In order to reach the reserved zone travelers must take a boat upriver from Puerto Esperanza, a two-day journey with a 16HP motor, before reaching the reserve on the fringes of the communal lands belonging to Santa Rey, Balta, Laureano and Gastabala indigenous communities.

Conservation and Research

Currently there are no research or conservation activities done by any governmental or nongovernmental entities. INRENA did a study of basic ecological characteristics that went into declaring its reserve status (1999-2000). Also, in 1995, the Association for Development of Peruvian Jungle conducted socio-economic and ecological studies to establish boundaries to favor uncontacted-indigenous groups. James O'Neill (1974) studied bird species and their distributions in the Curanja River for his doctorate thesis.

In addition, a study was just completed by the Association for Rural Amazonian Development (ADAR) called, "Promoting sustainable development and environmental education." This project collected socio-economic and environmental information, conducted awareness campaigns with local populations and highlighted the importance, benefits and virtues of

implementing sustainable development in the zone. This project has helped INRENA in the process of managing the Alto Purús Reserved Zone.

Threats

Threats to the Alto Purús Reserved Zone include:

- o Logging
- Extraction of forestry products
- Lack of management implementation
- Contact with indigenous groups who have chosen voluntary isolation

Logging activity

Logging is a direct threat to the biological diversity and integrity of the Alto Purús Reserved Zone. Lumber activity takes place on two fronts in relation to the reserved zone: activity on the part of communities living on the Purús river and extraction on the Inuya and Sepahua rivers on the western part of the reserved zone.

In the Purús river zone, extraction is still on a small scale. Regional isolation makes it difficult for the lumber to reach national markets. All the wood that leaves the eastern side of the reserve is shipped out by plane from Puerto Esperanza already cut. The wood is prepared in local mills or with chain saws in the countryside. There is exclusive preference for mahogany and Purús is one of the few areas where the species is still found. In the more accessible areas of the Peruvian Amazon it no longer exists. Mahogany guarantees good prices and can cover the cost of air transport.

The Purús zone contains four main logging operators, who hire and train locals to cut down and deliver trees to the market. One of these operators plays a pivotal role in renting aircraft to transport the wood. For the most part, indigenous people from the Sharanahua ethnic group and, to a lesser degree, the Cashinahua, engage in this activity. Communities that live adjacent to the reserved zone tend to get their wood from parts of the reserved zone that lie beyond their community boundaries.

Currently there are no forestry concessions in this part of the region. Extraction is concentrated inside community territories. Although the territory belongs to the native communities, they must obtain forestry permits to operate legally. These permits are obtained in Atalaya, the regional headquarters for the INRENA Forestry and Fauna Office, which can be reached by plane from Pucallpa, or by river from Pucallpa in eight days.

The great distance and huge expense necessary to travel to Pucallpa means that most indigenous people are unable to make the journey. As a result, the locals give the operators their papers and documents and the operators obtain the permits for them. They deduct any costs from the value of the wood that the indigenous people deliver. Given that the logging operators have the documents and the community papers, they are able to administer the process as they wish. For example, they may take more wood from some communities than others and yet formally present their extraction invoices as if it were distributed equally from each community.



Timber waiting to be transported to Puerto Esperanza

In the western part of the reserved zone the situation is quite different. For years there has been logging on the Sepahua and Inuya rivers. There are several operators and suppliers, coming from populated centers such as Atalaya and Pucallpa. Due to exploitation, cedar and mahogany are no longer found on either river. As a result, loggers have been forced to move their operations to the headwaters of these rivers where they have been granted logging concessions. The original concessions were located within the reserved zone but today fall outside the zone, yet still adjacent to it.

In Sepahua, capital of the district located alongside the Sepahua River, logs are mostly midsized, due to the current scarcity of timber resources in the immediate area. However, in the past three years large mahogany and cedar trees began to appear from the Purús valley. Within the reserved zone, at the heads of the Cujar and Curiuja rivers, there is increasing logging pressure. Loggers use legal concessions, located at the heads of the Sepahua and Inuya rivers, to extract illegal lumber from within the reserved zone. There are five forestry tractors that have developed a system of ruts and roads that allow them to drag the trunks from the Purús basin to Sepahua, in order to then take them to Pucallpa.

Native Amahuacas from the Laureano community circulate between Purús and Sepahua in order to visit relatives. Journeys are made on foot and tend to last between 20 and 30 days. They have reported the existence of many forestry routes.¹² INRENA personnel have flown over the zone (in December 2001) and have been able to confirm the presence of roads that covered an accumulated extension of some 30 kilometers. It was also possible to observe the accumulation of cylinders and plastic, which are likely refuse from logging camps.¹³

In Sepahua there is a sawmill owned by the Catholic Mission. It initially used wood brought by indigenous peoples from the area at the request of the priests. Its activity has declined, however, as extractors prefer to take logs down river to Pucallpa where mill costs are more favorable.

Extraction of forestry products

Communities on the Purús and Curanja rivers traditionally fish, hunt and gather forestry products at a subsistence level. Given the number and density of the population, the reserved zone is not critically threatened by their current levels of extraction.



Subsistence hunting within the area is common

The majority of this subsistence extraction takes place within community territory. However, mestizo colonizers in Puerto Esperanza, and some local natives, who are able to cover the costs of gasoline and transport, organize occasional trips to the upper Purús River for commercial fishing. They catch significant amounts of fish of different species that are cut into fillets and salted so that they reach their final point of sale – the city of Pucallpa – in optimal condition.



11 www.parkswatch.org

On these trips hunters also extract vast numbers of Taricaya turtle eggs (*Podocnemis unifilis*) and hunt wild animals. These products are for local consumption but are also sold in Puerto Esperanza. They do not reach Pucallpa as legislation restricts their commercial use and passing INRENA and airport control is complicated.

Lack of Management

Currently, Alto Purús Reserve administration is in the initial phase of Reserve implementing management. It is estimated that within a two-year period there will be control posts and other basic infrastructure, personnel and work teams, and an institutional authority that will allow for effective operation and control.

Meanwhile, some control of the logging industry is facilitated by the dependence on air transport as it limits the amount of wood and other resources that leave the region. However, local logging operators do not operate under the restrictions imposed by the legislation. They do not elaborate management plans for their extraction areas, plans that should be backed by a licensed forestry engineer. They do not coordinate with the local communities in their assemblies and they do not have signed acts as required by law. Instead, the logging operators link up with individual indigenous people so that they can remove logs from their community territory without the formal authorization of the community, something that should be registered in an act that is signed by all assembly members. Many cut wood with chain saws, tools that are banned for this purpose given the width of the cut and the resulting waste of useful wood. They continue to remove unauthorized species such as mahogany and cedar, which has been banned for 10 years in the Purús basin, according to the seventh complementary transitory disposition of the Forestry and Wildlife Law (Law No. 27308). Loggers in the area continue to remove both species under the pretext that they were "leftovers" that had already been cut prior to the law, passed two years ago.

In Sepahua, despite the intense movement of wood that takes place in the area, there is no forestry control post. The post was removed two years ago. Today, the only post is in Atalaya, one day downriver, and is responsible for supervising the wood from the entire region, including wood that travels via the Sepahua and Inuya rivers.

Forestry control is obligatory for all loggers. Without permission from INRENA, loggers cannot sell their lumber in Pucallpa. However, forestry control is centered on already cut wood that is traveling by river. As a result, it is not possible to determine the exact point of origin of the wood that is being supervised. Given the distance and the lack of implementation on the part of INRENA regarding effective control in extraction areas, the wood that leaves the western part of the Alto Purús Reserved Zone cannot be identified in forestry controls. The loggers contend that Alto Purús Reserved Zone wood is really extracted from their authorized concessions.

Through the participatory process, the local population will participate in deciding the future categorization of the Alto Purús Reserved Zone. The process will define categories for the protected area such as buffer zone, reserve, national park, etc. Given the optimum conditions that the area presents and its rich biodiversity, there is general interest in creating a national park, which will guarantee stricter protection of its natural resources.

However, some sectors are also seeking to convince indigenous organizations to convert the Alto Purús Reserved Zone into a community reserve, whose protection category is lower than that of a national park. In a community reserve it is possible to access and use natural resources, under the administration of INRENA and the management of local organizations. If this happens, we will lose and excellent opportunity to protect and conserve the rich biological diversity in this important region of the Amazon.

Contact with indigenous groups who have chosen voluntary isolation

The indigenous population that currently lives in isolation in the interior of the Alto Purús Reserve is the target many religious groups, who want to contact them in order to "civilize" and convert them. In the recent past, there have been casual contacts between those who extract resources in the reserved zone and isolated indigenous people. In the majority of cases the contact was violent, with isolated natives shooting arrows and receiving bullets in return. There is a generalized perception among the local population that these indigenous groups should be violently forced to submit.

To date, isolated natives carry out their subsistence hunting and gathering activities in a nomadic fashion, circulating throughout the territory without any apparent impact on the forest. If they are contacted and consequently form villages in specific areas, this will interrupt their traditional use of resources and concentrate resource use in a smaller area. It will also expose them to diseases that they have not previously come into contact with, as has taken place in similar experiences in other regions in the country.

Given that in the Purús River area all land outside the reserve is titled and assigned to existing native communities, there is no free space for the possible settlement of newly contacted peoples. As a result, the only alternative is to grant them territory within the reserve. This will not only imply an impact on the environment in the reserved zone but will may also imply a reduction of Zone territory.

Future Threats

- Increase of logging activity
- Migration to the region
- Construction of a highway to Puerto Esperanza

Increase of logging activity

If logging activity currently being carried out in the reserved zone is not stopped, especially in the western part, more forestry roads will be built. This will result in greater access to the area, increasing extraction levels and negative impacts on the protected area.

In the neighboring department of Madre de Dios, there are intense conflicts between INRENA's efforts to implement a law that will organize forestry activity and local loggers. These loggers plan to enter the Purús Reserved Zone via the heads of the Las Piedras and Tahuamnau rivers to extract mahogany and cedar, threatening the southeastern part of the reserved zone.

Migration of people to the region

While the lack of a highway impedes the massive migration of people to the area, migration does occur on a smaller scale. For example, the community members of Pankirentzi, a community of native Ashaninkas from the central jungle, were brought in by a mayor who sought more votes in regional elections. The community of Monterrey, Yines natives, were brought from the Urubamba river by Evangelical missionaries in order to help them contact other indigenous people in voluntary isolation. Today in Monterrey there are 10 Yines families and mid-range goals are to bring 50 more families to the community. If this migratory trend increases, the increased population will generate more pressure on the reserved zone.



Increased human population will impact the local fauna

Construction of a highway to Puerto Esperanza

The construction of a highway to the region demands more financial resources than the Peruvian government currently has. Therefore, the project will not be carried out in the short term. However, a group of local mestizo authorities lead by the Catholic priest from the local parish is carrying out a lobbying campaign in favor of a highway to Puerto Esperanza. They argue that a highway will bring needed development to the region. They do not take into consideration, however, the impact on natural resources or the interests of local native communities who do not share the same idea.

Apparently, the Catholic priest is taking this matter very seriously. He made an overland trip to Sepahua for more than a month in order to survey the land. When he realized that it would be impossible to bring a highway through the flood lands he changed the proposed route. Today, he claims that the highway should run from Iñapari in Madre de Dios, bordering the Brazilian border, to Puerto Esperanza.

The Catholic priest has created a "Working Group" in order to obtain political support for his proposal and to manipulate local organizations. He considers everyone who does not agree with his ideas about the highway to be the enemies of development and *personas non grata* in the

region. He openly considers the Alto Purús Reserved Zone an obstacle for the development of the province and does not want the area to become a National Park. In fact, he would rather see the area have no legal protection. This attitude is creating many internal conflicts in the region.

Solutions

Logging activity

It is undeniable that logging activity be continue in this region. Control mechanisms on the part of the INRENA forestry authority must be increased in order to put an end to logging in the protected area and demand that those removing lumber follow the current requirements as established by law. Specifically, the seventh complementary disposition of the Forestry and Wildlife law (Law N° 27308) that establishes a ban on Mahogany (*Swietenia macrophylla*) and Cedar (*Cederla odorata*) extraction in the Purús basin must be followed. The extraction of these two species must be stopped. The use of other, less threatened, species in community lands should be encouraged. In order to improve the prices of these new species, there is a need to promote the added-value of this wood in Puerto Esperanza, which will help compensate the cost of the air transport. However, in order to achieve this there is a need to create the appropriate conditions in Puerto Esperanza. These include constant, low-cost electricity, establishment of appropriate machinery and training.

Given the fact that future wood that is extracted will most likely come from the community lands owned by indigenous people around the reserved zone, there is a great need to advise and train these people in forestry resource management. Coordination mechanisms should be established between INRENA and local populations so that they support forestry control and impede the illegal extraction within the reserved zone.

Other illegal forestry activity taking place within the western part of the reserve should be immediately stopped. All machinery should be removed from the area and roads and cleared areas should be recovered and reforested.

Forestry concessions granted on the border of the western limit of the reserve, at the heads of the Sepahua and Inuya rivers, should be allowed to expire and should not be renewed. This area of headwaters should be established as a buffer zone for the protected area and should be strictly controlled.

Specific coordination should be carried out with the INRENA forestry authority in Madre de Dios to impede loggers in the southern part of the reserved zone to from logging in the reserve zone. Efficient systems of control and local coordination should be implemented everywhere, but above all on the Las Piedras and Tahuamanu rivers.

Extraction of forestry products

All types of extraction for commercial purposes including meat, fish, or eggs should be banned within the reserved zone. INRENA should carry out campaigns to disseminate information and raise awareness among the local population in order to decrease the extraction within the reserved zone by locals and to obtain local support of control actions.

Lack of Management

Initially, four principal control posts should be established: on the Purús river and on the Curanja river in the eastern part of the reserve zone and on the Sepahua and Inuya rivers on the western part. Additionally, there should be two control posts on the southern part of the reserved zone on the Tahuamanu and Las Piedras rivers as well and the presence of an official on the Breu river on the northern part of the reserved zone.

The INRENA forestry authority should be constantly present in Sepahua, as it is an important center for logging in the region. While it is not possible to set up an office in current circumstances due to a lack of funding and the future installation of control posts in the reserve, it is possible to appoint an official responsible for control and monitoring logging activity in this area.

In many isolated regions in the country, certain authorities relax the application of the laws. Public officials, both from INRENA and from other government branches, should guarantee the strict application of the laws and regulations in all regions of the country.

A careful review of the working equipment, contracted personnel and infrastructure for control and administration should be carried out in the reserved zone. This effort should help achieve efficient levels of management and control in the protected area.

Authorities and working groups with vested interests regarding the implementation and categorization of the protected area in the Alto Purús should be clear about the objectives of development of the reserved zone. The categorization should be the result of a technical-scientific process as well as informed decision-making on the part of local participants. Local participants should be trained in aspects related to the categorization process in which they will participate. They must be informed about the benefits of considering biological diversity and natural resources and the importance of establishing adequate protection for the area.

Given the limited information about the ecology and the characteristics of the Alto Purús Reserved Zone, it is important and necessary to carry out scientific research and to disseminate the results among the involved population and the public in general. This will promote an understanding of the protected area and hopefully win public support for its protection.

Contact with indigenous groups who have chosen voluntary isolation

Individuals and organizations that seek to contact indigenous groups who have chosen voluntary isolation should be impeded.

Historically it has been loggers who have caused major impacts to similar indigenous groups in other parts of the country. Loggers have made forced contact, and have used the indigenous people as slave labor. They have fallen victim to diseases brought by loggers, generating epidemics that devastated entire populations. In controlling forestry activities in the reserve, the integrity of the populations that choose to be isolated will be protected.

No effort should be made to contact these populations; they should be allowed to live in their environment until they decide in a voluntary fashion to contact national society. The categorization process of the protected area should consider delineating a portion of the reserve for the possible future establishment of these populations if they opt for voluntary contact.

The campaign in favor of the national and international recognition of these groups should be intensified in order to encourage protection of their choices. The awareness of local residents should be raised in order to change the current negative impressions of these groups. There is an urgent need to establish contingency measures in case violent contact with these peoples does take place.

Migration of people to the region

Groups planning to settle in the region should be discouraged from doing so. In the case of the Monterrey settlement, these people should be obligated to leave the interior of the reserve. Any attempt to bring more people into the region should be impeded.

Construction of a highway to Puerto Esperanza

Publicity campaigns should be carried out about the disadvantages of building highways in tropical forest areas. Local support for this project, above all on the part of mestizo colonizers, is based on the abandonment and lack of access to the area. In order to counteract this tendency there is a need to improve the air bridge that exists between Pucallpa and Puerto Esperanza, so that the population no longer feels so isolated, and no longer supports the idea of a highway to the zone.

The authorities who are members of the working group and in particular, the Catholic religious leader, should be confronted by national authorities from the upper hierarchy to clearly communicate the future that is sought for the region and above all the development model that the Peruvian state promotes for this area. National organizations that work on the issue should support the process of consolidating the sustained development model for the zone and to combat any idea toward the already proven disastrous model of development through highways in tropical forests.

Conclusions

The Alto Purús Reserved Zone is a recently created protected area. It contains vast biological diversity and undisturbed ecosystems typical of wet, tropical forests. There are few human settlements inside the reserved zone, a characteristic would permit the establishment of a strict protection category (such as a National Park). This will also allow for the area to be managed without major conflicts from residents.

The Alto Purús Reserved Zone will enrich a system of natural protected areas that cover an entire region of the Peruvian southern jungle. It is surrounded by important protected areas such as Manu National Park and the Reserve for Indigenous Nahua and Kugapakori peoples toward the south, the Apurimac Reserve to the East, Bahuaja Sonene National Park and the Tambopata Reserve to the south. Additionally, Brazil and Bolivia have important natural protected areas close to the border. These areas together constitute an important protected corridor throughout South America.

The swift implementation of a management system and infrastructure for the reserved zone will make it possible for the administration to control and decrease the current threats that the area faces. Most important is curbing illegal forestry in reserved zone. Encouraging local participation in decision-making from the beginning will guarantee that the involved population provides constant support in the development of the reserved area. It is hoped that they will then become efficient guardians of the natural resources that are contained within the area.

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¹ Asociación para el Desarrollo Amazónico Rural ADAR. Informe preliminar, Proyecto Purús. Reporte de la primera fase del proyecto de evaluación y asesoría medio ambiental, 2001. P. 20-21. Información del Expediente Técnico de la Dirección General de Estudios y Proyectos de Recursos Naturales. Zona Reservada del Alto Purús. INRENA 1999.

² Ibíd. P. 21-22.

³ Ibíd. P. 22-23.

⁴ La selva baja o región Omagua está conformada por la llanura amazónica, la parte plana y con tendencia a inundación de la selva peruana, nombrada así en la clasificación de Javier Pulgar Vidal sobre las bioregiones del Perú.

⁵ Tovar, Antonio. Informe de viaje de campo, Brigada Purús Ucayali. Centro de Datos para la Conservación. Universidad Nacional Agraria La Molina. 1998. P. 30.

⁶ ADAR Op.cit. P. 28-30.

⁷ Ibíd. P. 17-18.

⁸ Ibíd. P. 43-45.

⁹ Ibíd. P. 45-47.

¹⁰ Instituto Nacional de Recursos Naturales INRENA. "Manejo de Áreas Naturales Protegidas de la Amazonía Peruana". Georeferencia de la propuesta de la Zona Reservada del Alto Purús. Instituto de Investigaciones de la Amazonía Peruana IIAP, Iquitos, 2000. P. 15-17.

¹¹ Decreto Ley N° 22175 (10/Mayo/78). Ley de Comunidades Nativas y de Desarrollo Agrario de la Selva y Ceja de Selva.

¹² Personal communication.

¹³ Personal communication.