

# La Cocha



## Basin countries

Colombia. La Cocha lagoon is situated on the Guamués River in the Amazon basin

## Summary of basin characteristics

**L**a Cocha (which simply means ‘lake’) is a high Andean lake located on the eastern slopes of the southern Andes of Colombia, just north of the border with Ecuador. It forms part of the upper watershed of the Guamués River, an important tributary of the Putumayo and San Miguel Rivers, themselves major tributaries of the Amazon basin.

The lake and the immediately surrounding land lie between 2,700m and 2,800m above sea level and cover a total area of approximately 39,000ha, comprising the largest wetland system in the Colombian

Andes. The waterbody itself is some 13km long and 6km wide. The basin includes wetlands, cloud forest and ‘paramo’ (high montane grassland).

## Socio-economic importance

Small farms in the area produce milk, potatoes and other vegetables. Charcoal production, generally undertaken by the poorest farmers and those members of the community without any land of their own, is an important but unsustainable economic activity, resulting in progressive degradation of forest cover and resources.



La Cocha lagoon. WWF-Canon / Edward Parker

### Biodiversity values

The moist atmosphere of the cloud forest is a perfect environment for epiphytes, including mosses, ferns, bromeliads and orchids. At least 140 orchid species are known from the area around La Cocha.

Mammals include South America's only bear, the spectacled bear *Tremarctos ornatus*, which is listed as 'Vulnerable' by IUCN, while other notable species are mountain tapir *Tapirus pinchaque*, Andean wolf *Lycalopex culpaeus*, churuco monkey *Lagothrix lagothricha lugens*, deer rabbit *Pudu mephistophiles*, soche deer *Mazama rufina*, horned deer *Odocoileus virginianus goudotii*, mountain paca *Agouti taczanowskii*, and around 40 per cent of the entire South American avifauna.

### Priority issues for river basin management

Deforestation for charcoal production is a serious threat to La Cocha, leading to soil erosion, loss of fertility, faster runoff of surface water, and greatly

reduced biodiversity. In this sense, La Cocha provides a prime example of an issue of global conservation concern, namely deforestation of the Amazon basin.

Another significant threat to La Cocha comes from the proposed construction of a major dam system known as the PMG (the Spanish acronym for 'Guamués Multipurpose Project'), intended to divert water from the Amazon basin to the Pacific side of the Andes. The original PMG envisaged three large dams on the Upper Guamués River, which would have permanently inundated 3,000ha of paramo and threatened the livelihoods of local families. The PMG would also have a much wider impact within the Amazon basin, including reducing the flow in the Putumayo River, leading to reduced navigation opportunities, as well as loss of soil fertility along the lower Guamués River due the cessation of seasonal flooding.

### Role of WWF and its partners

WWF has supported and facilitated community efforts to secure livelihood benefits through the sustainable use of natural resources. This has required

local people to confront the threats posed by deforestation and dam building. Work has therefore focused on equipping communities with the information, knowledge and tools needed to participate effectively in decision-making processes. Over a period of seven years, these efforts have been led and promoted by WWF and its local partners, namely the Peasants' Development Association, the Network of Private Nature Reserves, and community organizations.

Funding, technical assistance and capacity building have supported the establishment of private reserves – covering about 10 per cent of the area around the lake – within which natural resources are used sustainably. The 387 families so far involved in this innovative approach have benefited from a significant boost to their standard of living. These families were previously engaged in charcoal production, which involved the degradation of the natural resource base and required expenditure on external inputs and commercial intermediaries. Following the switch to private reserve management, average annual household income doubled to about US\$3,000. No external payments are needed and the conservation of vegetation, soil and water means that 40 per cent of food requirements can be met on site.

Unfortunately, in spite of this progress the area remained under threat from the PMG dam scheme. In response, the project partners formed a citizens' group – the Lake Defence Committee – and developed a strategy to ensure the effective participation of community stakeholders in the decision-making process for the PMG. The main elements of the strategy were to:

- Enable the local community to make the best use of available information, by:
  - understanding the project more fully
  - examining the possible environmental and social impacts (including additional research and the use of digital mapping to model the extent of flooding)
  - studying the assumptions made by promoters of the PMG, including claimed benefits for local people in terms of employment opportunities and lower electricity costs.
- Provide a more comprehensive assessment of the key issues, by:

- analysing the role of the PMG within the overall National Energy Policy
- examining alternative solutions for meeting the needs used to justify the PMG
- analysing the biodiversity values of La Cocha in an ecoregion context and lobbying for the PMG environmental impact assessment to be undertaken at the ecoregion scale.

- Make the most effective combined use of domestic and international protected area legislation, by:

- analysing the potential benefits of different protected area categories, including the Ministry of Environment's proposal to create a National Park in the area, as well as possible designation of a Ramsar Site
- raising local people's awareness and understanding of relevant legislation, and building the capacity of citizens to exercise their legal rights, especially the right of participation.

- Bring stakeholders together, by:

- contacting community leaders downstream along the Putumayo and Patia Rivers to provide them with information about the PMG
- organizing a workshop for those communities affected.

The project partners worked closely with the Colombian Ministry of Environment to secure the designation of La Cocha as a Ramsar Site in May 2001. While the biological importance of La Cocha was never in question, the clear commitment of the local community to making sustainable use of natural resources was key to securing official backing for the designation. The decree establishing the Ramsar Site under national law contains a clause setting tough new limits on infrastructure development. This proved decisive in the government's refusal to grant the dam scheme the necessary environmental permit to enable construction to go ahead.

A management plan for La Cocha has recently been produced jointly by the Peasants' Development Association, Corpnariño (a regional corporate partner) and WWF. With support from the 'Wetlands for the Future Fund' (a joint training/capacity-building initiative of the Ramsar Bureau and the United

States), local workshops have been held to identify the socio-economic and cultural values of the lake. This knowledge will help to guide management efforts toward solving resource-use conflicts and raising living standards, both prerequisites for conserving biological diversity. Ongoing development and implementation of the management plan is expected to draw new partners and stakeholders into the process.

### **Conservation method demonstrated**

La Cocha provides an excellent example of how community stakeholders can respond to basin-wide threats and make tangible differences on the ground at local level. It also shows how river basin conservation efforts are more likely to be successful where they are based on securing livelihood benefits for local people and where those benefits flow directly from the decisions and actions taken by the people themselves.

While the focus has been on communities, the project shows how this has required engagement at international and national levels and the application of a broad range of tools, including:

- information gathering and analysis
- awareness raising
- training and capacity building
- options assessment
- protected area designations
- management planning.

This case study particularly demonstrates the effective and complementary use of global and domestic protected area mechanisms, with Ramsar Site status providing access to the ‘Wetlands for the Future Fund’ and the associated decree under national law offering better protection from unsustainable development.

Perhaps the most significant point demonstrated at La Cocha is the potential of synergies generated when an internationally experienced organization joins forces with national and local partners.

While the work of the partners at La Cocha continues, the site already has significant demonstration value which could be applied elsewhere in the Amazon basin.

### **Resources devoted**

The key providers of financial and other resources were:

- WWF – technical and financial support provided to ADC and local communities
- ASDES (Social Development Advisory Corporation) – political and legal support. This institution works to strengthen the autonomy, identity and ability of communities to exercise their constitutional and legal rights
- Ministry of Environment – technical support for the Ramsar Site declaration
- Corponariño – partnership with ADC to develop and implement the management plan
- University of Nariño and local authorities participated in the Lake Defence Committee.

### **Chronology**

#### **1980s**

- Peasants’ Development Association (ADC) established in 1981 with the aim of improving the livelihoods of local farmers and reducing unsustainable land use such as charcoal production.
- ADC begins to develop alternative crop and livestock projects. More than 200 families adopt these new approaches, leading to reduced pressure on forest resources.

#### **1990s**

- ADC members decide, during the early 1990s, to establish private reserves around La Cocha with the aim of using forest resources sustainably.

#### **1991**

- Private Reserves Network set up to support and encourage the establishment of forest reserves on private land.

#### **1994**

- WWF begins to provide financial support for work in La Cocha through an agreement with ADC, based initially on promoting greater participation in decision-making processes, developing sustainable production systems, securing conservation management of private land, and stimulating sustainable ecotourism.

**1997**

- Proposals for the PMG dam scheme published and the Lake Defence Committee established.
- Committee identifies options for the establishment of officially protected areas to complement the private reserve system; designation of La Cocha and the surrounding páramos as a Wetland of International Importance under the Ramsar Convention adopted as the most appropriate solution.

**1997-2001**

- Lake Defence Committee Strategy developed and implemented.

**2001**

- La Cocha designated as a Ramsar Site.
- Ministry of Environment refuses to grant an environmental licence to the dam project.
- Development of management plan (ongoing).

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**Lessons learnt****1. Form working partnerships at different levels**

The partnership with the Ministry of Environment on one hand and with local communities on the other was effective in achieving the designation of La Cocha as a Ramsar Site.

**2. Local communities have to be engaged**

This requires a presence on the ground and long-term commitment from project partners to awareness raising, knowledge building, and capacity building. At La Cocha the provision of training in leadership skills and the promotion of community participation helped to secure support for conservation and sustainable use. Training in GIS and cartography was exceptionally useful for empowering partner institutions in terms of understanding spatial planning and land management. The participation of farmers and indigenous communities helped to build a 'sense of place' while at the same time strengthening conservation actions based on land management and social structures.

**3. Higher standards of living can support conservation efforts and vice versa**

Communities realized that the management system, taking account of environmental considerations and ecological criteria, generates an economy with better income levels (improvement of education, health, food, infrastructure and services), higher levels of self-reliance, less dependence in the economic system, and greater biodiversity and therefore a more dynamic ecosystem.

**4. Private conservation initiatives can be as important as officially recognized and supported processes**

In Colombia, the presence of private, civil society reserves for conservation and sustainable use contribute to the promotion and consolidation of regional conservation initiatives and to improving living standards.