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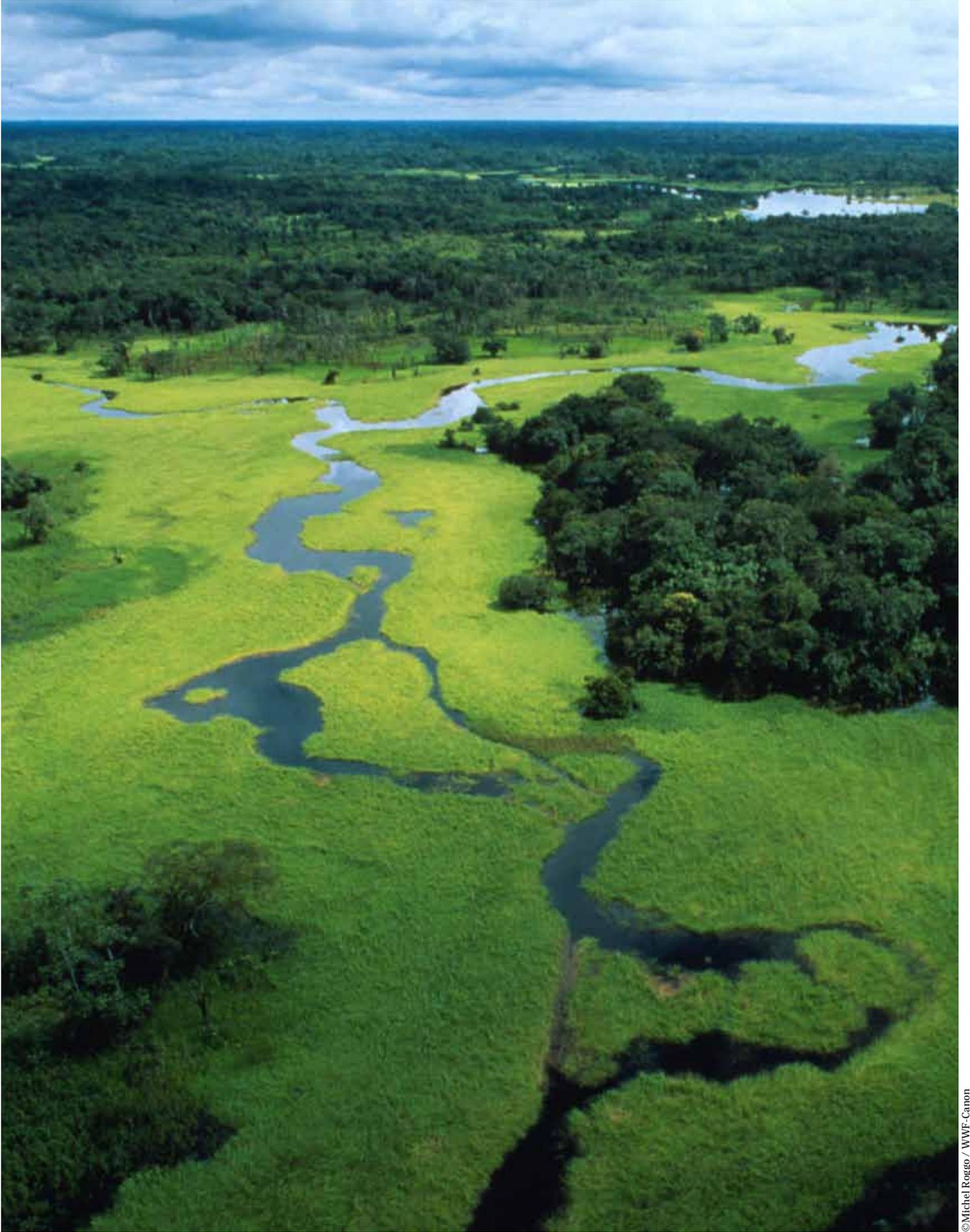
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The challenge of mining: Colombia under earth

Reducing Humanity's Ecological Footprint:
Changing the development paradigm

Climate Irregularities affect stocks
of small pelagic fishery in Colombia





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Why we are here.

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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REDUCING HUMANITY'S ECOLOGICAL FOOTPRINT: CHANGING THE DEVELOPMENT PARADIGM



Dejar una huella positiva,
está en tus manos.

Since the 1970's, the demand for natural resources and energy and the contamination of the environment has continued to grow and exceed the capacity of the planet to regenerate and to absorb and recover from the effects of contaminants (e.g. greenhouse gas emissions). Globally, humanity is generating a debt with the planet, a current 30% overdraft on the planet's checking account. By 2030, this **Ecological Footprint** will increase to 100%;¹ two planets will be needed to maintain current consumption and contamination patterns.

Reducing humanity's ecological footprint is a development imperative and can be achieved by changing consumption patterns (what and how much is consumed and disposal post-consumption) and by transforming development paradigms.

Changing the tide requires actions at all levels. Individual and collective actions can reduce the consumption of

natural resources such as water and energy, increase the consumption of sustainably produced products, and recycle to permit more efficient reuse of resources. For example, illegal timber extraction and commercialization has devastating impacts on forest ecosystems, and represents a minimum of 42% of timber traded in Colombia. Responsible purchasing should demand legal timber. The simple act of separation of trash at the source (individual homes) dramatically increases by XX% the potential recuperation and recycling of paper and other products. Small and easy individual actions multiplied by millions can have significant impacts.

The footprint of productive sectors such as agriculture and industry can and must be reduced by considering and transforming the consumption and contamination of all aspects of production. Agriculture throughout the world on average uses ~70% of freshwater, much of which is inefficient and rapidly affecting ecological flows, i.e. water available for natural ecosystems. According to the IPCC, globally, agriculture and forestry account for 31% of greenhouse gas emissions (including deforestation, land use changes, fertilizers and livestock produced methane). Substantive changes could have a significant impact on the carbon footprint of these sectors.

¹ **Ecological Footprint**, a concept developed in 1990 by researchers Mathis Wackernagel and William Rees, measures the pressure of humankind—be they individuals, businesses or governments—on the environment.



The choices that Colombia and other countries make for future development will greatly influence their ecological (and ultimately economic) balance sheet. For example, a low carbon economic development pathway will aim to reduce dependence on oil and fossil fuels by promoting technological and policy innovation and business transformation such as energy efficiency, clean transportation, smart building, and renewable energy industries beyond biofuels (hydro, solar and wind).

Equally important is the need to improve agriculture practices and land use, and reduce deforestation and degradation of natural ecosystems. Roads and cars are not the only means of mobilizing people and products, but they currently represent around 67% of transport-related infrastructure investment in Colombia. Mining and petroleum development (extraction of nonrenewable natural resources) have a significant carbon footprint and represent 80% of foreign direct investment in Colombia. Government can create the enabling conditions for people and business to tread lightly and influence the development trajectory of the country.

Action is taking place and readers are invited to join. On the eve of World Environment Day (June 5), an environmental campaign, Soy ECOLombiano (I am an ECOLombian) was launched.² This initiative is a call to action for citizens, the private sector and government to consider, reflect and act to change lifestyles and consumption patterns, production practices and policy frameworks to reduce the demand on the environment and natural resource base upon which all humans and nature depend, reducing the collective ecological footprint for the benefit of both people and nature.

². Campaign launched by Ministry of Environment, Housing and Territorial Development (MAVDT) and WWF, with partners Caracol Television and El Espectador and the support of 39 private and public sector organizations.

THE TEN THINGS THAT ONE SHOULD KNOW ABOUT REDD

REDUCTION ON EMISSIONS FOR DEFORESTATION AND DEGRADATION

1

Is there a connection between natural forests and climate change?

Yes. The forests have a high content of carbon and if they are deforested this can go to the atmosphere and increase the concentration of greenhouse gases, the principal cause of climate change. Additionally, having larger forest cover helps combat the negative effects of climate change. For example, the Amazon is an ecosystem of large importance in regulating climate in the region, to this end, while it is conserved, there is a greater chance of resisting the effects of climate change.

2

Up to what point does deforestation contribute to greenhouse gas emissions. Scientists argue that deforestation causes approximately 20% of these emissions, being the second most important source after burning fossil fuels, such as oil and coal.

3

Are deforestation and greenhouse gas emissions two problems relevant to Colombia? Yes. Approximately half of Colombian territory is made up of natural forests and it is relevant to take actions to reduce the rate of deforestation, calculated recently at 336,000 hectares a year. This corresponds to an area the size of Colombia's Atlantic province.

4

Has there been a proposal to protect the forests in the framework of climate change? Yes. The mechanism REDD has arisen in recent years as an alternative to stop deforestation. The idea is that developed countries, the principal causers of climate change, should compensate for their part of emissions (not all and it's important that they commit to reducing these emission themselves) by supporting countries with large important forests in stopping deforestation.

5

Can one join this mechanism? No. The REDD mechanism is being discussed in the framework of international negotiations on climate change, where the option was outlined of including the sustainable management of forests and the improvements of carbon reserves, this is what is known as REDD+. However, there are initiatives focused on helping countries prepare for when REDD is functioning (such as the Cooperative Fund for Forest Carbon of the World Bank). This is the case of the voluntary markets of carbon, in which some organizations purchase reductions in emissions from REDD projects.

6

Is this the same as buying oxygen? No. The oxygen markets don't exist and generally they are tricks in which small communities have fallen for because they didn't have adequate information. Because of this, it's important to communicate with organizations that know about the issue before embarking on these schemes.

7

Is the participation of the communities key? Yes. Approximately half of the country's natural forests are in territories belonging to Indigenous and Afro-Colombian communities, so for this reason it's important to ensure strategies, policies and REDD projects be consistent with the rights of indigenous and Afro-descendant communities. They must also be equitable in the generation and distribution of benefits.

8

Are there other benefits in implementing REDD? Yes. The forests generate a wide range of environmental goods and services for society (biodiversity conservation, water regulation, control of erosion). Therefore, initiatives related to the protection of forests, like REDD, are crucial.

9

Is Colombia prepared for this scenario? Yes. Measures have been taken in this sense and from the public sector have come initiatives focused on generating greater information on the issue. Civil society organizations, such as WWF, created a group called the REDD table with the intention of supporting and strengthening these initiatives in the country.

10

Where can I find more information about REDD? It's recommended to check out the document "Deforestation Avoided: A REDD Guide + Colombia" which is one of the results from the work done with the Ministry of Environment, Housing and Territorial Development at: <http://mercadosverdes.com/redd/REDD-Colombia-WEB.pdf>



© Edward Parker / WWF-Canon

An open cast gold mine at Pocone, Amazon basin, Brazil.

THE CHALLENGE OF MINING: COLOMBIA UNDER EARTH

Colombia: A mining country

Colombia wants to be a leader in the mining sector, a fact established by the National Department of Planning in its goals for the year 2019, in which it was proposed making mining a priority for the country. It's not a coincidence that the National Plan for Development from January 2006 is titled "Colombia: A Mining Country". The vision outlined in the plan for 2019 says: "Colombia's mining industry will be one of the most important on the continent and its importance in the national economy will have grown significantly."¹

A sign of the government's aggressive program of promoting the country's mining potential is the generosity of the terms and contracts offered to private mining companies. The Law of Judicial Stability for Investors in Colombia allows investors to sign contracts with the state that last between three and twenty years all the while maintaining the same legal responsibilities and rules that existed at the beginning of the investment. With the country's security situation improving, the mining sector brought in the largest amount of direct foreign investment – IED – to the country in 2009, with a total of 3.09 billion dollars invested, the equivalent of 43% of all the direct foreign investment in Colombia that year. For these reasons, the multinationals have flooded the country with mining initiatives, principally of a large scale.

1. UPME (2006), "Colombia: A Mining Country – National Plan for Development of Mining – Vision for the year 2019". Available at: www.paisminero.com.

The Problems of Mining

Mining is one of the most damaging economic activities to the environment, principally for the size of its operations and the type of chemical processing that is needed to separate the desired material and the leftovers. The loss of vegetable cover, the breakup of ecosystems, the loss of biodiversity, the contamination of soils and bodies of water with dangerous toxic substances are just some of the impacts that open-air mining can bring. The example of the mining district of La Jagua in the province of Cesar clearly shows the transforming effect of this industry on the landscape.

While it is true that our society needs the raw materials this sector provides, and that mining is responsible for moving vast sums of money around the world, in many cases these benefits don't reach the communities most directly involved in the early stages of extraction, and much less comes to those victims directly or indirectly affected by this activity. In Colombia for instance, the percentage of royalties that the mining sector provides is just 4%, and in many cases the requirements demanded of mining projects don't address problems to the environment, health or the local economy that only arise years after exploitation has started.





Foto tomada de correos de alerta masivos de internet.

Illegal mining, while not operating on a large scale, also brings a high environmental and social cost. In Colombia, cases such as that of the Dagua river in the province of Valle del Cauca are a clear example of how far things can deteriorate with uncontrolled mining and the inability of the state to stop it and offer alternatives to the population (see photo).

Mining Multinationals and Business Responsibility

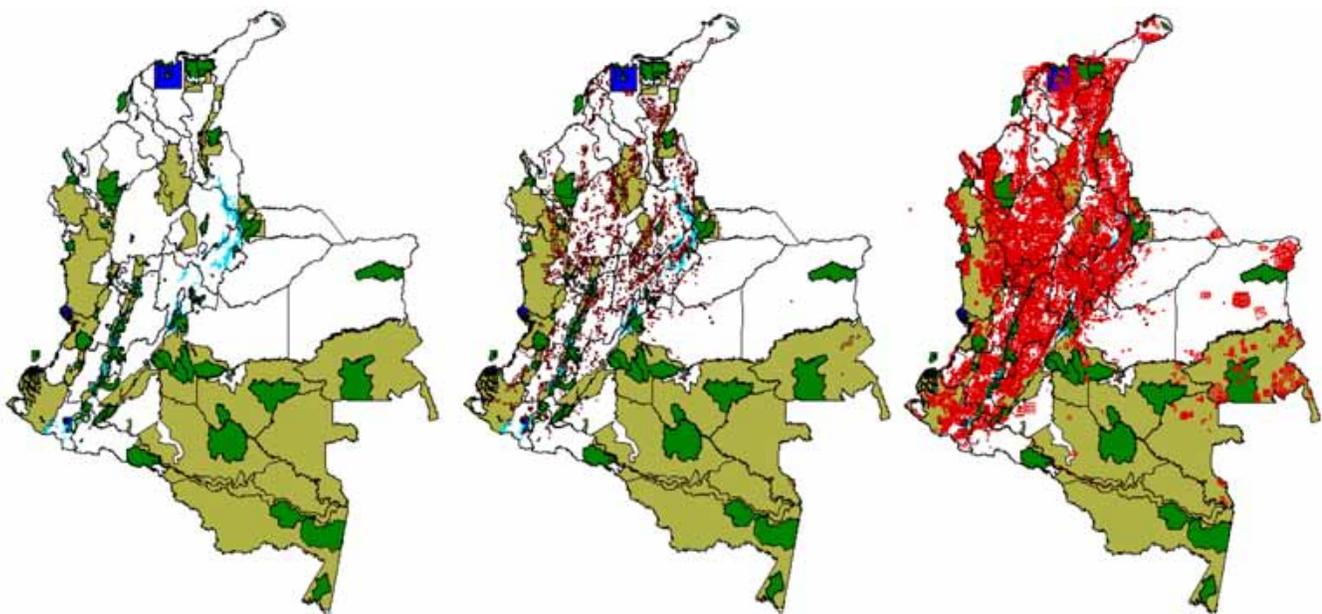
The actual slogan of the country's mining policy is: "Mining in Colombia: Responsible Development". Under this concept, the government is seeking to promote greater social and environmental responsibility on the part of the industry. In the last National Congress for Protected Areas, the Vice-minister of Mines stated that this greater responsibility was practically guaranteed given that the large multinationals arriving to Colombia were recognized for their adherence to high international standards in technological practices, the environment and their relations with the community.

One of these international standards, the Framework for Responsible Mining arose as an initiative from NGOs, investors, insurers, traders and technical experts in the mining sector. Led by the Center for Science in Public Participation and WWF, this initiative promotes a framework to minimize the negative environmental and social effects of mining in its area of influence directly and indirectly, by better practices, codes of conduct and low impact technological options.

More than how, one must think where

However, it's difficult to talk about responsible development of mining in Colombia when the emphasis is on large-scale megaprojects. Projects of this magnitude will inevitably, directly or indirectly, bring major environmental and social impacts. The central question should not be only how to mine responsibly, but where to mine in a country such as Colombia with its vast and diverse natural patrimony.

Today, mining in Colombia is of national interest and the only areas excluded from this activity are the National Parks, the wetlands declared of national importance under the Ramsar convention and the highlands. This situation is seen in the following maps which show the national parks and collective territories overlapping with mining titles given out. More worrying still are the countless number of mining requests that are flooding practically every part of the Andean region of the country, moving slowly towards the Amazon and the Chocó region.



Our country urgently requires a debate about what limits should be placed on the mining sector. This same debate should include the infrastructure megaprojects, the exploitation of hydrocarbons and the large agro-industrial projects. Without the intention of stopping the activities of these sectors, it's fundamental that Colombia as a country asks itself if all our territory should be open for large-scale projects.

The debate should also determine that when granting mining licenses the amount of land that must be protected, those areas that are key in delivering environmental goods and services (large parts of the Chocó Eco-region, the Amazon, the highlands, the wetlands, the strategic basins for the population and regional economies, amongst others). These protected areas should be carefully analyzed with attention to sources of water, the potential to capture and retain carbon and substance local and regional, the short-term benefit of the massive exploitation of non-renewable natural resources.

CASE STUDIES CARRIED OUT BY WWF RELATED TO COLOMBIAN MINING

Given the relevancy of the issue for development policies for the coming years and the potential environmental impact of this activity that could affect areas where WWF is working in Colombia, this topic has been prioritized. There are currently two mining initiatives that are being worked on: the mining project in La Colosa and mining in the Chocó Eco-region.

La Colosa Mine, Cajamarca, Tolima

The mining project of La Colosa is located in the basin of the Coello river in the municipality of Cajamarca, Tolima, a priority area for WWF in the Eco-Regional Complex of the Northern Andes. This project is predicted to be the largest gold exploitation project in the country. It is estimated that this mine, which will be developed by the South African multinational Anglo Gold Ashanti, could produce 800,000 ounces of gold a year.²

For the type of mine seams in which the gold is found in La Colosa, the extraction of the gold will occur in an open air mine, as shown in the photo. Cyanide will be used to separate gold from the rocks. As well as the other environmental problems already mentioned, it must be added the potential risks to the quality and availability of the waters of the largest water source for agricultural purposes: Usocoello.

Anglo Gold Ashanti holds mining titles for 9,017 hectares in this zone. Last year, the company requested additional hectares, and asked that the protected forest reserve where La Colosa is located be cut by 515 hectares. The Ministry of Environment, Housing and Territorial Development subtracted 6 hectares for the exploration phase, which will occur in the next

2 to 3 years. As soon as its economic viability is established, the business will request an environmental license for the exploitation stage.

With the aim of offering technical support in decision making for this project in the initial stages of its execution, WWF along with Natural Patrimony Fund, Cortolima, Semillas de Agua (our partner in the region) and other environmental NGOs will promote the Strategic Environmental Evaluation regarding large-scale mining in mountainous zones. This will allow an analysis of the direct and indirect environmental and economic impacts of the project compared to benefits the region will receive.

A fundamental aspect of this will be risk analysis. While Anglo Gold Ashanti promises to implement the most innovative technologies for the environmental management of the project, risks abound. These risks must be addressed and understood in order to make an informed decision on the viability of this project.

Mining in the Chocó Eco-region

The extraction of wood and mining resources have historically characterized the Chocó Eco-region. Many of the indigenous and Afro-descendent communities that today own this territory count on a tradition of artisanal small scale mining which today is threatened by the new judicial order that favors large mining. In particular, those experiences of responsible community mining like Green Gold, recognized at the national and international level, could lose their chance to be replicated in the region.

². El Espectador (2009), "La Colosa gold mine is described as boon for economy". Agosto 29.



© Zig Koch / WWF

WWF will work in conjunction with Friends of Chocó Foundation (Amichocó) – supporters of the Green Gold program and with a group of environmental, academic entities with the aim of contributing to strengthening the ability of the community councils to exercise their territorial rights and to negotiate in an informed and effective manner with mining companies. With this, these communities can be better

prepared for the entrance of these large mining projects in to their regions.

One of the expected results of this work will be to raise the debate on what high value ecological and socio-cultural land should be excluded from large-scale mining, such as the Chocó Eco-region and the promotion of the more environmentally responsible small-scale mining.

COUNTING DOLPHINS, CRITICAL TO PRESERVE HEALTH OF SOUTH AMERICAN RIVERS



©Joana Toro / WWF Colombia

A slow-moving canoe full of marine biologists gingerly steers through a narrow Amazon tributary. On both sides, treetops surface above a flooded forest.

Ten minutes later the group emerges onto a huge and placid oval lake, the Cocará lagoon, located on the Peruvian side of the Putumayo river. Suddenly, a powder-pink dolphin jumps and dives in an elegant arc.

This is the 11th expedition to count river dolphins in South America, a critical way to assess not only the dolphins' numbers, but also the health of rivers and related biodiversity. In June 2010, the scientific team of the Omacha Foundation set sail from Puerto Leguizamo to evaluate how healthy the dolphins and their habitats are in the three-border area along the Putumayo river, where conservation is crucial for the Amazon Biome.

River dolphins are an umbrella species: a high population is a sign that the rivers are healthy as well as other land and aquatic species.

“When rivers deteriorate in quality, dolphins disappear first”, said Saulo Usma, Fresh Water Coordinator for WWF Colombia.

Ultimately, scientists hope this research will lead to better protection of South America's freshwater dolphins, and the rivers they call home.

A major venture

Since 2006 the Omacha Foundation, with WWF support, has travelled more than 4,200 kms along 12 of the most important rivers in South America. In the past four years they have spotted more than 4,000 dolphins in the Orinoco and Amazon basins, broken down among three different species: the grey (*Sotalia fluviatilis*), the pink (*Inia geoffrensis*) and the Bolivian (*Inia boliviensis*).

There are an estimated 40,000 thousand river dolphins in the region, and even though this may sound like a healthy population, dolphins are more threatened now than ever. Deforestation, water pollution from mining, overfishing, the use of dolphin meat as bait and infrastructure projects are some of the biggest threats to these species.

As recently as four years ago, data on river dolphin populations in the Orinoco and Amazon basins, two major fresh water reservoirs in the planet, was not





sufficient. A standardized counting method and consistent statistics were also missing.

Scientists, as well as other environmental organizations, convinced of the necessity to persuade governments to give priority to the Orinoco and Amazon basins' conservation, decided to undertake a journey through the most important rivers in South America in countries like Colombia, Venezuela, Bolivia, Peru, Ecuador and some parts of Brazil, to finally learn how many dolphins live in this region, their health, and how to develop a long-term conservation programme.

The dolphin census is the brainchild of Fernando Trujillo, Director of the Omacha Foundation. Trujillo adapted a model for counting and extrapolating data about dolphins designed by statisticians at St. Andrew's University in Scotland and has carried out 11 expeditions so far.

The method is being applied to a similar survey in Asia, which hosts the world's only other significant population of freshwater dolphins.

A charismatic symbol

By monitoring the dolphins and their health, the biologists hope that these aquatic mammals, with their playful habits and unique appearance, could become a charismatic symbol for preserving the Orinoco and Amazon basins.

Today, there is a plan supported by WWF to protect freshwater dolphins in South America, and countries like Bolivia and Colombia would be the first ones to implement it, using some of this research as a basis.

Governments are being encouraged to do more to protect dolphins, there is a network of 80 researchers trained to be part of other expeditions outside their countries, and agreements with local indigenous communities to apply sustainable fishing methods have been settled.

Yet, the problem with fisheries, the most difficult one to deal with, still remains.

Dolphins are being used as bait to catch mota (*Calophysus macropterus*), a scavenger fish from the Orinoco and Amazon basins which fish sellers discovered could replace the catfish capaz, a highly demanded species from the Magdalena river -almost on the brink of extinction-, and then sell it in the main cities in Colombia under the name Capaz. “So it is essential to put this issue on the international agenda”, asserted Trujillo.

The science of counting dolphins

Counting dolphins is a simple task but has its own specialized methodology. Math formulas are used to calculate the speed at which dolphins swim as well as their distance in relation to the riverbank.

The researchers divide into two groups. One team goes to the fore the other to the aft. Both groups carry a compass, binoculars, a GPS, a pencil and index cards to record the time, the angle, distance coordinates, if it's gray or pink, and the number of dolphins spotted.

The boat zigzags at a speed of 12 kms per hour and a hundred meters from the riverbank. After having travelled two kilometres, it crosses to the other side

Asia, the mirror

Researchers fear that the Amazonian dolphins could reach a similar situation to those in Asia, where in some places dolphins have been declared extinct.

“We don't want to be in the same situation as in the Yangtze, where dolphin sighting has become an exception”, said Trujillo.

While some believe there is still an opportunity here for river dolphin conservation, others see the mirror of Asia as a blurred image.

María Delgado, a 29-year-old subsistence fisherwoman, thinks environmentalists are creating an unwarranted alarm. “There are plenty of fish, they just know how to avoid being caught”, she said.

Scientists make clear the threats in South America are still at a manageable stage. “The fishery industry situation, pollution from mining and oil exploitation, deforestation and bycatch, can be slashed back if we involve all actors and encourage governments to get on board”, concluded Usma.

The plan, called the Action Plan for South American River Dolphins: 2010-2020 hopes to address these threats.

COLOMBIA PUBLISHES SECOND NATIONAL REPORT ON CLIMATE CHANGE

In complying with the commitments of being a signatory to the Framework of United Nations about Climate Change Convention, the Ministry of Environment, Housing and Territorial Development –MAVDT– recently published through the Institute of Hydrology, Meteorology and Environmental Studies –IDEAM, the Second National Report about Climate Change.

This document, aimed at other signatory countries of the convention, the scientific community, decision takers and civil society, describes the national situation in everything related to the emission of greenhouse gases, the associated impacts of climate change, the vulnerability of ecological and social systems, and the measures that have been taken or are in the process of being developed to mitigate, prevent and remediate the impacts.

The changes expected, which were classified as worrying in IDEAM's first report in the year 2001, are now truly alarming.

Thanks to the better quality and precision of the monitoring models developed for the second report, the country now has a clearer panorama on projected climate tendencies for the future. Given that the average temperature of the air is set to rise at an average rate of 0.13 °C/per decade, it is expected that the average temperature in the national territory will increase 1.4°C between 2011 and 2040, continuing with a rise of 2.4°C in the year 2070 and will have risen 3.2°C by the end of the century.

It is predicted that rainfall will be reduced in the provinces of Huila, Putumayo, Nariño, Cauca, Tolima, Córdoba, Bolívar and Risaralda by the end of the century and significant increases in the provinces of Santander, Vaupés, Chocó, Guainía, Amazonas, San Andrés and Vichada.

From the point of view of ecosystems, the largest potential impacts from climate change will occur in the high mountains during the period of 2011-2070. This doesn't only represent a threat to the conservation of the country's native biodiversity but it also threatens the future delivery of environmental goods and services on which millions of people depend.

In accordance with these projections, the report warns of the need to strengthen research and the transfer of knowledge, to optimize risk management, improve the use of territory to decrease vulnerability, reduce the environmental, social and economic impacts, increase the capacity of adaptation for vulnerable communities, design and implement an institutional framework suitable for adaptation, value and protect biodiversity and to boost international cooperation and resources for climate change adaptation.



©Andy Kenworthy / WWF UK



Colombia's contribution to the search for solutions to climate change problems includes advances in the issues related with its mitigation. As outlined in the Second National Report, even though the country has no commitments with mitigation and only produces around 0.37% of the greenhouse gases emitted by the world, it has developed and implemented different policies that promote sustainable development. These actions, undertaken by different productive sectors, are coordinated by the Group to Mitigate Climate Change of MAVDT.

In line with the policies established regarding climate change and the National Plan for Development in 2002-2006 which defined goals in reducing GEI emissions, there has been created an institutional strategy for the sale of environmental services derived from the mitigation of climate change and the promotion of greater participation in the country for mechanisms for clean development.

Even though the advances towards prevention and solution to environment threats contained in The Second National Report on Climate Change are still small compared to the threats identified, the report outlines a course that is much clear than the one that existed before. It collects scientific information and brings together different actors who should be involved in the development of needed actions. Finally, it lays out mechanisms to increase the participation of civil society in the search for solutions for the gravest environmental threat we have ever faced.

CLIMATE IRREGULARITIES AFFECT STOCKS OF SMALL PELAGIC FISHERY IN COLOMBIA



©Lilíán Flórez-González / Fundación Yubarta / WWF Colombia

Since 2008, expeditions have been ongoing to various places along Colombia's Pacific coast such as the National Natural Park of Sanquianga, the Golf of Tortugas in Buenaventura and in the area of the Gulf of Cupica that extends to the border with Ecuador, with the aim of obtaining results on the distribution, location and reproduction of small pelagic fish.

The aim of these expeditions is to reinforce conservation measures, especially in estuaries and mangroves, which serve as the nurseries for the shoals. These marine species are the raw material for the production of fish powder, the principal food source for the poultry industry in Colombia.

The project of small pelagic fishery is led by WWF Colombia and Colombia's National Natural Parks office, co financed by the Ministry of Agriculture and Rural Development. It counts also on the participation of the Colombian Agro-fisheries Institute – ICA, the Colombian Institute for Rural Development – INCODER, the University of Valle and the company Harinas and Aceites de Pescado de Mar – HARIMAR S.A. The investigations have been supported by of Association Calidris and the Yubarta Foundation.

The investigative work that has been ongoing since 2008 will serve to change fishery practices and establish specific zones for conservation. It will also allow the definition of agreements with communities whose traditional fisheries

practices occur in or around National Natural Parks in the Pacific. The industry is set to benefit from these measures as well, as they will ensure the long-term sustainability of the resource.

In the last year and a half, studies have shown a strong disturbance in the reproduction and diminishment in the number of eggs. The climatic variations could be affecting the metabolism and the reproduction rhythm of the species. Luis Alonzo Zapata, Marine Coast coordinator for WWF Colombia, explains the importance of this species and gives more details on the investigation.

What are the main features of shoal?

The shoal is the second most important species, in terms of volume, after tuna, extracted from the Colombian Pacific coast. They are similar to sardines; they don't grow bigger than 20-25 cms, they live very close to the coast and occupy the surface of the water. These animals are called small pelagic fishes.

What is their role within the marine ecosystem?

Well, their role is to act as a link species; they consume the phytoplankton – sea plants – transforming this in to energy and converting it in to the base of the food chain for the majority of the species; carnivorous fishes, birds and marine mammals. They also have another importance for humans: fish powder is extracted from the shoal, with a level of protein around 50-55%. This is turned in to pellets – concentrate – for raising birds.

In economic terms, what is its importance?

The original quota of extraction of shoal as a base for the production of fish powder was established at 30,000 tons a year, but in 2009 we asked for a reduction of 10%, bringing it down to 27,000 tons. This has a yield of 20%, so 5,400 tons is expected. The numbers affirm the importance of this species at the industrial level.

It is calculated that demand for fish powder in Colombia is around 80,000 tons a year, so between 5,000 and 6,000 tons are produced for the country and the rest is imported principally from Peru, Ecuador and Chile.

What other uses are there for shoal?

In this moment, almost the only use is to convert the fish in to powder. We are trying to identify other uses for shoal, such as food for humans, to make meat that can then be turned in to sausages, hamburgers, nuggets etc.



There is a strong criticism, and this is across the world - this is the most important fishery industry in the world-, regarding how so much volume of fish is used to feed animals, even if these animals are then be destined for human consumption.

It's definitely a very interesting resource with great commercial potential.

What do these investigative cruises consist of?

It's a 15-day trip to get an overview of where the species is, what size are they and how reproduction is across the pacific. And with our monthly reports we tell the governments if the resource is stable and any tendencies of over-exploitation and how to proceed.

What was the most important discovery in the last cruise?

There is a huge disruption in their reproduction and this has been constant in the past year and a half. The normal period of spawning has grown from October, November and December to now include March and July – this means the spawning time has been broken up and changed to include different times. The other discovery is that the volume of eggs being placed in a single moment has decreased, falling from 2,000 eggs per square meter to 300 or 100, small amounts. Apparently when the spawning is disrupted it reduces the volume of eggs and this is influenced by climate variations.

What we have observed are negative anomalies in temperature known as la niña, and after la niña, was last year's el niño with temperatures between 29 and 30 degrees Celsius. This combination of temperatures is terrible for the species because it means changes from moments of cold to normal to hot. The metabolism of these species cannot react to these changing temperature, affecting reproduction.

It was for these reasons that the recommendation was made to the government to reduce by the annual catch quota by 10%. The observation of these irregularities of the reproductive cycles and volumes of eggs is crucial for the conservation of these species.



© Ana Maria Roldan / WWF Colombia

MALAGA BAY IS FINALLY DECLARED NATIONAL NATURAL PARK

After several months of intense debate, the Environment Minister, Carlos Costa, with just two days left in office before the change in government, declared Malaga Bay a protected area, August 5, 2010. Malaga Bay, one of the most biodiverse areas in the world, is today Colombia's 56th national natural park.

The *Malaga Bay Uramba* National Natural Park spans 47,094 hectares and is located in the central part of Colombia's Pacific coast. It houses an immense diversity of both terrestrial and aquatic fauna and flora and has been identified as a priority site for conservation on Colombia's Pacific coast.

This area, 100% marine, will contribute to increasing the representation of marine ecosystems in the National System of Protected Areas (SINAP) and to strengthening the socio-cultural dynamic of the Afro-Colombian communities in the region.

The zone is globally recognized as one of the most important sites for the reproduction of humpback whales (*Megaptera novaeangliae*) for mating and birthing. Each year between 500 and 700 humpback whales come to this corner of the Pacific.

Conservation and development, the eternal dilemma

In recent months before the declaration, discussions over whether the zone should be declared a protected area or the site for the construction of a new port has reignited the debate between conservation and development.



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Business leaders have argued that a national park in Malaga would seriously limit the development of the country's port system, claiming that a port in Malaga is needed to handle larger ships such as post-Panamax because the access canal in the nearby port of Buenaventura bay is too shallow. However, the transport sector does not consider this to be a limitation and have planned port expansion and dredging to deepen the access channel, a measure that will improve Buenaventura's capacity and meet the needs of the country.

Both international and national experts have said that a multi-purpose commercial port would not be compatible with the conservation of the ecosystems present in Malaga Bay. Other studies point out that the construction of the port can be feasible only when the environmental damage could be mitigated.

Local communities have supported and promoted the process of declaring the zone as a protected area. This is the first time a protected area has been requested and strongly supported by the Afro-Colombian communities as a tool to manage and protect their territory as well as their traditional livelihoods.

The communities located in Malaga believe that Malaga Bay is not only important for its biodiversity but also for its cultural riches. The cultural practices of the Afro-Colombian communities and indigenous peoples in the zone have contributed to the continuing conservation of the region's ecosystems. With this in mind, the declaration of Malaga as a protected area serves to safeguard both the environment and cultural life.



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After a careful analysis that took in to account many biological and social studies, as well as the suggestions of the industrial and commercial sectors, Minister Costa kept the promise he made in June: “The final decision will be taken before the end of this government, but what is not open to discussion is that Malaga Bay needs to be protected.”

This decision “brings to an end a long chapter of discussion and opens a new page for the future of the region and the country. It’s a major achievement that recognizes the importance of the conservation of the marine ecosystems in the Colombian Pacific that so far have been underrepresented in the National System of Protected Areas in Colombia,” asserted Mary Lou Higgins, WWF Representative in Colombia.

The step taken by Minister Costa shows the commitment of the country to protecting the planet’s crucial areas of biodiversity, like Malaga Bay. It is a concrete contribution to Colombia’s global promise to conserve marine ecosystems and vulnerable species such as the humpback whale. This also demonstrates a clear example of balancing development and conservation.

“We applaud this decision that respects the wishes and efforts of many people; it strengthens the work of institutions like National Parks, and the mission of organizations like WWF whilst opening a future path that reconciles conservation with sustainable development led by communities in the zone,” said Higgins.



THE GLOBAL FOREST TRADE NETWORK IN NORTHERN AMAZON & CHOCO-DARIEN



**GLOBAL
FOREST
& TRADE
NETWORK**

NORTHERN AMAZON & CHOCO DARIEN

A market force that protects the world's forests.

Fifty per cent of the Colombian territory covered with forests, is today better protected from non sustainable practices such as illegal timber exploitation and traffic. The same is true for areas in Venezuela, Panama and Ecuador. The Global Forest Trade Network for the Northern Amazon & Choco-Darien (GFTN NACD), is an essential tool for transforming the regional, national and global markets in a force that protects the most valuable and threatened forests of the world, while fighting off unsustainable practices.

An initiative of WWF, the GFTN aims to facilitate commercial relations among those companies committed to a responsible forest management. It also aims to create conditions in the trade that would help to preserve forests while providing economic and social benefits for those companies and peoples who depend directly from them.

“It was imperative to have a regional GFTN”, said Miguel Pacheco, Coordinator of the Northern Amazon & Choco-Darien’s GFTN.

“Considering that forests are a source of strategic resources, and that they provide personal wealth and environmental services –such as timber, non-timber products, landscape beauty, shelter for ethnic communities, carbon capture– it is necessary to consider different strategies to protect

them. It is mandatory to act in order to reduce that 20-40 % of timber's world production that comes from illegal cutting”.

Besides the protection of forests ecosystems, GFTN opens the doors to international markets in Europe and the US, where it is necessary to follow-through the policy acts, such as the origin and the legality of forest products, as required by those markets (FLEGT and Lacey ACT, respectively). On the other hand, this will help in the gradual increment (1% estimate) that nowadays Venezuela, Ecuador, Colombia and Panama add to their own GDPs.

GFTN NACD is part of the “Inter-sectorial Pact for Legal Timber”, an agreement signed in 2009 by the government and 24 parties of public and private sectors, by representatives of the civil society and consumers as well,



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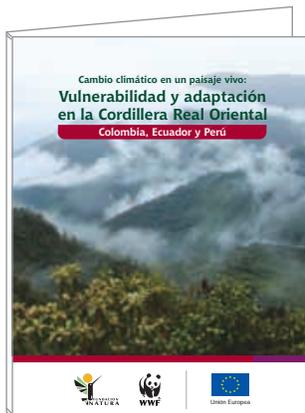
to stop the illegal timber traffic in Colombia; to implement a national environmental policy; and to improve forest management. These joint actions, coordinated through both initiatives would help diminishing the annual devastation of at least 48,000 hectares, and the overexploitation of at least 21 forest species.

GFTN offers specialized services in forestry, both in natural areas and in plantations, and contributes in diminishing and resolving the common problems associated with the industry: to ensure that the timber comes from forests properly managed. For the processing industries, it offers assistance in the adequate transformation of their plants, in the control of the origin of timber, and product registration. For the distributing companies, and for those that consume timber products, it offers

assistance in the implementation of the policies for responsible purchasing. It also helps establishing fair practices in the commercial relations amongst members of the GFTN.

According to the World Bank, 42% of timber from tropical forests in Colombia is illegal. This creates gaps in the whole chain, from the source of the timber to the final distribution to the consumer, including the processes of transformation and proper usage. In an illegal trade, the distribution of profit is not fair; all operations are carried out under conditions of informality, and neither industrial safety nor health benefits are covered, and every aspect of it just keeps the gap of poverty opened. Deforestation and unsustainable practices are rampantly progressing, affecting ecosystems and species, promoting in some cases the conditions for phenomena like climate change to increase.

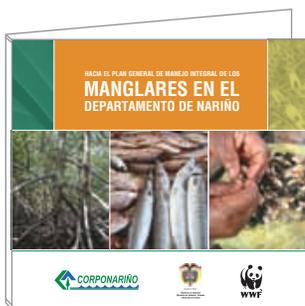
“With the GFTN NACD we would counteract these threats and we would change the conditions for healthy forests to exist with a sustainable and competitive trade, along with responsible consumers”, said Mary Lou Higgins, WWF representative for the Northern Amazon & Choco-Darien regional program. “We are certain that GFTN will be the link that would allow us to effectively integrate the environmental, social and economic needs that are born around tropical forests in this region”.



Cambio climático en un paisaje vivo: Vulnerabilidad y adaptación en la Cordillera Real Oriental de Colombia, Ecuador y Perú

WWF y Fundación Natura
ISBN: 978-958-8353-20-3
Pages: 102 (21.5 x 28 cm)

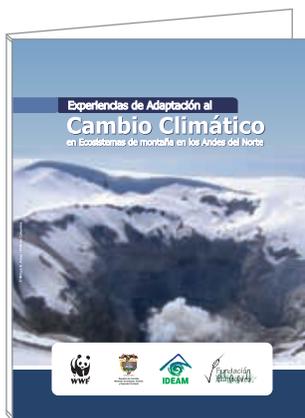
Presents the results of Fundación Natura and WWF's work to ensure the maintenance of ecological integrity of mountain ecosystems in the Cordillera Real Oriental (Colombia, Ecuador and Peru). Technical studies that model the expected impacts of climate change on major river basins, served as a starting point for conducting risk analysis and threats with social and institutional actors of the three countries. Through this participatory approach, local actions on adaptation were identified to integrate them into a regional strategic guideline. It was produced with support from Hewlett Packard, the European Union, the John D. and Catherine MacArthur Foundation and WWF UK - DFID.



Hacia el plan general de manejo integral de los manglares en el departamento de Nariño

MAVDT; Corponariño;
WWF Colombia; Asociación de Consejos Comunitarios y Organizaciones Étnicoterritoriales de la costa Norte de Nariño;
Red de Consejos Comunitarios del Pacífico Sur.
ISBN: 978-958-8353-19-7
Pages: 35 (24 x 22.5 cm)

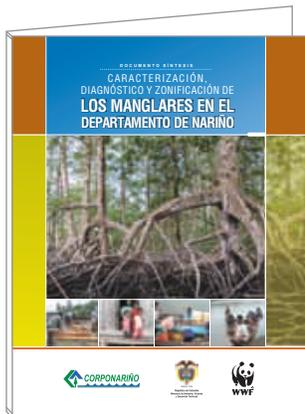
This booklet is the result of participatory process carried out with local communities, in the Pacific coast during the first quarter of 2009. It includes local knowledge on mangrove ecosystems. It was produced with the support of WWF UK.



Experiencias de Adaptación al Cambio Climático en Ecosistemas de montaña en los Andes del Norte

Ministerio de Ambiente, Vivienda y Desarrollo Territorial -MAVDT;
Ideam; Fundación Humedales;
WWF Colombia
ISBN: 978-958-8353-16-6
Pages: 178 (21.5 x 28 cm)

It presents a synthesis of conceptual, case studies focused on high ecosystems (cloud forests and paramos in Colombia, Ecuador y Peru), a summary of the roundtable discussions on vulnerability, adaptation and monitoring. It was produced with support from Hewlett Packard, the European Union, the John D. and Catherine MacArthur Foundation and WWF UK - DFID.



DOCUMENTO SÍNTESIS: Caracterización, diagnóstico y zonificación de los manglares en el departamento de Nariño

Produced by:
Ministerio de Ambiente,
Vivienda y Desarrollo
Territorial -MAVDT;
Corporación Autónoma
Regional de Nariño
-Corponariño; WWF
Colombia
ISBN: 978-958-8353-18-0
Pages: 64 (21.5 x 28 cm)

It presents the results of the research made by Corponariño involving government agencies, NGOs and Afrodescent communities between 2006 and 2007. Also includes significant contributions to the Mangroves' National Program and the National Environmental Policy for Sustainable Development of Colombia's ocean and coastal areas and islands. Was produced with support from WWFUK



Amazon Alive! A decade of discovery 1999 - 2009

Produced by:
WWF - Iniciativa
Amazonia Viva
ISBN: 978-958-8353-22-7
Pages: 60 (29.7 x 21 cm)

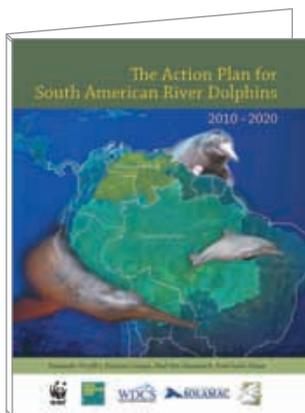
Between 1999 and 2009, more than 1,200 new species of plants and vertebrates were discovered in the Amazon biome – or one new species every 3 days – confirming the Amazon as one of the most diverse places on Earth, says a WWF report. It also serves as a reminder of how much we still have to learn about this unique region, and what we could lose if we don't change the way we think about development.



Living Planet Report 2010

Authors: Zoological
Society of London, the
Global Footprint Network
and WWF.
ISBN: 978-2-940443-23-9
Pages: 120 (17 x 23 cm)

The biennial report, produced in collaboration with the Zoological Society of London and the Global Footprint Network, uses the global Living Planet Index as a measure of the health of almost 8,000 populations of more than 2,500 species. The global Index shows a decrease by 30 per cent since 1970, with the tropics hardest hit showing a 60 per cent decline in less than 40 years.



The Action Plan for South American River Dolphins 2010-2020

Authors: Fundación
Omacha, WCS, WDCS,
Solamac y WWF
ISBN: 978-958-8554-10-5
Pages: 250 (21.5 x 28 cm)

This document is the first step towards consolidating efforts of management and conservation of river dolphins in large aquatic ecosystems in South America. Also seeks to create economic alternatives for local communities and governments to develop alternative sustainable fisheries, while benefiting river dolphins conservation and improving fisheries. Produced with the support of Conservation International, Whitley Fund for Nature, Fundación La Salle, Faunagua and the Humboldt Institute.