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FACTSHEET

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Tapajós river, Brazilian Amazon. More than 40 hydroelectric projects planned for the basin.

Living Amazon Initiative

Hydroelectric power plants in the Amazon: is dialogue possible? The case of Tapajós

The Amazon is the world's largest river basin with the largest river system, the largest flow volume and the most diverse and productive freshwater system on the planet.

Although this extraordinary system has not yet been vastly altered by the installation of big infrastructure projects, that may be about to change drastically because hydroelectric energy expansion is high on the list in the horizon of all Amazonian countries.

Given the magnitude and complexity of such interventions, it is no longer possible or adequate to address the advance of hydroelectric projects into the Amazonian rivers in the habitual narrow way of discussing the individual projects case by case. Addressing the cumulative impacts on the diversity and integrity of the aquatic ecosystems that will have irreversible effects on the livelihood of traditional populations and indigenous peoples requires a special analytical tool and a different type of political process.



In that light, WWF has developed an analytical structure based on a hydrological information system (HIS) suitable for Amazon River Assessment (ARA) capable of integrating hydrological and ecological information to obtain a regional-scale vision of terrestrial and aquatic ecosystem conservation. The structure was originally applied on a coarse scale to the Amazon basin as a whole (in view of the limited availability of



homogeneous data embracing all of the Amazonian countries) in an endeavour to provide supporting information for the process of defining action priorities for the regional WWF network itself.

An extensive process of diffusing this analytical tool attracted the interest of the Brazilian federal government in using the tool in the context of its Inter-ministerial Decree no 494, issued late in 2010, to analyse the hydroelectric programme for Tapajós, Brazil's most important Amazonian river basin in terms of its hydroelectric energy-producing potential. For over a year, WWF actively supported the government initiative by running capacity building workshops, specific mapping activities and the participative construction of indicators such as the aquatic vulnerability assessment represented by the Ecological Risk Index (ERI).

Since middle 2012 we have been consolidating our own analysis of the hydroelectric programme for the Tapajós River basin. This overall ecological vision is an important step towards obtaining a socio-environmental vision of the Tapajós river basin, not just in terms how much the hydroelectric energy programme is going to jeopardise the future of the Tapajós basin (that is, its cumulative and synergic effects), but also towards constructing an integrated vision of regional development whereby other sectors like mining will be approached in the same way.

If the shared objective is achieved, it will be possible to mitigate conflicts and boost opportunities associated to those projects that will be decided on in a participative and transparent manner and are capable of contributing towards a sustainable and prosperous future for the Tapajós basin.

THE HIS-ARA TOOL

- Makes it possible to develop a long-term conservation vision and evaluate impacts on conservation stemming from a hydroelectric energy programme (local impact and systemic connectivity)
- Supports decision makers in their construction and evaluation of development and conservation scenarios
- Supports the process of dialogue among the interested parties and achieving dialogue results

FACTS AND NUMBERS

AMAZON BASIN

THE LARGEST FRESHWATER ECOSYSTEM ON THE PLANET

OVER 100,000 KM OF RIVER COURSES

**THE AMAZON RIVER ITSELF IS THE LARGEST IN THE WORLD
IN WATER VOLUME AND FLOWS THROUGH 6,992 KM**

**OVER 150 HYDROELECTRIC DAMS AND PLANTS PLANNED
FOR INSTALLATION IN THE AMAZONIAN RIVERS**



TAPAJOS RIVER BASIN

- 1 million inhabitants
- 50 million hectares in area
- 6% of Brazilian territory
- 22% of its areas are degraded especially in the headwaters regions; 50% of them degraded by cattle farming
- 22% of the basin in Protected Areas - 1/3 of them protected under the aegis of the Amazon Protected Areas programme (ARPA), implemented by the Brazilian government
- 20% of it are indigenous lands
- 25% of the Amazon's hydroelectric potential which in turn represents 70% of Brazil's remaining unexploited hydroelectric potential
- The main Tapajos River has three important tributaries: the Juruena, the Teles-Pires and the Jamanxin

MORE THAN
40
HYDROELECTRIC
PROJECTS PLANNED
FOR THE BASIN

TIME LINE

2006 to 2008: WWF's regional conservation science team develops the first ecological vision for the Amazon using systematic conservation planning tools

Since January 2010: presentation of the ecological vision of the Amazon and the methodological proposal for Amazon river analysis to the interested parties, among them technical staff, directors and executives attached to the fields of electricity and the environment from Brazil, Bolivia, Colombia and Peru¹

November 2011: Signing of the Technical Cooperation Agreement between the Ministry of the Environment's Biodiversity and Forests Department and WWF-Brazil. Among its objectives is to "conjugate the participants' efforts to develop actions in the sphere of Systematic Biodiversity Conservation Planning in hydroelectric exploitation ventures and the implementation of the Ramsar Convention in Brazil" (Official Gazette, November 11, 2011)

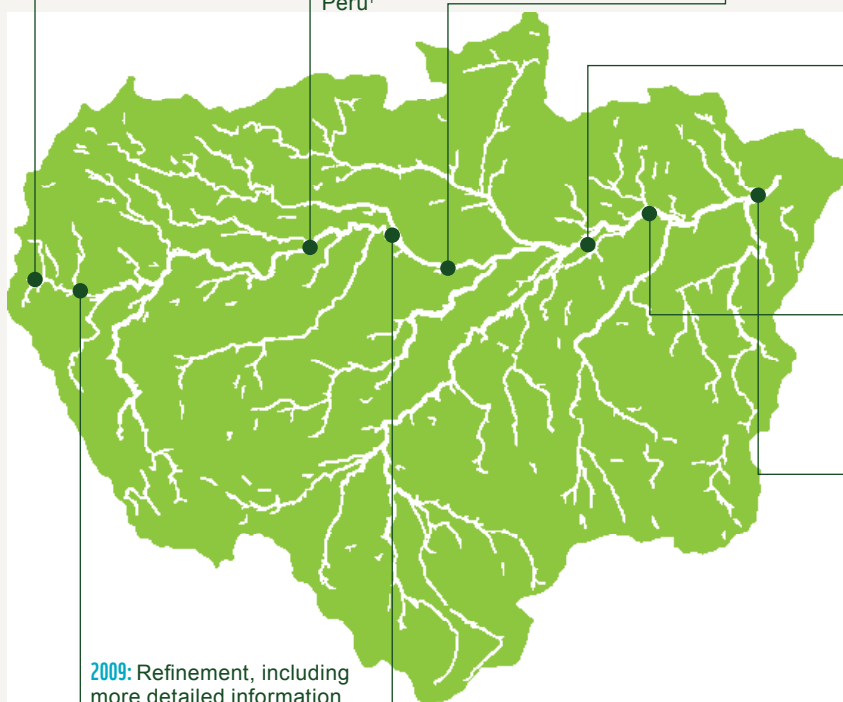
November 2011: capacity building workshops for Ministry of the Environment and Ministry of Mines and Energy teams offering training in elaborating systematic conservation planning, including the use of appropriate softwares and indicators used for mapping and evaluating conservation targets and risks, were held with the support of Landscape Ecology Laboratory (LEP/WWF Brazil)

From November 2011 to mid-2012: WWF and researchers hired by the EPE support the Strategic Group in elaborating the systematic conservation planning for the Tapajos River basin based on the vision of the future for the Tapajos basin

May 2013: WWF presents a preliminary assessment of the hydroelectric programme for the Tapajos basin based the future conservation vision for the basin at the Sustainable Planet event "Energy, Business and Environment".

2009: Refinement, including more detailed information with an emphasis on aquatic biodiversity and development of the hydrological information system for Amazon River Assessment - HIS-ARA

December 2010: publication of Inter-ministerial Decree 494 by the Ministry of the Environment and the Ministry of Mines and Energy instituting the Strategic Group for Accompanying Energy Infrastructure Ventures (Acompanhamento de Empreendimentos Energéticos Estruturantes), for the purpose of "analysing environmental and socio-economic aspects of energy planning studies with a view to providing supporting information for the process of selecting hydroelectric energy exploitation proposals". (art. 2. Sub-heading I)



¹ By October 30, 2013, the HIS-ARA had already been presented to and discussed by 1.000 people at 65 events



WWF AMAZON VISION

An ecologically healthy Amazon Biome that maintains its environmental and cultural contribution to local people, the countries of the region, and the world, within a framework of social equity, inclusive economic development and global responsibility.

panda.org/amazon

FIND OUT MORE

HIS-ARA video - Hydrological

Information System for Amazon

River Assessment

<http://youtu.be/xGN421j5c1k>

Tapajos River video

<http://youtu.be/KEBDqFg1X8>



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Aerial view of the Augusto Falls on the Juruena River. Juruena National Park, Brazil.

WWF ASKS

- Incorporate systematic conservation in infrastructure projects and programmes in the Amazon
- Publicise the studies and reports produced by the group set up by inter-ministerial decree no 494, released in December 2010
- Open spaces and promote dialogues among federal government bodies in the areas of planning, science and technology, energy and environment (among others), bodies of the state governments of Mato Grosso and Para, industry and civil society around the question of consolidating a sustainable hydroelectric programme for the Tapajos basin
- Support the participative construction of a vision for the future, development and conservation for the Tapajos basin to serve as an example for other Amazonian river basins

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