



Conserving the World's Largest Wetland:  
**The Pantanal**

## Our Vision

The Pantanal and its vital ecological systems are healthy and thriving, benefiting nature and humans through sustainable development. We see the Pantanal becoming and remaining a healthy, functioning freshwater ecosystem.

We also envision a vast wetlands region that provides ecosystem services and promotes sustainable economic activities to improve community well-being and increase capacity for climate change adaptation.

Our vision includes an end to degrading land uses and native vegetation conversion, and the introduction of sustainable, minimally disruptive infrastructure practices related to roads, railways, dams, ports, and waterways.

We foster a strengthened system of protected areas—parks, Ramsar sites, biosphere reserves, and wildlife corridors—along with greater capacity to manage the Pantanal's natural resources through sustainable conservation, financing, and governance practices.





## What makes the Pantanal extraordinary?

At over 17 million hectares, the Pantanal is the world's largest wetland, extending across the borders of Brazil, Paraguay, and Bolivia. As a critical component of the Rio de la Plata Basin, the world's fifth-largest watershed, the Pantanal provides natural flood protection for millions of South Americans, refuge for thousands of species, and billions a year in economic output.

### BIODIVERSITY

Lying between the two largest river basins in South America—the Rio de la Plata and the Amazon—the Pantanal has a unique hydrological cycle. From October to March, floodwaters fill the Pantanal like a giant reservoir; then, between April and September, the water slowly drains away. This cycle provides ideal aquatic habitat, nutrient renewal, and flood control for those living downstream. More than 4,700 plant and animal species inhabit the place, including crocodiles, jaguars, giant river otters, giant armadillos, endangered maned wolves, marsh deer, and giant anteaters—yet only a small percentage of it is protected.

### PEOPLE

The Pantanal may fluctuate between drought and deluge in a single year, but over 270 communities thrive here. A wide range of people, from small indigenous groups in Paraguay to cattle ranchers and growers in Brazil, call the region home. More than 1.2 million people need the Pantanal for income, food security, and drinking water, while millions more downstream depend on the expansive wetland for flood control.

### ECONOMY

The main economic activities of the region are cattle ranching and agriculture, notably soy production. In 2015, the states within the Pantanal generated more than \$70 billion for the economies of the three countries, a figure that is more than double the GDP of Bolivia or Paraguay. Occupying about half of the land mass of the states of Mato Grosso and Mato Grosso do Sul, the wetland helps these two states to produce around 40% of Brazil's soy and over 20% of the country's cattle. Other activities include forestry, mining, fishing, trade, and tourism.

### ECOSYSTEM SERVICES

The Pantanal provides irreplaceable ecosystem services, ranging from river flow for navigability, to groundwater recharge, to carbon sequestration. Valued at \$112 billion, these services provide more economic benefit than the crop and cattle production in the Pantanal. However, all this natural wealth could be highly threatened if it is not developed in a sustainable and integrated manner.





# What threatens the Pantanal?

In this sparsely populated, biodiverse landscape, environmental threats often go unnoticed and unresolved. More than 1,200 rivers and streams converge to form the Pantanal, carrying in them upstream pollutants, including mining contaminants and urban runoff. While the Pantanal remains relatively intact at present, the environmental pressures confronting this unusual wetland jeopardize the ecosystem's ability to function and adapt to climate change.

## LAND USE CHANGES

A series of land use changes made in the absence of any holistic strategy for the wetland have cumulatively harmed the productivity and ecology of the Pantanal. These include some infrastructure development, as well as agricultural and cattle ranching expansion. Inadequate management of the Pantanal could not only cause imbalances in its ecosystem and biological diversity, but also impact its economy and society.

## UPSTREAM POLLUTION

Millions of people live around the Upper Paraguay River's headwaters, which drain into the Pantanal, bringing with them human, industrial, and agricultural waste. Contaminants from mining, notably mercury, have been detected in fish. The cumulative impact of these pollutants raises a huge concern for the ecosystem's health and for the people who depend on fishing for subsistence and income.

## CLIMATE CHANGE

Experts predict that the Pantanal will become drier and hotter, with the average temperature possibly increasing by several degrees by the end of the century. The potential consequences of a warmer climate are disastrous and numerous: more extreme droughts and floods, the reconfiguration of species distribution, impaired plant function, and the Pantanal shrinking in size. Continual conversion of native habitat to agriculture could exacerbate these outcomes and limit the ecosystem's ability to adapt. The preservation of the Pantanal is crucial for maintaining its ability to regulate water and the regional climate.





## Cooperation for a Prosperous Future

Collaborative, climate-smart, transboundary approaches to sustainable development and conservation will ensure that the Pantanal retains its global significance. WWF is galvanizing action in Brazil, Bolivia, and Paraguay and across sectors to ensure this happens.

### **SUSTAINABLE INFRASTRUCTURE DEVELOPMENT**

Uncoordinated development of waterways in the headwaters of the Pantanal could have negative consequences for the ecosystem. To protect the Pantanal's historic flood pulses and river connectivity in the headwaters, WWF is working with government agencies and developers to ensure future infrastructure projects operate with a holistic view of the watershed and recognition of their basin-wide impact.

### **STRENGTHENING PROTECTED AREAS**

Even though only a small percentage of the Pantanal is protected, the national parks that do exist are of global significance: Some are UNESCO World Heritage Sites and Biosphere Reserves, and others fall under the Ramsar Convention, which requires national governments to conserve and wisely use wetlands. Contiguous protected areas across country borders already exist as well, providing a foundation from which to build. WWF is working with governments, environmental groups, civil society, and academia to increase the areas that are under protection, and to strengthen protected area systems by implementing financial mechanisms, training programs, and management and business plans to guarantee their success.

### **RESPONSIBLE AGRICULTURAL AND RANCHING PRACTICES**

Expansion of ranching and agriculture in the Pantanal has contributed to the loss of more than 12% of the region's forest cover. The Pantanal's native vegetation will disappear by 2050 if no measures are taken to combat this trend. WWF aims to eradicate deforestation in the Pantanal by targeting the supply chain of products from this region. WWF is planning to scale up its work with producers to implement good cattle ranching practices and deforestation-free land uses while helping suppliers identify and support producers who meet sustainability standards.

### **TRINATIONAL COLLABORATION**

Brazil, Bolivia, and Paraguay have a history of collaboration in the river basins where the Pantanal lies. In the face of a changing climate, even greater coordination will be needed. Through a careful water diplomacy approach—from on-the-ground projects to forums and international meetings—WWF fosters strong cross-border ties with all three countries.



**Pages 1 & 8** (covers) The Pantanal © Andre Dib/WWF-Brazil. **Page 2** Homestead in the Pantanal, Brazil © Staffan Widstrand/WWF; On the water in the Pantanal, Mato Grosso, Brazil © Edward Parker/WWF; A yacare caiman © Michel Gunther/WWF. **Page 3** Jaguar © Tom Fiske; Toco toucan © Gustavo Ybarra/WWF; Pantanal © Andre Dib/WWF-Brazil. **Page 4** Paraguay River, Brazil © Juan Pratginesos/WWF; Poconé, Mato Grosso, Brazil © Juan Pratginesos/WWF; Gold mine in Poconé © Andre Dib/WWF-Brazil. **Page 5** At a Pantanal cattle ranch © Andre Dib/WWF-Brazil. **Page 6** Giant water lilies © Andre Dib/WWF-Brazil; Pantanal, Mato Grosso © Edward Parker/WWF; Moving cattle down the road © Andre Dib/WWF-Brazil; Houseboat on the Rio Cuiabá © Andre Dib/WWF-Brazil. **Page 7** The Pantanal © Andre Dib/WWF-Brazil.



## The Trinational Initiative

Brazil, Bolivia, and Paraguay, with WWF's support, are working on a joint strategy named the Trinational Initiative for the Integrated and Sustainable Development of the Pantanal. The initiative aims to empower the countries with a common vision for the Pantanal's future, while each one independently pursues the vision within its own borders. The effort also engages stakeholders including state and municipal governments, grassroots organizations, academic institutions, and economic players such as cattle ranchers and farmers.

This multiyear initiative will result in an integrated vision for the development of this global resource, as well as cross-boundary economic, social, and environmental benefits for humans and nature alike. With the Pantanal on a sustainable path, Brazil, Bolivia, and Paraguay will take a giant leap toward fulfilling their Sustainable Development Goals and National Determined Contributions.

The initiative complements WWF's two-decade investment in the Pantanal region. Since 1998, WWF has prioritized the health and sustainability of this amazing wetland, carrying out a breadth of successful projects.

### **NOTABLE ACCOMPLISHMENTS**

Recognizing and supporting leaders from all three countries as the governments make high-level declarations for the sustainable development and conservation of the Pantanal.

Engaging high-level South American and international financial institutions and donors who want to ensure the Pantanal's future.

Partnering with international academic institutions, nongovernmental organizations, government agencies, businesses, and citizens to protect the Pantanal's natural resources.

Conducting groundbreaking research to identify pressures confronting the Pantanal, as well as strategies to mitigate them.

Creating five-year action plans for the Cerrado and Pantanal regions with environmental targets aimed at fostering resilience, adaptability, and prosperity.

## You can be part of our work

*WWF's mission is to conserve nature and reduce the most pressing threats to the diversity of life on Earth.*

The Pantanal faces a host of challenges that are predicted to intensify. But through collaboration and adaptation, we can help protect this vast wetland. With your generous support and involvement, WWF and our partners in Brazil, Bolivia, and Paraguay can come together to ensure a healthy and prosperous future for this spectacular place.

Learn more about our work at [worldwildlife.org/pantanal](http://worldwildlife.org/pantanal)

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