INTERNATIONAL APPLICATIONS OF GREEN INFRASTRUCTURE: Examples from Brazil

- **October 12, 2011**
- **Webinar**
- **Conservation Leadership Network**
- **The Conservation Fund**

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IDB

Short introduction on the Inter-American Development Bank - IDB

- multilateral financial institution
- 48 member countries (26 from LA and the Caribbean)
- In 2010: US$ 12 billion approved/ 170 operations

Sustainable Growth is a core part of the Bank mission and is pursued through several vectors and the consistent implementation of environmental safeguards:

Protection of the environment, response to climate change, promotion of renewable energy, ensuring food security, etc.

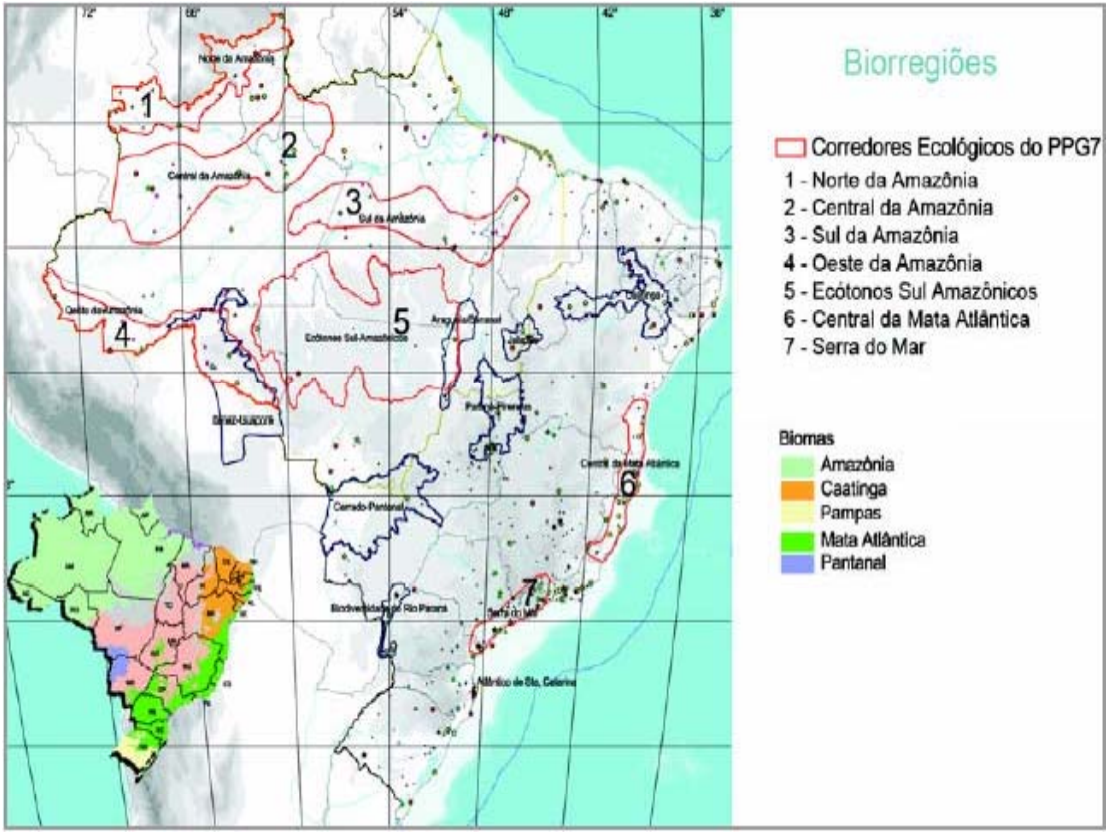
Brazil and Green Infrastructure

- **Several Examples**
- **Two recent concepts:**

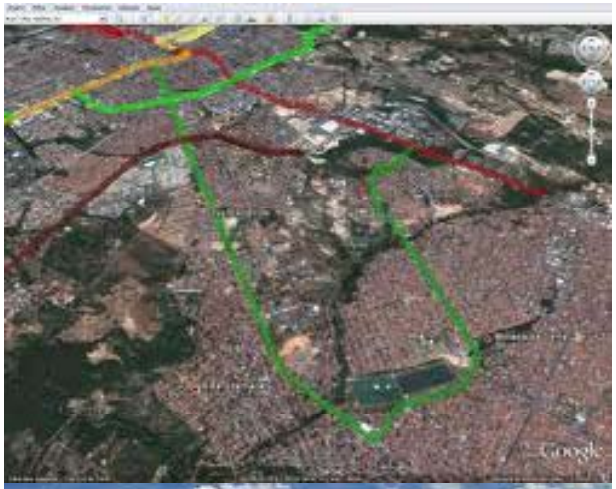
1. Concept of ecological networks:

- Ecological corridors (Corredor Ecológico Araguaia – Bananal, Cerrado, Jalapão - Mangabeiras)
- Conservation Mosaics (Mosaico de Unidades de Conservação da Bocaina, SP; da Mata Altantica Central Fluminense)
- Conservation of critical habitats or species (Corredores da Biodiversidade: Central, Serra do Mar, Sul)

Biodiversity conservation was the original goal of each one of these initiatives

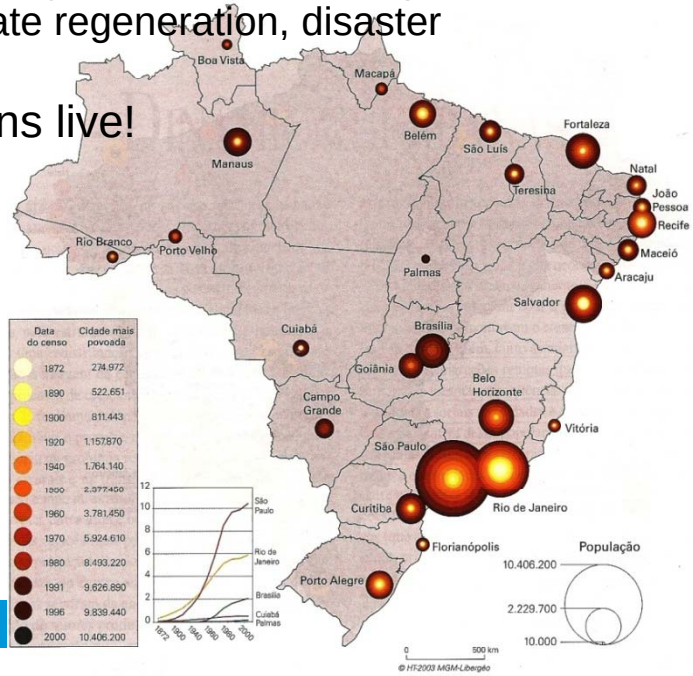


Among IDB members, Brazil has the largest number of ecological network initiatives underway



2. Concept of landscapes and communities' networks

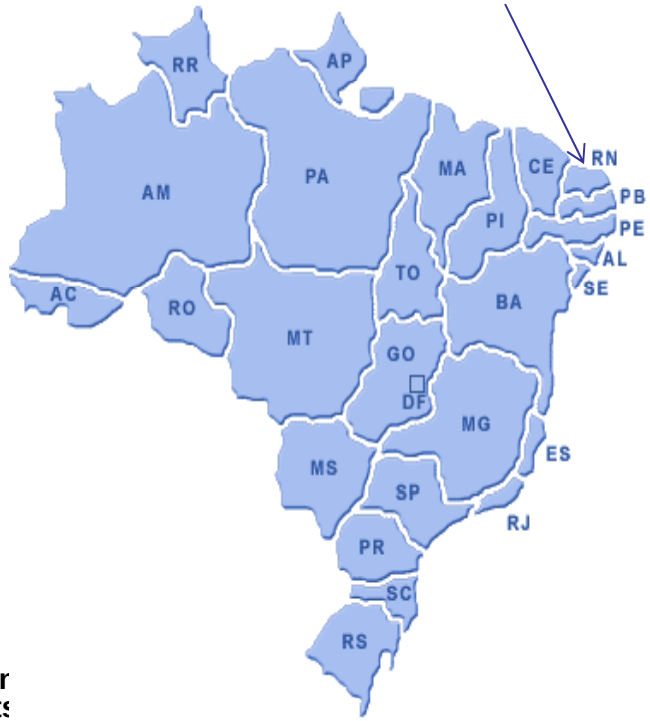
- Over 70% of Brazil`s population live in the coast, in the domain of the Atlantic Forest (AF).
- Its original domain was 1,306,421Km^2
- Today it is reduced to less than 7% of original area (only 2 – 4% of the original area of forests are still well preserved)
- The AF has:
  - suffered the most serious human-induced fragmentation.
  - Lost the most ecosystem goods and services (food, freshwater, water, climate regeneration, disaster prevention)
- The AF is where Brazilians live!



Tourism

- Opportunity to supporting GI approach.
- Tourism - complex relationship with the environment: while the quality of the environment is essential to tourism, the activity can have adverse environmental impacts.
- By focusing on the tourism assets/products to be conserved as well as developed, GI can be a powerful instrument to help communities plan for land conservation and land development in a way that optimizes land use to meet the needs of nature and people.
- Taking a GI approach facilitates systematic and strategic conservation activities, adds value to project results, and provides predictability and confidence for both conservationists and developers.
- GI provides a useful framework to plan and develop tourism, where preservation is most precious.

Example 1: Prodetur Rio Grande do Norte



- **Tourism Development Program**
- **Promotion of responsible tourism**
- **Environmental Management Component**

- **Tourism Expansion**
- **Three areas: Polo Costa das Dunas; Polo Costa Branca and Serido**
- **Full Program is US$75 million**
- **Includes multi-sector investments: water sanitation, road improvements, requalification of beach waterfronts**

- **Rio Grande do Norte is located in the easterr coast of Brazil (“corner”) and has Natal as its capital**
- **452 Km of coast**
- **Geographical diversity**
  - Semi-arid zone in the interior
  - Coast divided in two parts: Northern/Western coast – less touristic attractions (petroleum, petrochemical mill, port, salt production)
  - Eastern coast, south to the capital – tourism intensive areas
  - Forest-transition zone, once covered by Atlanti Forest
- **Number of visitors per year: 2 million (2008)**

Costa Branca Green Infrastructure Project :

Northern area of the State

SEA identified the following key concerns:

1. Lack of zoning plans to assist and support the development of municipalities' master plans
2. Potential conflicts between the three main economic sectors of the region:
    1. Industry
    2. Agriculture
    3. Tourism
3. Severe coastal erosion problems
4. Lack of basic socio-economic infrastructure

Objectives:

1. Strengthening the functionality of ecosystems for continued delivery of goods and services;
2. Preserving biodiversity by increasing spatial and functional connectivity between existing and new protected areas;
3. Adaptation to climate change effects;
4. Mitigation of adverse effects of man-made infrastructure (shrimp farms, salt production and oil exploration)
5. Increase civil society participation;
6. Supporting zoning ordinances that contribute to environmental protection.


Salt
GEOCONSULT-PEMFAA-IDEMA-ROTA III-FOTO RONALDO DINIZ 29/07/2006


Shrimp farms
GEOCONSULT-PEMFAA-IDEMA-ROTA III-FOTO RONALDO DINIZ 29/07/2006


Petroleum
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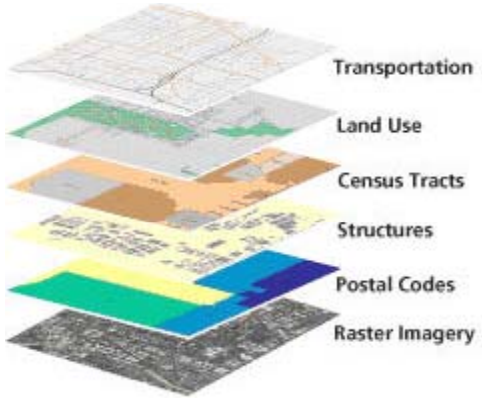
Ecological-Economic Zoning – EEZ

- EEZ provides a framework - a thorough diagnostic of the geographical area of interest, that can be used to guide future growth and future land development and land conservation decisions to accommodate tourism and population growth and protect and preserve community assets and natural resources in the northern coast of RN.
- Similarly to GI, EEZ starts with the identification of spatial demands to be solved with integrated spatial planning.
- It includes conservation and restoration into land use planning and policy (licensing process).
- Most importantly: it is a participatory process, where civil society and all different stakeholders enter early in the planning process.

It will start like this:



It will end like this:

1. The State will have:

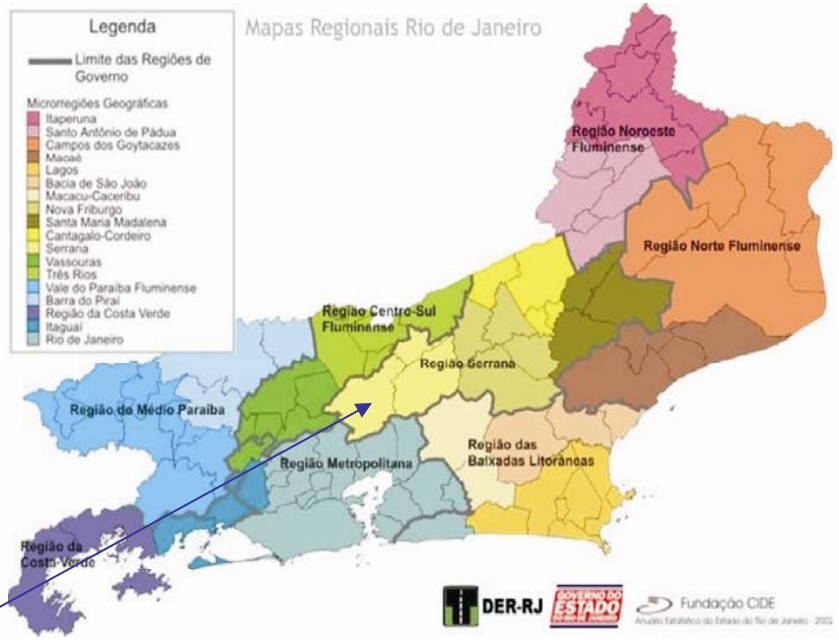
    1. a policy guide for tourism development and zoning decisions in the northern coastal zone;
    2. A basis for making site-specific development review decisions (hotels, resorts, marinas, etc)
    3. A guide for establishing a network of environmental preservation, conservation and restoration activities (dunes ecosystems)

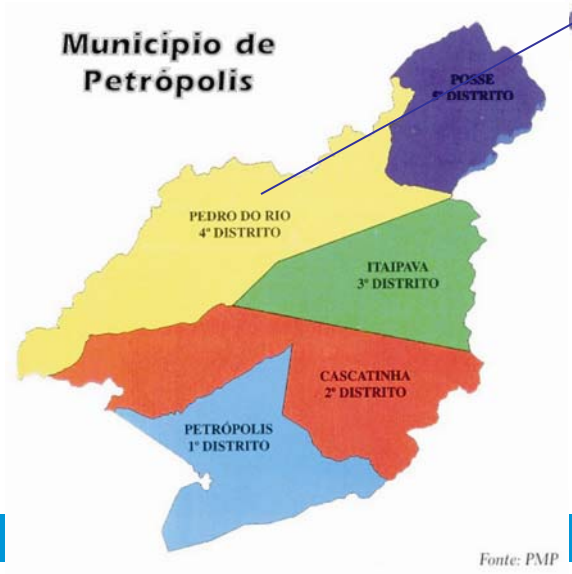
2. The flow of tourists to this area of the State will generate social and economic opportunities for existing residents.

3. The Bank will have a GI framework to support tourism investments.

Example 2: River Park in Rio de Janeiro

Location:





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The Piabanha River Project

Objectives:

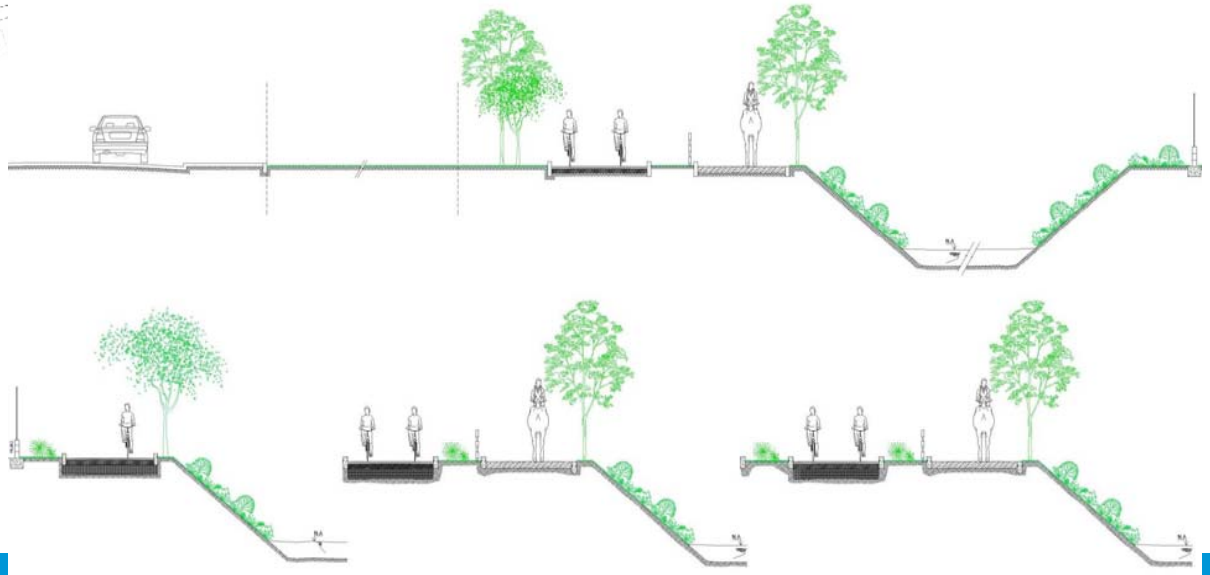
1. To establish a new approach for environmental ecological restoration, using tourism and recreation as the triggers for environmental education and preservation of the river margins;
2. To support conservation efforts of Atlantic Forest Ecological Corridor (Corredor Central da Mata Atlantica);
3. To reduce sedimentation and improve river water quality;
4. To promote river habitats restoration;
5. To establish new recreation zones, for tourists and local citizens.

Basic design:

Landscaping Reference Center:

River Life Space:

A Horse Center:



A new concept of protected area?

Green Infrastructure at work: a project that can revive adequate ecological balance, avoid deterioration of the natural and human environment, and make connections with the public.

Thank you

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