

# The Pantanal Mini-Project Workshop



**Pierre Girard**

Federal University of Mato Grosso  
Cuiabá, MT - Brazil



**Alberto J. Palombo**

Florida Center for Environmental Studies  
Palm Beach Gardens, FL - USA

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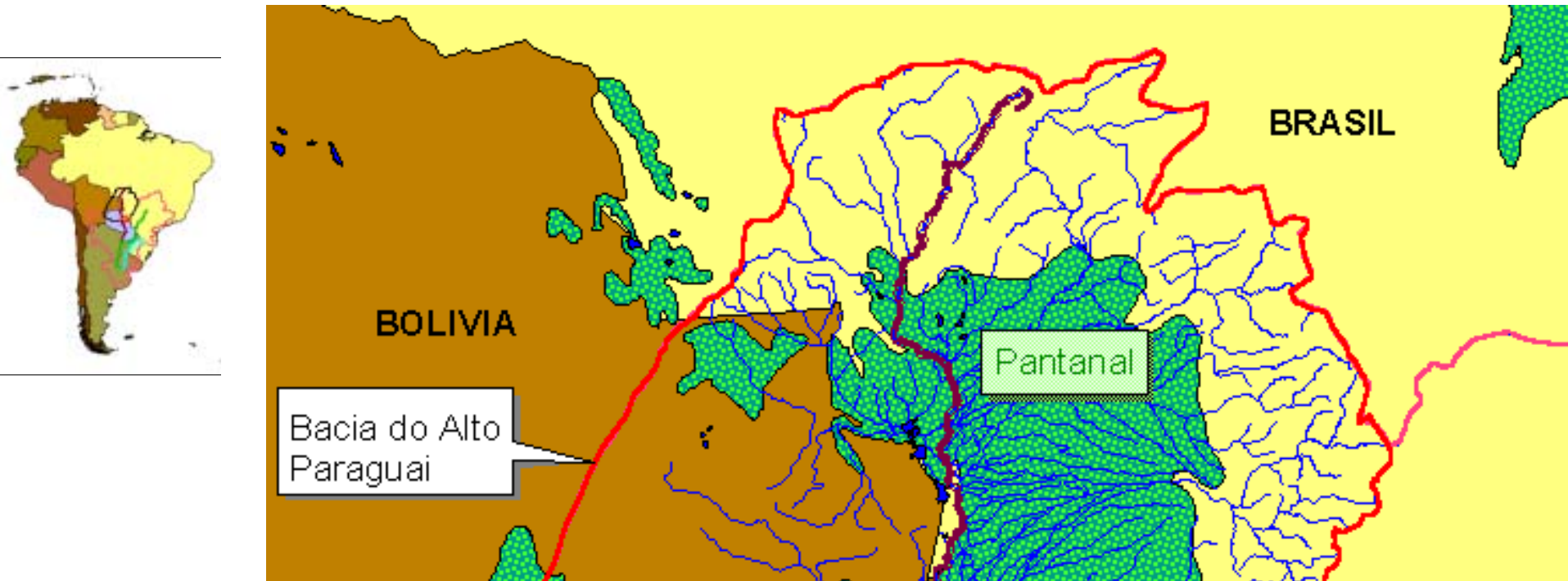


# The Pantanal



- Pantanal is the largest complex of wetlands in the world - it is part of the Upper Paraguay River Basin (UPRB)
- UPRB comprises an area of 496,000 Km<sup>2</sup>, being 361,666 Km<sup>2</sup> within Brazilian borders and the remaining section in the republics of Bolivia and Paraguay
- It is made up of ten large rivers, deltas, lagoons, and salt pans
- The Brazilian section of UPRB can be divided into 2 main areas: floodplains and "plateaus"
- Major driving force: annual oscillation between ebb/flood seasons
- The water flow reaches very low speeds, due to a very gentle slope:
  - 10 - 20 cm/Km on the East-West direction
  - 01 - 05 cm/Km on the North - South direction

# The Upper Paraguay River Basin



Country	Country Area (Km <sup>2</sup> )	BAP Area in Country (Km <sup>2</sup> )	Percent of Country in BAP	Percent of BAP in Country
Bolivia	1,090,353	121,360	11.13	20.39
Brazil	8,507,128	363,460	4.27	61.06
Paraguay	400,089	110,410	27.60	18.55
Total	-	595,230	-	100.00







# A Program for the Sustainable Development of the Pantanal (PP)

## Mission Statement

Intermediate-term : the stabilisation of the environmental quality of the Pantanal ecosystems

Long-term : the use of natural capital for sustainable economic activities, considering the human, economic and ecological dimensions

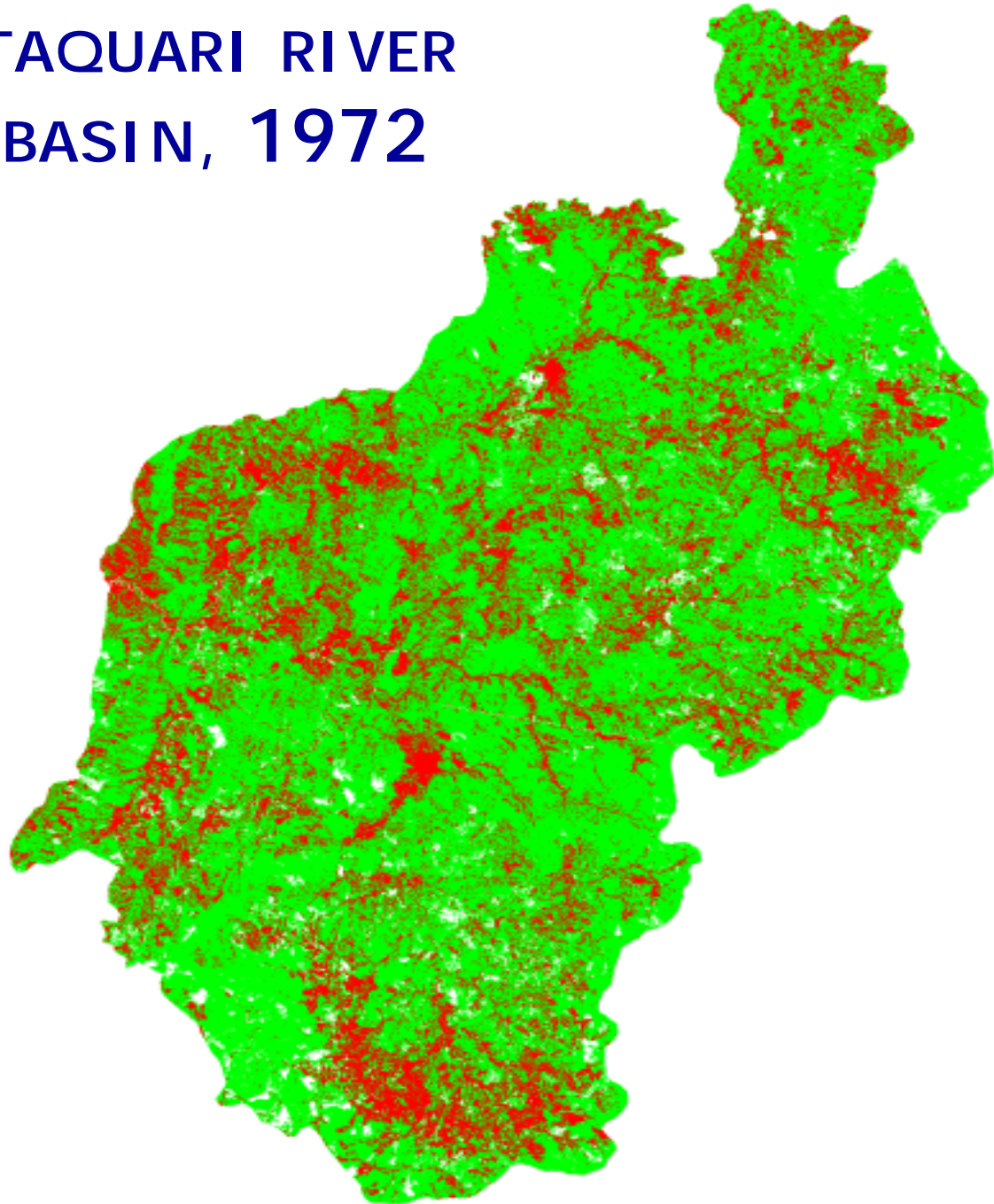


# Why PP?

Dramatic Changes in land cover, hydrological patterns, infrastructure development, and economic activity, that affect the very sustainability of the ecosystem in the mid to long term

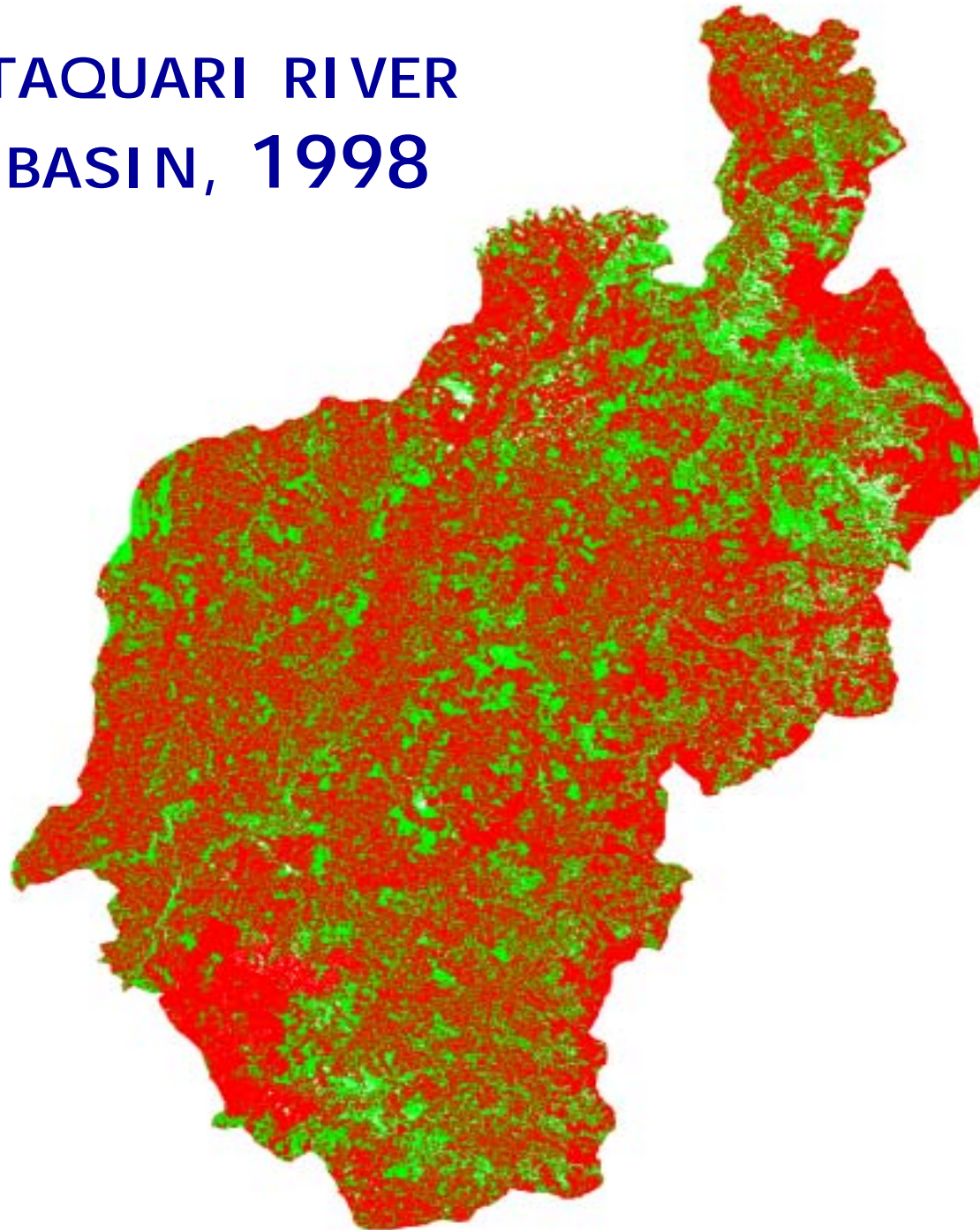


# TAQUARI RIVER BASIN, 1972





# TAQUARI RIVER BASIN, 1998





# PP Agendas

## Green Agenda

Conservation Units  
Biosphere Reserves  
Fisheries and Wildlife  
Ecotourism  
Scenic Parkways  
Environmental Enforcement  
Sustainable Rural  
Agriculture  
Brushfire Management  
Environmentally Sustainable  
Indigenous Areas

## Blue Agenda

Basin Management  
Critical Watershed  
Assessment  
Mining Activities  
Taquari Floodplain

## Brown Agenda

Urban Water and  
Wastewater Systems  
Solid Waste Management  
Roadway Construction



# PP Financial Aspects

- International Financial Institutions:  
IDB and JBIC (under negotiation)
- National Financial Institutions:  
FEDERAL TREASURY and STATE GOVERNMENTS
- Period of Implementation:  
2001 - 2009 (2 phases of 4 years each)
- Total Budget:  
Up to **US\$ 400 MILLION**
- PHASE I: **US\$ 165 MILLION**
- PHASE II: **US\$ 235 MILLION** (proposed)

*Rescuing an Endangered Ecosystem:  
The Plan to Restore America's  
Everglades*



*The Central and Southern Florida Project  
Comprehensive Review Study  
(The Restudy)*

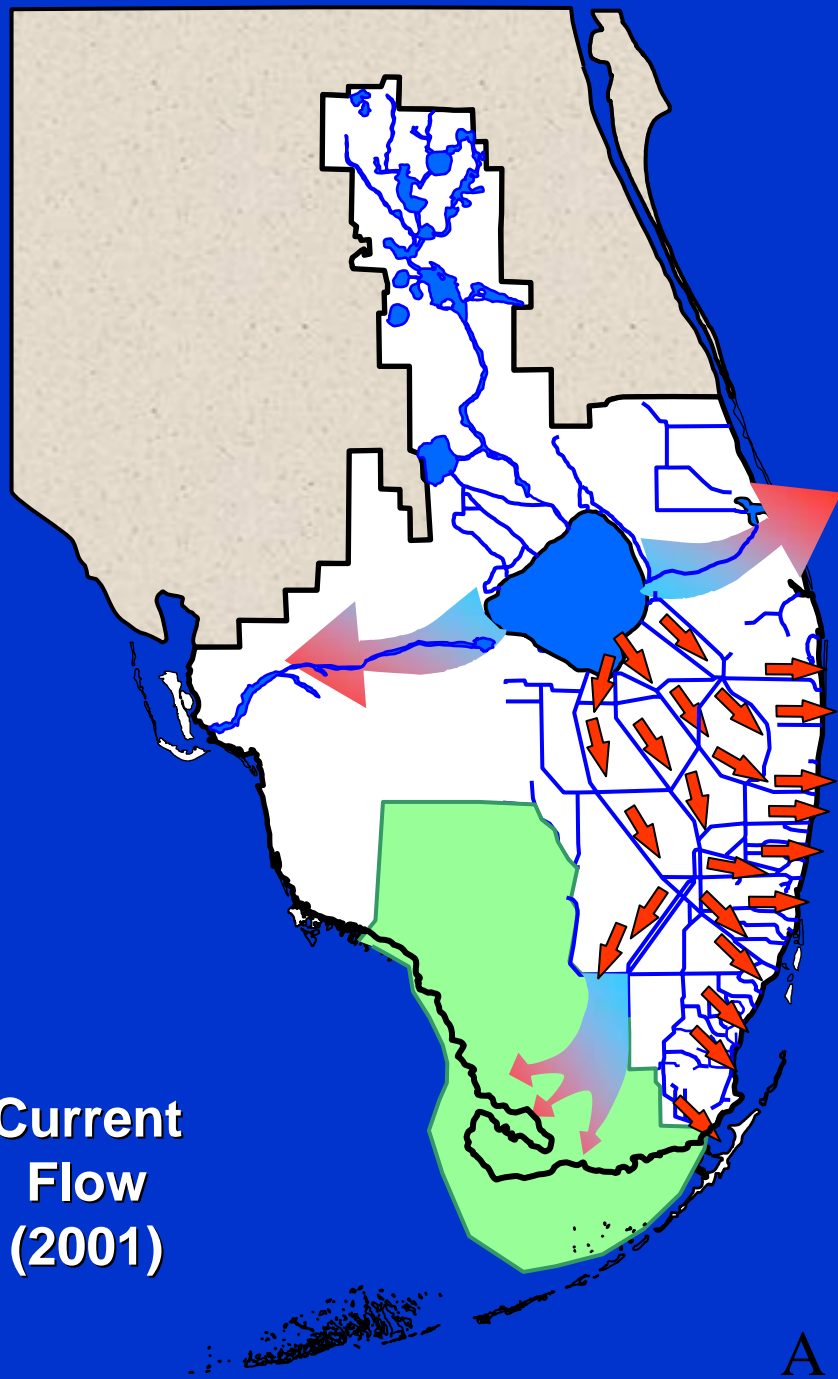
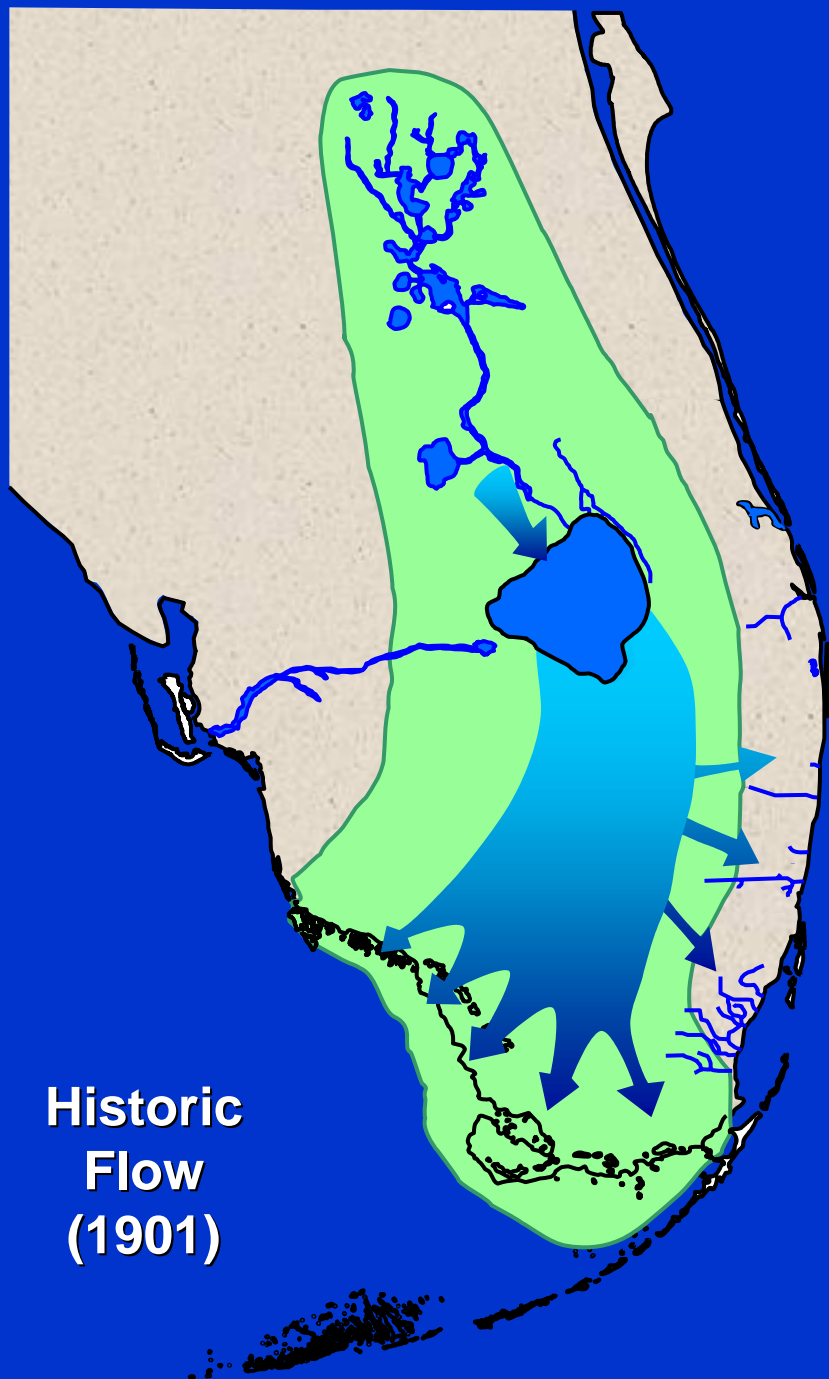
*July 1999*

On July 1, 1999, the Secretary of the Army and the State of Florida presented to Congress the Central and Southern Florida Project ...

## **Comprehensive Everglades Restoration Plan**

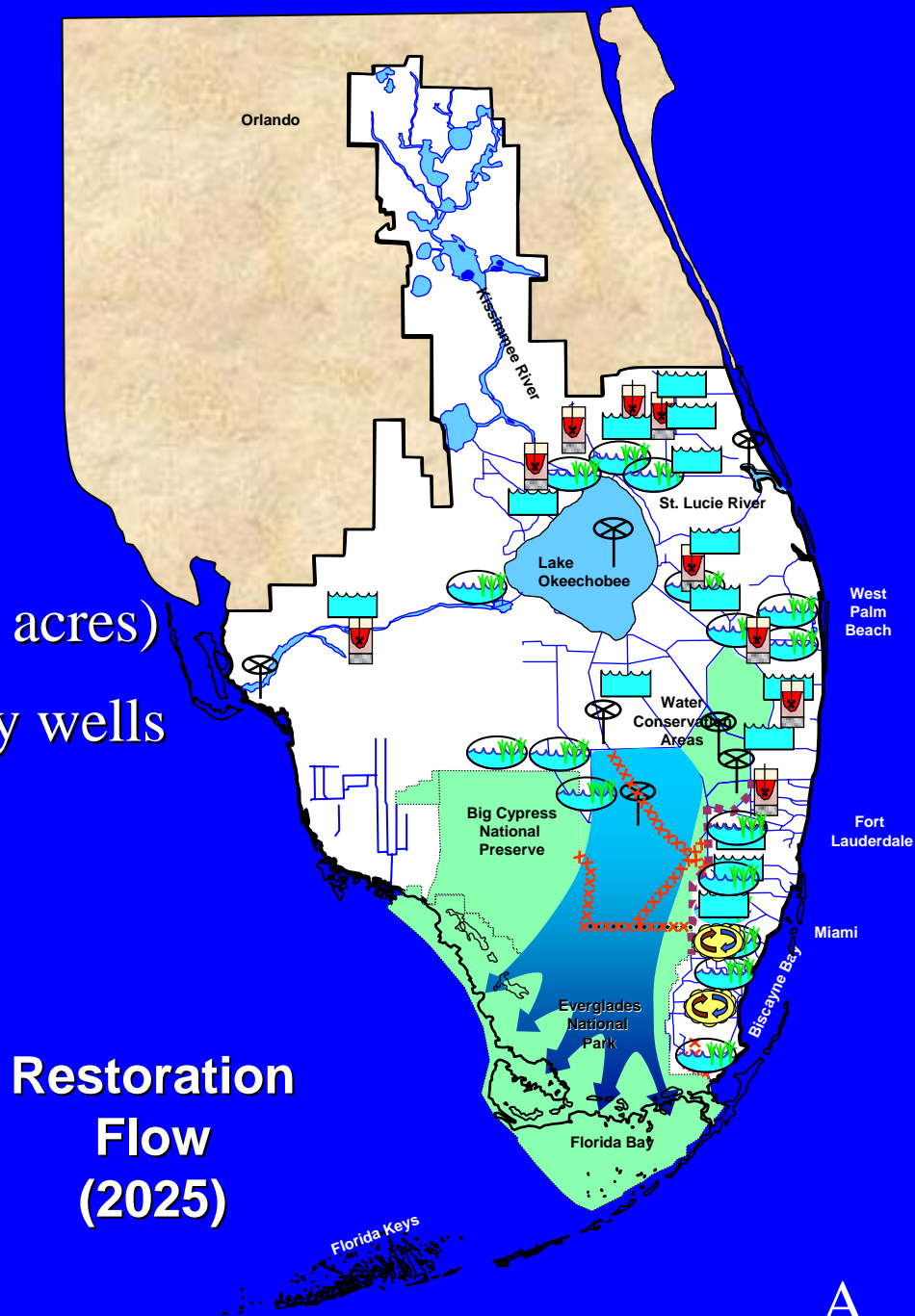
*A series of environmental  
improvements over 25 years  
with an estimated cost of*

***US\$ 7.8 billion***

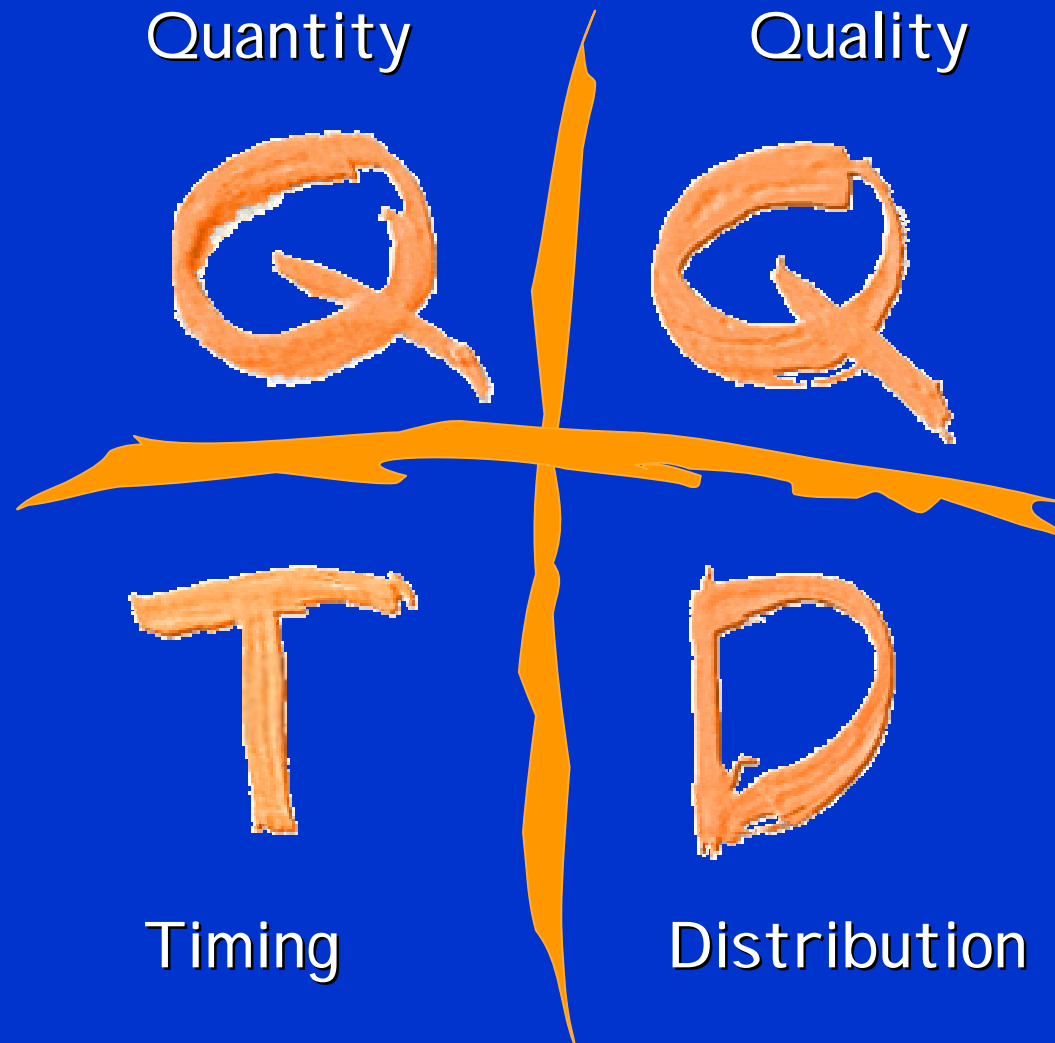


# Comprehensive Everglades Restoration Plan

- 6 pilot projects
- 15 surface storage areas (~170,000 acres)
- 3 in-ground reservoirs (~11,000 acres)
- 330 aquifer storage and recovery wells
- 19 stormwater treatment areas (~36,000 acres)
- 2 wastewater reuse plants
- Removal of over 240 miles of canals, levees and structures
- Operational changes



# Get The Water Right



# Does PP ensure ecological integrity and sustainable growth in the Pantanal and Upper Paraguay Basin?

- How will **information** flow from government to community and users?
- What **tools** can be used to centralize and diffuse information?
- Will it achieve **community participation**?  
What about **sustainable development**?
- Will it act as a force to promote **adequate and sustainable agriculture practices, mining operations, and ecotourism**?

# The Natural and Physical System - What is Available

- Land use/cover change
- Climate variability and change
- Health of aquatic systems

# The Needs of the Social System

- Population growth and urbanization
- Governance - Regulatory and institutional issues
- Conflict resolution and community participation

# 3 New Challenges in Water Resources Management

- **HIDROVIA** - Should the river get changed to transport goods, or should the transport methods be adapted to the river to provoke the minimum impact possible?
- **PRESERVATION AND RESTORATION** -What is the price of preservation/conservation versus restoration?
- The Use of **TECHNOLOGY** for water resources management: GIS

# I AI Pantanal Mini-Project Schedule

<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
<b>23</b> Selection	<b>24</b> Ecological Background (Intro) Put together workgroups	<b>25</b> Ecological Background (Results) Threats Analysis Method	<b>26</b> Threats Analysis Results	<b>27</b> Strategies for Sustainable Development - Objectives	<b>28</b> ENP Visit
<b>30</b> Review Process Programa Pantanal - Address Key Questions - How to get there?	<b>31</b> The Everglades Comparison- Monitoring and Evaluation of CERP	<b>1</b> GIS as a tool The use of technology to follow-up and share information PantanalGIS	<b>2</b> Prepare and discuss final presentations	<b>3</b> Final Presentations	

# Proposed Workgroup Theme Distribution

- Land use/cover change
- Climate variability and change
- Health of aquatic systems
- Population growth and urbanization
- Governance - Regulatory and institutional issues
- Conflict resolution and community participation

# 5-S Methodology for the Pantanal

- Systems: the regional targets occurring at a site, and the natural processes that maintain them, that will be the focus of site-based planning.
- Stresses: the types of degradation and impairment afflicting the ecosystem, and the socio-economic activities that impact it.
- Sources: the agents generating the stresses.
- Strategies: the types of management activities deployed to abate sources of stress (threat abatement), persistent stresses (restoration), and promotion of sustainable activities (planning).
- Success: measures of ecosystem health, threat abatement, and sustainable activities at the region.

*Adapted from TNC's "Five-S Methodology"*

## Expected Product Should Include ...

- Critical analysis of the current PP design
- Ways in which PP can be improved
- Provide “no non-sense” approach to keep stakeholder participation at the center
- Use of information technology to involve and outreach to the community and users
- Summary of findings and presentation

Questions?

**IAI/UM** Summer Institute  
*Interdisciplinary Science in the Americas*



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