

# Coastal Management & Poverty Alleviation in the Estero Real Estuary (Nicaragua)

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## 1. Regionally Important Coastal Ecosystem in Gulf of Fonseca

The Estero Real on Nicaragua's Pacific coast along the border with Honduras is the largest and most intact estuary in the Gulf of Fonseca. The Gulf of Fonseca is a highly impacted and severely degraded marine transitional system shared by Nicaragua, Honduras and El Salvador.

The estuary and its watershed are the largest and, from an economic perspective, the most important of Nicaragua's coastal ecosystems.



**Center for Aquatic Ecosystem Research (CIDEA)**  
University of Central America  
*"Making coastal management possible in Nicaragua"*

In 1996 the University of Central America established a small field station to support the emerging artisanal shrimp farming industry on the borders of the Estero Real.

As artisanal farming declined as a source of livelihood for local inhabitants, CIDEA diversified its focus more broadly to conservation and poverty alleviation.

CIDEA plays an important role building constituencies among different groups and empowering people to improve their quality of life.



## 2. Critical to Biodiversity and Livelihoods



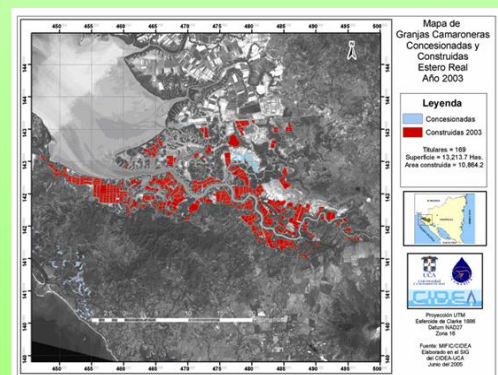
Satellite photo Estero Real Estuary

### The Estuary

- Extensive mangrove wetlands & rich biodiversity
- 1983: Estero Real designated as national Reserve
- 1993: Ramsar Commission designation as wetland of global significance
- 2006: Management plan for area adopted
- Estero Real watershed contains major volcano & fertile lowlands spanning five municipalities & covers 192,000 Km<sup>2</sup>
- Contains many of nation's private shrimp farms

## 3. Livelihoods and critical issues in the Delta

ECONOMIC ACTIVITIES	PROBLEMS-THREATS
Shrimp private farms	Sedimentation
	Use of chemical products
	Mangrove cutting
	Conflict of uses with other actors
	Weak context for complying with environmental regulations
Artisanal shrimp farms cooperatives	Social issues
	Weak internal organization
	Lack of technical training and environmental education
	No State/Private Credit
Fishers	Daily basis livelihoods- no sense of future
	Conflicts of uses
	Resources Overexploitation
Mangrove cutting groups	No alternative livelihood
	Mangrove cutting within the Reserve
	No alternative livelihoods
	Extreme poverty and no education



Estero Real Map: In red shrimp farms in the Estuary

## 4. Recommendations for sustainable management

- Attempts to improve management of Estero Real require understanding of current and past conditions in the place
- Implementing strategy requires full participation & support of key actors & groups
- Key stakeholders: private & cooperative shrimp farmers, fishers, traditional users of mangroves and wetlands; progress & sustainability require participation of all
- Government & non-government must cooperate, seek consensus & dialogue among actors
- International support must be orientated to goals defined by actors of the place
- Urgent need for technical capacity & education of actors managing the area
- Capacity building in coastal management needed for local practitioners & stakeholders

### References

- MARENA. Dirección General de Áreas Protegidas, 2006. Plan de Manejo del Área Protegida Reserva Natural Delta del Estero Real.
- CIDEA/UCA, 2006. Línea de Base y Referencia de Governance. Puerto Morazán

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