

# SocMon and Resource Management in Puerto Rico



## U.S. Coral Reef Task Force Meeting San Juan, Puerto Rico October, 2009

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Sea Grant & CIEL



# SocMon History (Part I)

National Estuarine Research Reserves Association.  
Annual Meeting , Puerto Rico (2001)



Tulum, Mexico, GCFI Meeting:  
SocMon, A process and methodology for the  
Caribbean (2002)



A SocMon Test: La Parguera Natural Reserve,  
Southwest Puerto Rico (2003-2004)




COSTAS Program (UPR-NOAA) Mentorship for  
Undergraduate Students (2003-2005)

# SocMon History (Part II)

Workshop on Socio-economic Monitoring  
for DNER Reserves and Refuges Staff.  
Bonus: A Debate on Co-management (2004)



DNER and the Tres Palmas Marine Reserve:  
Collaboration in management and a  
“SocMon” Approach (2005)



NOAA-DNER: Management and Planning  
Exercise: The Design of a Strategy for the  
Future, including SocMon (2005)




NOAA-DNER SocMon Training Program for  
Protected Areas’ Managers (2007)

# SocMon History (Part III)

**SocMon for MPAs in Puerto Rico: DNER-  
NOAA-Sea Grant-CIEL in La Parguera Natural  
Reserve (Southwest Coast)  
2007**



**The Nature Conservancy Conservation  
Action Planning (CAP) Training for  
Consultants and DNER Staff (2008)**



**A SocMon Project: Jobos Bay National  
Estuarine Research; Reserve (South Coast);  
Boquerón Wildlife Refuge (West Coast);  
Tortuguero Lagoon Natural Reserve (North  
Coast) 2008**

# A “Prehistory” of Social Sciences and Resource Management (and MPAs)



## DNER

- Creel Surveys
- Fishers’ Census and Landings Data
- Socioeconomic variables for plans



## Religious, Labor and “Environmental” NGO’s

- Fishermen Cooperatives
- Social conditions of fishing communities and their economic potential
- Coastal communities, empowerment and participation in management





## Caribbean Fishery Management Council

- Management Plans: Conch and the Coral and Reef Associated Plants and Invertebrates
- Social Impact Assessments


# A “Prehistory”

- 🏠 UPR Sea Grant College Program
  - Profile of fishers, communities and organizations
  - Social Impact Assessments
  - History of the local fisheries
- 🏠 National Marine Fisheries Service (Saltonstall-Kennedy Funds and other opportunities)
  - Management Plans
  - Recreational and Sport fishing activities
  - Recreational infrastructure
  - Fishing gears: trammel nets and gillnets
  - Description and prediction of user conflicts in local fisheries

# A “Prehistory”



-  The Puerto Rico Conservation Trust
  - Hacienda La Esperanza in Manatí (North Coast)
  - Guánica Dry Forest (with DNER and CANARI)
  - Visitor studies
-  National Marine Fisheries Service (Saltonstall-Kennedy Funds and other opportunities)
  - Management Plans
  - Recreational and Sport fishing activities
  - Recreational infrastructure
  - Fishing gears: trammel nets and gillnets
  - Description and prediction of user conflicts in the fisheries

# A “Prehistory”


-  The Caribbean Natural Resources Institute (CANARI)
  - Capacity Building
  - Co-management in the Caribbean
  - Soufriere Marine Management Area in St. Lucia
  - Training for Resources Managers and Communities in Socioeconomic Monitoring: Grenada and Dominica
  - Collaboration with the CEBSE NGO (Dominican Republic) in Samaná
  - Fishers and communities, Participatory Planning and Collaborative Management (Patrick McConney, partner & board member)



# A “Prehistory”

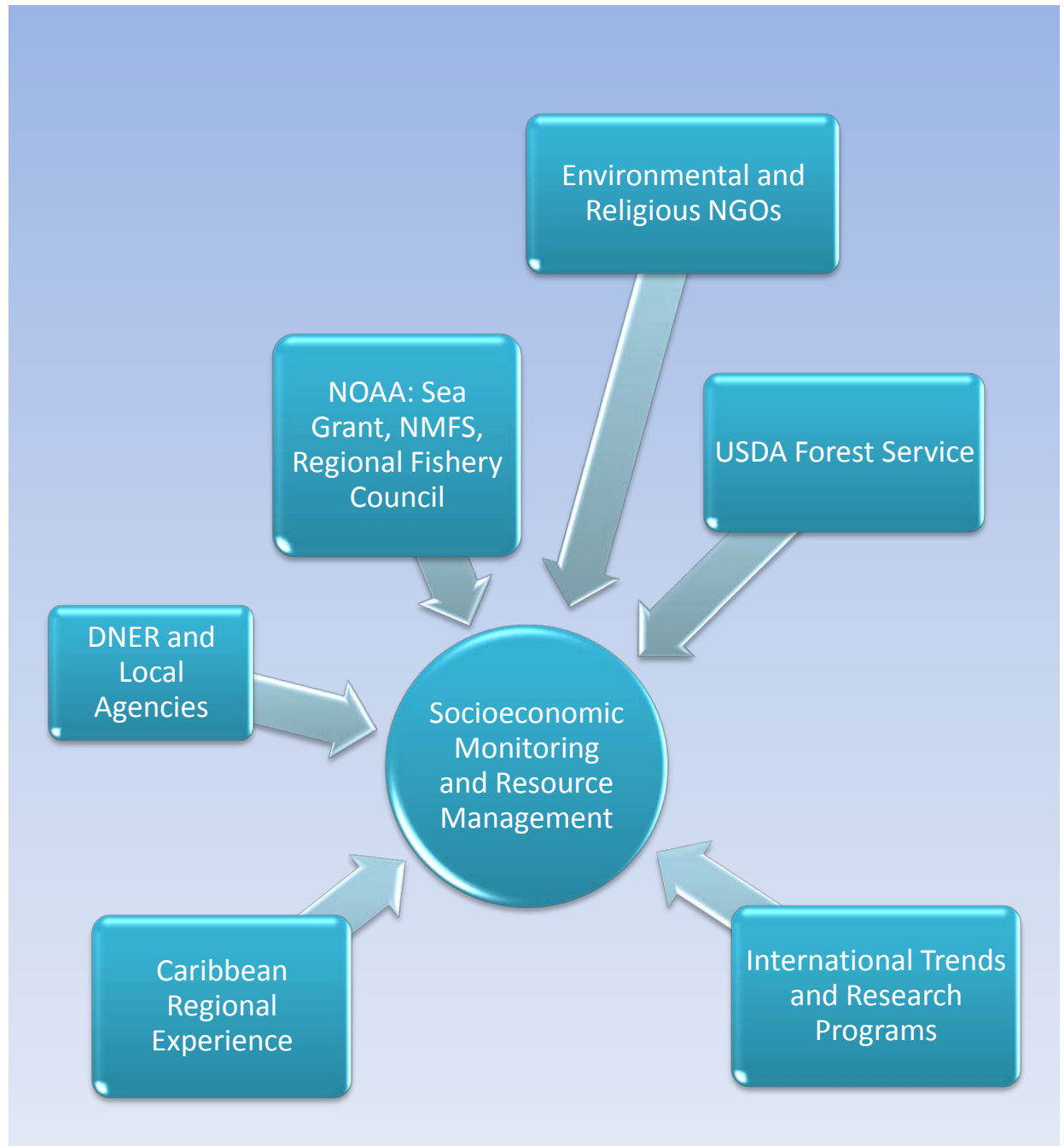
-  National Marine Fisheries Service (Saltonstall-Kennedy Funds and other opportunities)
  - Management Plans
  - Recreational and Sport fishing activities
  - Recreational infrastructure
  - Fishing gears: trammel nets and gillnets
  - Description and prediction of user conflicts in the fisheries
-  United States Department of Agriculture, Forest Service
  - El Portal Visitor Center
  - Visitor Studies
  - Historical Research
  - Water and recreation

# A “Prehistory”

-  An International Movement for the Incorporation of Social Analysis in Resource Management
  - World Bank, IDB, USAID, GTZ (Zopp Method), United Nations
  - Social Impact Assessment as a Preferred Methodology
  - Global Environmental NGOs: WWF
  - Regional NGOs as partners and brokers of the methodology
  - Measures of Success: Richard Margoulis and Nick Salafsky (1998)

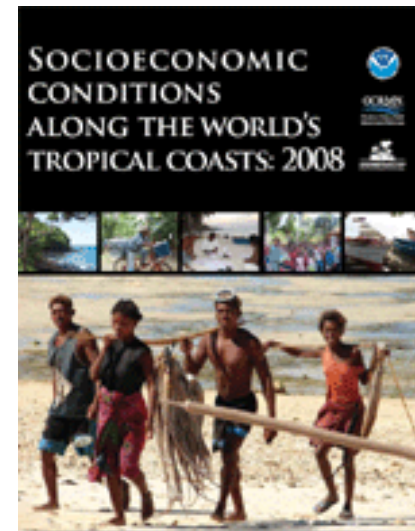
# Balance Sheet:

- Caribbean and International Experience
- A Legal Need for Information (*Magnuson Fishery Conservation and Management Act of 1976, and the MSFCA of 2007*)
- Incorporation of users and communities in decision making
- Need for the understanding of social and cultural dimensions of stakeholders
- Ecosystems? Humans?
- Buzzwords and real processes: participation, democracy, partnerships, stewardship, co-management, collaboration
- Management of MPAs and the real need for socioeconomic monitoring



# SocMon Caribbean

- A guide for coral reef management (2000)
- SocMon Caribbean (2003)
- A guide and a set of recommendations
- Tailored for each MPA
- A Caribbean Approach
- A regional perspective and effort
- Management and monitoring goals
- A team effort



# La Parguera Natural Reserve

A SocMon Test

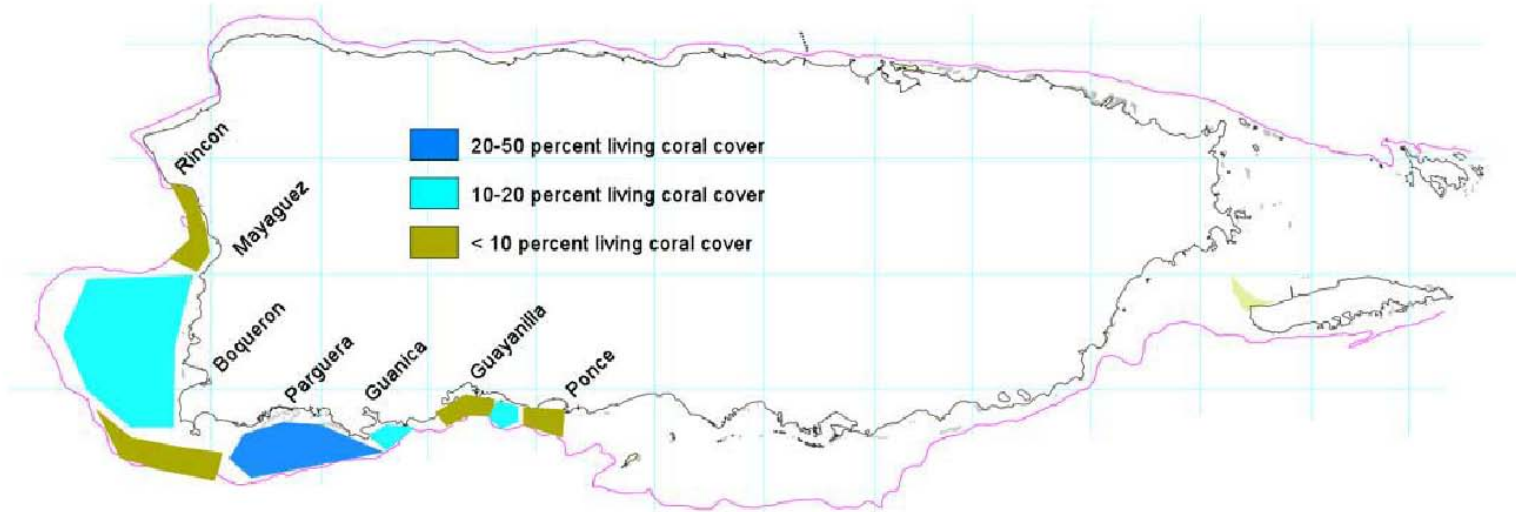








Figure 83. General coral cover in areas of southwest Puerto Rico

Items	Results / Information
Objectives:	Understand the key issues, identify stakeholders and impacts to the resources and habitats
Stakeholders:	Fishers, locals, newcomers and owners of stilt houses, tourism and recreation business owners
Topics addressed:	Key resources and habitats, boating activities, fishing, fishers knowledge, perceptions of key informants, land-based threats and urban growth
Management questions:	Key issues for residents and users
Socioeconomic indicators:	Traditional Ecological Knowledge, Boating activities, demographic growth and the human footprint,
Methods	Field observations (ethnography), census of businesses, census of stilt houses and boating facilities, in-depth interviews, secondary and primary sources, US Census Data, US Agriculture Census
Team, time and costs:	4 students, a professor and a mentor; 6 months, \$2,000 (NOAA)
Managers and stakeholders' participation	Limited (managers), active (scientists and a small group of stakeholders)

Items	Results / Information
Most important results and unexpected findings:	<ul style="list-style-type: none"> <li>a. A thriving business community benefitting from coral reefs and the mangrove forests thru boat rides to watch the bioluminescence</li> <li>b. Increase effort and pressure over fishery resources</li> <li>c. Stilt-houses: a de facto marina</li> <li>d. Urban growth and gentrification as important processes</li> <li>e. TEK as an important asset of the fishing community</li> <li>f. Stakeholders do not recognize fishers as an important “actor” in the regional landscape</li> </ul>
Problems and key management issues:	<ul style="list-style-type: none"> <li>i. User conflicts (boaters, diving, fishing)</li> <li>ii. Carrying capacity of cays and bioluminescent bays</li> <li>iii. Quality of life</li> <li>iv. Lack of enforcement (on development and boating)</li> <li>v. Development and sedimentation of reefs</li> </ul>
Use of Information to Improve Coastal Management:	<ul style="list-style-type: none"> <li>A. Information for the Management Plan</li> <li>B. A SocMon Test for future activities</li> </ul>

# DNER Needs and Priorities



-  To understand user conflicts
-  Management Plans
-  Needs: funding, human resources, planning and implementation
-  Enforcement
-  Support from stakeholders
-  Engage stakeholders in stewardship



MPA of Puerto Rico



Legend

Reserva Isla Desolado	Ext. Marina Reserva Natural Punta Petrona	Reserva Natural Caño Martín Peña
EE de Aguirre	Ext. Marina Reserva Natural Punta Yeguas	Reserva Natural Caño Tiburones
EE de Ceiba	Mona	Reserva Natural Cueva del Indio
EE de Piñones	Reserva Marina Tres Palmas	Reserva Natural Espíritu Santo
CFMC_NIZ Seasonal	Reserva Nacional Estuarina Bahía de Jobos	Reserva Natural La Parguera
Ext. Marina R.N. Bahía Bioluminiscente de Vieques	Reserva Natural Arrecifes La Cordillera	Reserva Natural Pantano de Cibaco
Ext. Marina Reserva Natural Boqueron	Reserva Natural Arrecifes Tourmaline	Reserva Natural Punta Petrona
Ext. Marina Reserva Natural Cabezas de San Juan	Reserva Natural Arrecifes de Guayama	Reserva Natural Punta Tuna
Ext. Marina Reserva Natural Cueva del Indio	Reserva Natural Bahías Bioluminiscentes de Vieques	Reserva Natural Punta Yeguas
Ext. Marina Reserva Natural Espíritu Santo	Reserva Natural C.L. Peña	Reserva Natural del Bosque Estatal de Boqueron
Ext. Marina Reserva Natural Hacienda La Esperanza	Reserva Natural Caja de Muertes	Zona de No Pesca Mona
Ext. Marina Reserva Natural Isla Caja de Muertos	Reserva Natural Cayo Ratones y Aguas Adyacentes	Zona de No Pesca Monito
Ext. Marina Reserva Natural Punta Guaniguala	Reserva Natural Caño Boquilla	Mona land

# DNER-NOAA SocMon Development

- Short and sweet: an introduction to SocMon
- A debate on co-management
- Collaboration in management: Tres Palmas Marine Reserve
- Socioeconomic Monitoring and management plans
- A SocMon Workshop



**Luring DNER Managers...**

Taller de SOCMON  
 Oficiales de manejo  
 del DRNA en Áreas  
 Marinas Protegidas  
 Charla preparatoria  
 2 de marzo 2007  
 Manuel Valdés Pizzini

## Preguntas esenciales

- ¿Por qué SOCMON?
- ¿Por qué hacerlo?
- ¿Qué implica?
- ¿Qué datos recolecto?
- ¿Qué hago con estos datos?



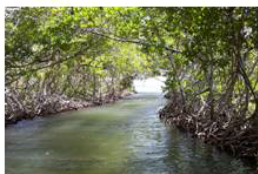
## Plan

- Caso de La Parguera
- Tres días intensos 19-21 de abril 2007
- Recopilación de datos y simulacro
- Análisis de datos ya recopilados
- Discusión sobre la relevancia de los datos para el manejo

Manual Socioeconómico para  
 el Manejo de Arrecifes  
 Coralinos Bunce et al 2005



Lineamientos de  
 Monitoreo Socioeconómico  
 para Administradores  
 Costeros en el Caribe  
 Bunce y Pomeroy 2003



## Herramientas

- Documentos históricos
- Datos del censo
- Fuentes secundarias
- Observación de campo
- Mapas de uso de los recursos
- Grupos focales
- Entrevistas / encuestas



## Productos

- ◆ Plan de SOCMON para las AMP
- ◆ Evaluación del plan
- ◆ Aplicación del SOCMON a una o dos reservas



## Valor añadido

- Manejo día a día
- Planes de manejo
- Manejo adaptativo
- Manejo colaborativo



# DNER-NOAA SocMon Workshop

- Site: La Parguera Natural Reserve
- Participants: Protected Area Managers (DNER)
- Goal: To develop a culture of integration of socioeconomic monitoring
- Social Sciences worldview
- A practicum on research techniques
- The role of the resource manager and the future of the MPAs
- Workshop results: interest and commitment for SocMon



## Marine Protected Areas Selected

Tortuguero Lagoon Natural Reserve

Boquerón, Iris Alameda Wildlife Refuge




Jobos Bay National Estuarine Research Reserve

Puerto Mosquito Natural Reserve (Vieques)

Mona Island Natural Reserve

# The Puerto Rico SocMon Process: An Outline











## Team Building Process

-  CIEL staff and students
-  Researchers from universities
-  Training
-  DNER Managers and Management
-  Initial meeting
-  Incorporation of MPA supporters and graduate students
-  Community groups

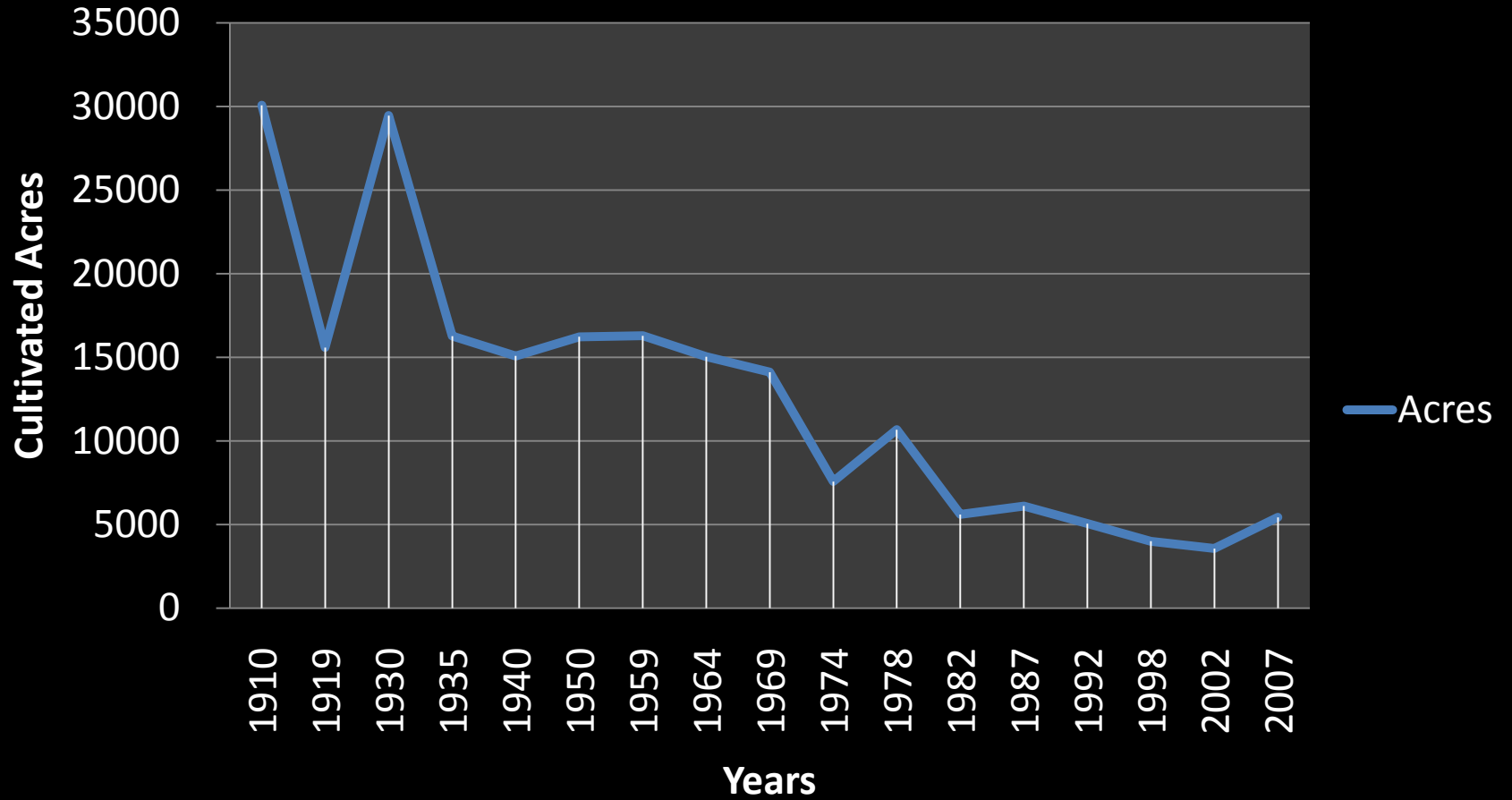
## Research strategy

-  Participant observation of resource use patterns
-  Census Data
-  Inventories
-  Mapping
-  In-depth interviews
-  Historical research
-  Focus groups
-  Surveys with resource users

# Socioeconomic Processes Impacting Most Reserves

-  Agricultural decline
-  Changes in land use: from agriculture to industries and urban growth
-  Population growth
-  Urban sprawl
-  Coastal gentrification
-  Changes in traditional resource use activities
-  Protected areas curtail poor communities from using the resources
-  Enforcement
-  User conflicts and an increase in recreational uses
-  Changes in the landscape

# Cabo Rojo















# **Outcomes of the SocMon Experience**





## Benefits

-  Social, cultural and historical data
-  Reports with similar format
-  Exploration of data sources within the MPA
-  Participation of the managers and support from DNER management
-  Community involvement
-  Management plans and the SocMon approach
-  Data suitable for the TNC Conservation Action Planning strategy
-  Other spin-offs: oral history in Rincón

## Lessons learned

-  Need for a greater participation of stakeholders and community groups (easier said than done)
-  SocMon as the key for stakeholder participation and engagement in a dialogue with managers
-  A learning process
-  Need of constant contact between research team and manager
-  Funding and the Puerto Rican context
-  An important first step towards management plans
-  One site at a time...

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-  CIEL Team
-  Patrick McConney (UWI)