

Sustainability & Coastal Development

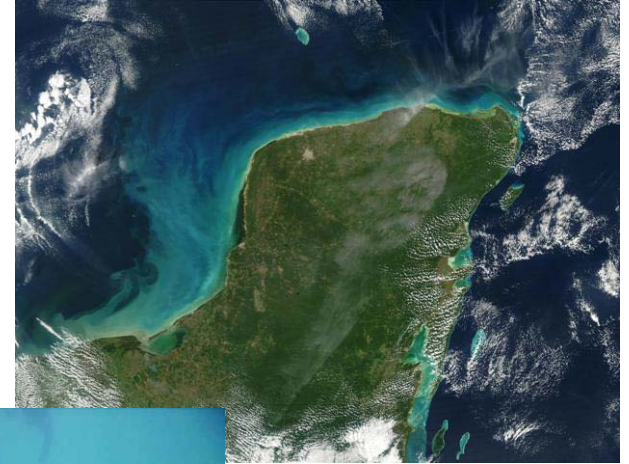
Maintaining Eden - is it possible?

- Nature as a product
- Results
- Protection
- Science
- Tools



Nature as a product

- Caribbean blue waters
- White sandy beaches
- Clear clean cenotes
- Coral reef habitat / species
- Migratory animals
- Lush jungles
- Ecosystems as services



Nature as a product

- Biodiversity
- Habitats

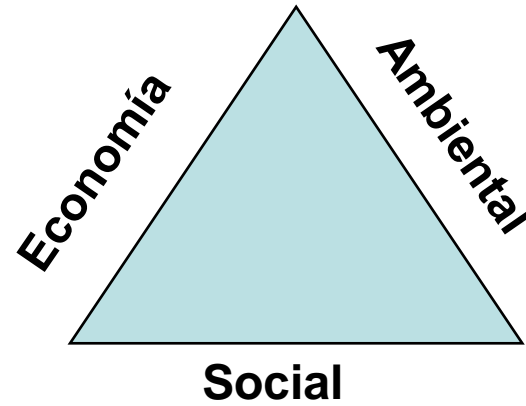


Sustainability

Development that satisfies current needs without jeopardizing the ability of future generations to satisfy their own needs.



Sustainability



Sustainability

Three Basic Lines to consider

- Equality and justice – at every level for society.
- Long-term vision – Where are we going to be in 20 years?
- Systems – Relationships between environment, economy and society.



Sustainability – basic principles

Local economy – local capacity and employment and existing infrastructure.

Environmental Protection – ecosystem focus, natural resource use, land use, waste generation and biodiversity support.

Cultural heritage / environmental quality – protection, preservation and restoration of historical and cultural , including monuments.



Sustainability

Must be defined by
each region

- Indicators - taking into account ecosystems, geology, hydrology, culture, history, economic potential, and social needs.



Environmental indicators include:

- Greenhouse gas emissions
- Water consumption per inhabitant
- Waste water treatment
- Yearly reduction in groundwater
- Land use changes
- Recycling and waste reuse indices
- Intensity of coastal marine resource use
- Protected area space as percentage of total land space
- Marine water quality
- Coral reef ecosystem quality
- Quality of fish stocks



Economic Growth in the Mexican Caribbean

Tourism development

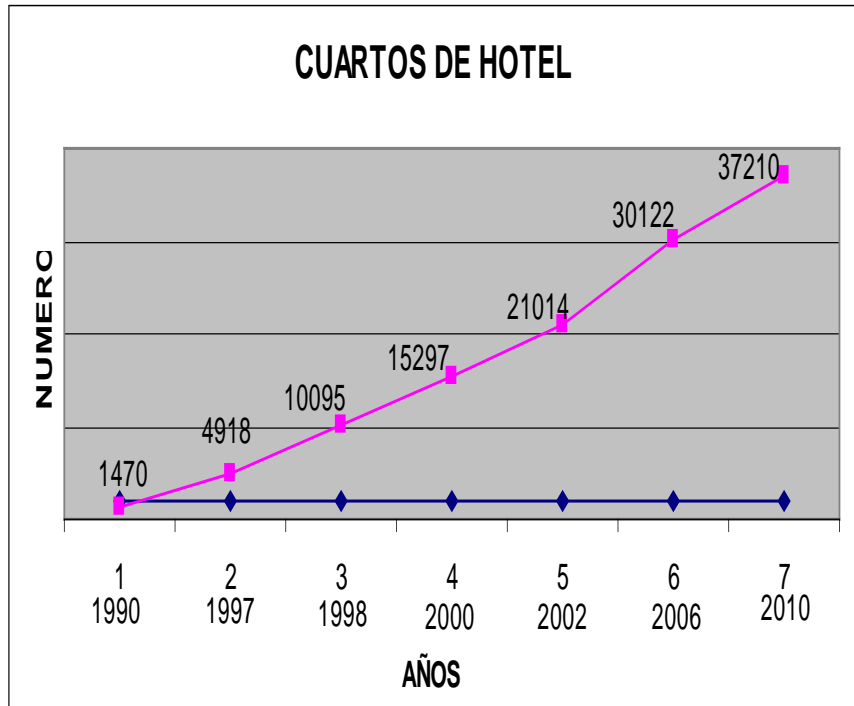
772 Hotels in Quintana Roo - 60,459 Rooms (SEDETUR 2005)

Urban Development

1,135,309 inhabitants Q.Roo (INEGI 2005) 18 – 22 % Annual growth rate



Growth in Mexican Caribbean



RESULTS

Environmental

- Waste management
- Mangrove destruction
- Impact on Coral Reefs
- Sea turtle nesting
- Deforestation



Protection – is it possible d away from destruction?

Science

- ✓ understanding how ecosystems work
- ✓ Understanding results of human impacts
- ✓ Helping define criteria for sustainability
- ✓ Feedback to measure sustainability



Protection – what road to take?

Tools

- Science
- Education
- Tourism
- Political instruments
- Politics



Political Instruments

Ecological Land Use Planning

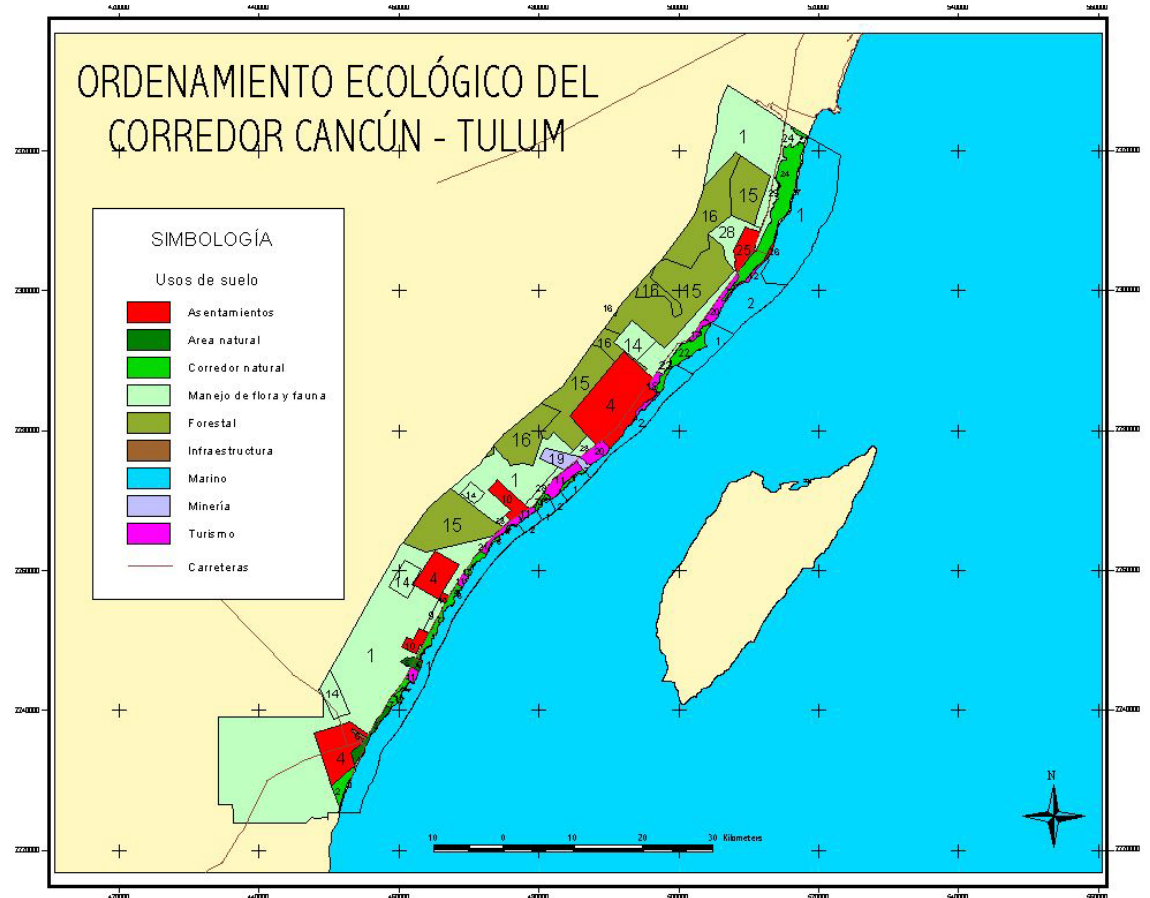
POET

Playa del Carmen

PDU Akumal

PDU Tulum

Protected Areas



PDU Akumal



PROGRAMA DE DESARROLLO URBANO DEL CENTRO DE POBLACION AKUMAL 2007-2032

SIMBOLOGIA:

①	②	③	
AP	AREA DE PRESERVISION AMBIENTAL	H1	INSTALACION DE VIVIENDA
CA	AREA DE PRESERVISION DE COMPLEJOS DE AGUA	H2	INSTALACION DE VIVIENDA
T-0	RESERVA FORESTAL	H3	INSTALACION DE VIVIENDA
TR-0	SUBSIDIO RESIDENCIAL DE CERRADO	H3*	INSTALACION DE VIVIENDA
TR-1	SUBSIDIO RESIDENCIAL DE CERRADO	H4	INSTALACION DE VIVIENDA
TR-2	SUBSIDIO RESIDENCIAL DE CERRADO	H4*	INSTALACION DE VIVIENDA
TR-2*	SUBSIDIO RESIDENCIAL DE CERRADO	MSU	AREA URBANA MEDIO COMERCIAL RESIDENCIAL
TR-3*	SUBSIDIO RESIDENCIAL DE CERRADO	MCR	ADMINISTRACION MUNICIPAL
SI	SERVICIOS A INDUSTRIA Y COMERCIO	CM	ADMINISTRACION MUNICIPAL
CM	COMERCIAL	EV	ESTR. URBANOS
EV	ESTR. URBANOS	REM	RECREACION
REM	RECREACION	RE	RECREACION
RE	RECREACION	ED	EDUCACION
ED	EDUCACION	CS	COMERCIO SOCIAL
CS	COMERCIO SOCIAL	AM	ADMINISTRACION MUNICIPAL
AM	ADMINISTRACION MUNICIPAL	EL	ELECTRICIDAD
EL	ELECTRICIDAD	TR	TRANSPORTE
TR	TRANSPORTE	VR	VARIABLE RESERVA
VR	VARIABLE RESERVA		

NOTA:
PARA EFECTOS DE CALCULO SE TIENEN EN CUENTA LAS ZONAS DE CONSERVACION AMBIENTAL Y LA ZONA URBANA DE DOS CUANTOS MUESTRADOS POR VARIAS.

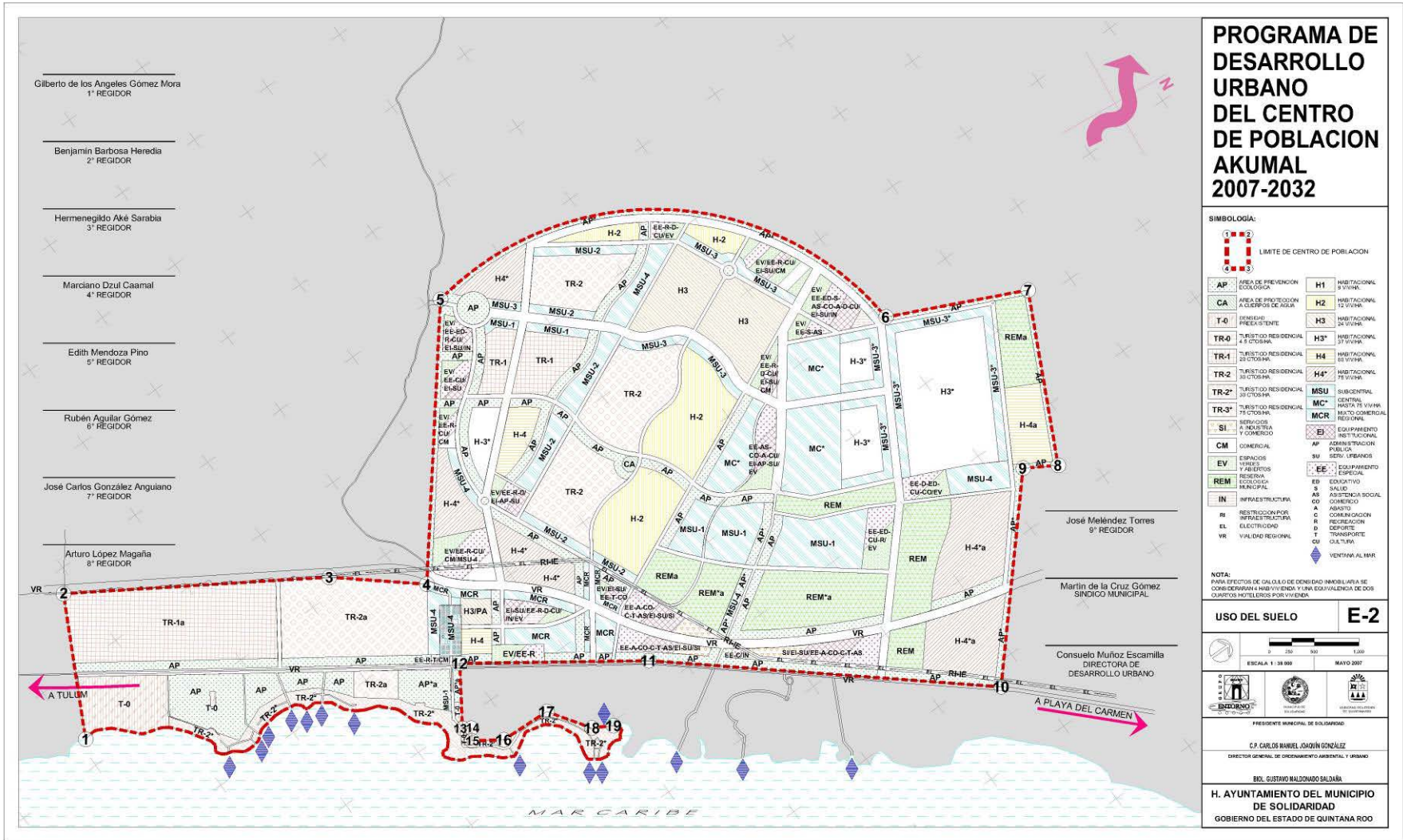
USO DEL SUELO E-2



PRESENTE MUNICIPAL DE DESARROLLO URBANO
DR. CARLOS MANUEL LOPEZ RODRIGUEZ
 DIRECTOR GENERAL DE GOBIERNO AMBIENTAL Y URBANO
 DR. GUSTAVO BALBUENA SUAREZ
H. AYUNTAMIENTO DEL MUNICIPIO DE SOLIDARIDAD
 GOBIERNO DEL ESTADO DE QUINTANA ROO



PDU Akumal



Protected Areas



Protected Areas

Roles

- Protection – biodiversity, habitat, ecosystem
- Research
- Education
- Cultural
- Economic (fisheries, tourism, ...)
- Sustainability ???
- Focus of variety of actions / actors



Actions

- Create alliances between government and society to manage priority areas.
- Use federal instruments more.
- Educate and build capacity among users, including tourists
- Waste water technologies



Find Adam and Eve



Protected Areas

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