



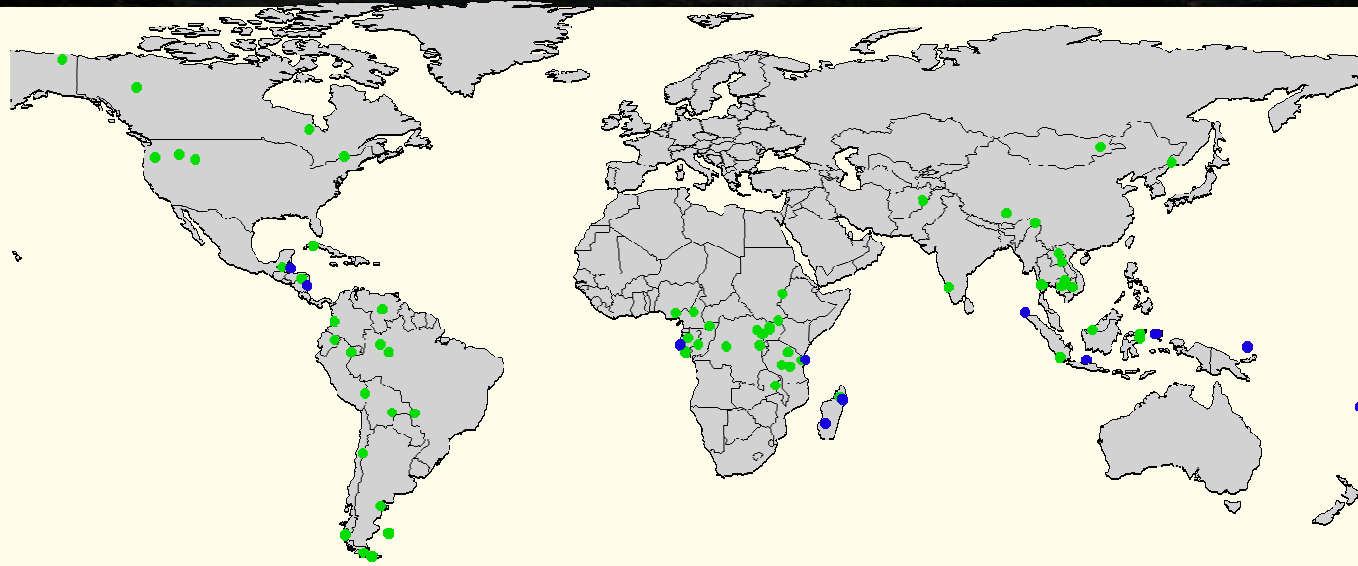
# Wildlife Conservation Society: Achieving Environment and Development Goals

## Wildlife Conservation Society: Achieving Environment and Development Goals Using Payments for Ecosystem Services

Dr. Jane Carter Ingram, Dr. David Wilkie and Dr. Michael Painter

Wildlife Conservation Society

# General Context of the Places Where WCS Works



- Remote, “wild” places
- Relatively low population density
- High degrees of poverty
- Natural resource based livelihoods and poor market access
- Many natural resources are communally managed



# WCS helps conserve ecosystem intact ecosystems that are reservoirs of ecosystem services



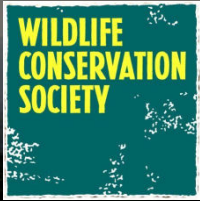
- Climate regulation through carbon storage and water cycling
- Biodiversity for tourism
- Water for drinking, bathing, agriculture and hydro-electricity
- Disaster regulation services
- Disease regulation
- Pollination
- Food
- Fuel
- Fibers
- Medicine
- Spiritual values



# Loss of Ecosystem Services

- Rural livelihoods and enterprises are often directly dependent on ecosystem services (such as fisheries, forestry, agriculture and tourism)
- In many rural areas, few if any substitutes or alternatives may exist or are accessible to replace ecosystem services if degraded or lost





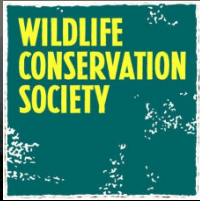
# PES = Incentives for Conserving Ecosystem Services

## Distinguishing factors:

- the mechanism must involve a (voluntary) transaction
- where a well-defined ecosystem service (or a land use likely to secure that service);
- is being 'bought' by a (minimum of one) service buyer
- from a (minimum of one) service provider and
- if and only if the service provider secures service provision (conditionality)



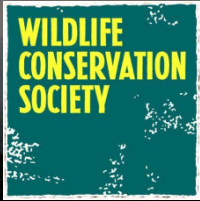
(Adapted from Wunder, 2005)



# MDG 7 and the Biodiversity Targets that WCS's Work Supports

- 7.1 Proportion of land area covered by forest
  - Reducing Emissions from Deforestation and Degradation (REDD)
  
- 7.2 CO<sub>2</sub> emissions, total, per capita and per \$1 GDP (PPP)
  - REDD
  
- 7.5 Proportion of total water resources used
  - Payments for Water Services (in development)
  
- 7.6 Proportion of terrestrial and marine areas protected
  - Biodiversity Offsets, Conservation Easements
  
- 7.7 Proportion of species threatened with extinction
  - Rare species tourism with conditional payments, Biodiversity Products with specialty certification





# Community-Based Trophy Hunting, Guatemala

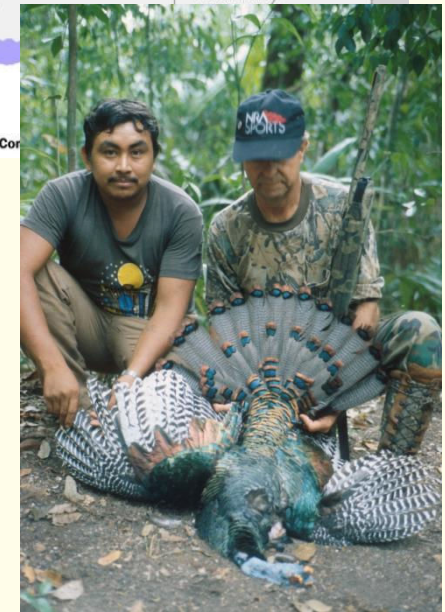
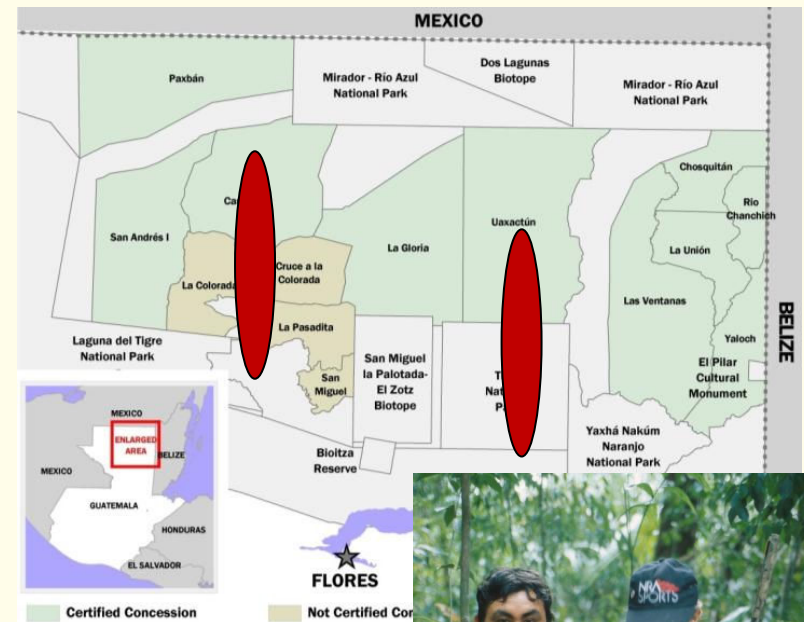
## Ecosystem Service:

Ocellated Turkey

**Buyer:** Turkey Hunters

**Seller:** the Communities of Uaxactun and Carmelita

**Conditionality:** Payments are only made if a turkey is obtained by the hunter

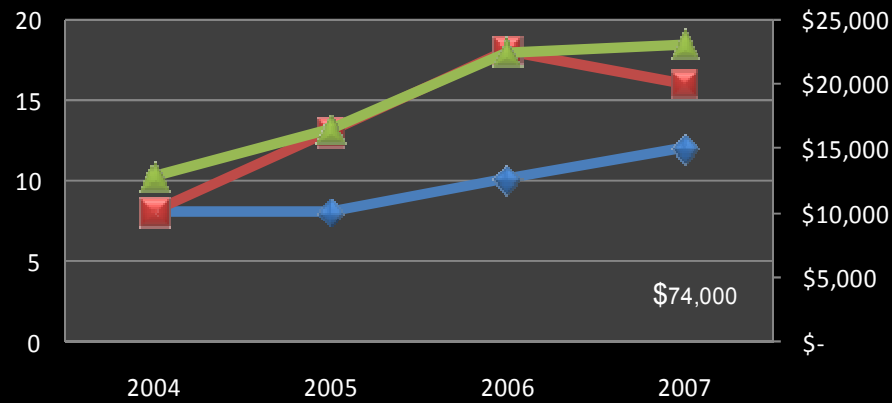


Maya Biosphere Reserve, Guatemala (Baur et al. 2008)

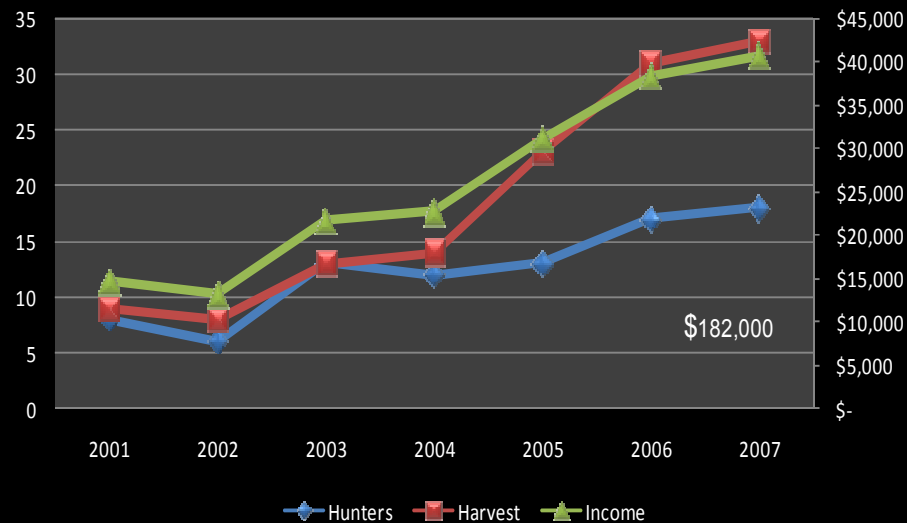


# Multiple Benefits

## Carmelia



## Uaxactun



	Uaxactún		Carmelita	
Years	2000 - 2004	2005 - 2007	2002 - 2004	2005 - 2007
Mean Density	0.48	0.76	0.37	0.63
Range	0.32-0.54	0.60 - 0.84	0.24 - 0.45	0.41 - 0.81
St. Dev.	0.083	0.136	0.114	0.204







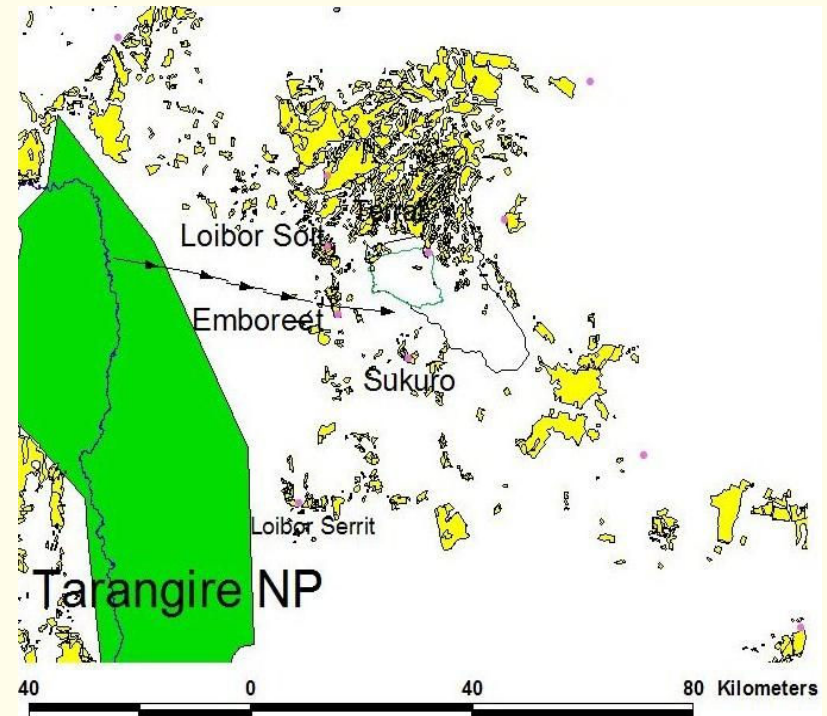
# Payments for Supporting and Cultural Services, Tanzania

**Ecosystem Service(s):** Primary production that supports wildlife

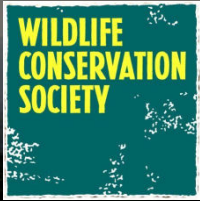
**Buyer:** Tour Operators

**Sellers:** Local community

**Conditionality:** Payments are conditional upon maintaining grasslands



Simanjiro, Tanzania (Nelson, 2008)



# Multiple Benefits

- 5 year contract between village and tour operators
- 4500/year in conditional payments
- \$3500/year for village game scouts
- Important source of discretionary funds for village



Simanjiro, Tanzania (Nelson, 2008)



# Community-Based Tourism, Cambodia

## Ecosystem Service:

Rare bird species for tourism

**Buyer:** Bird watchers

**Seller:** the Tmatbouey community

## Conditionality:

Additional payments are made if the two rarest bird species are seen



Tmatbouey, Cambodia (Clements et al. 2008)





# Community-based ecotourism Tmatbouey, Cambodia (Clements et al. 2008)

Year	Total	Services	Fund	Average Service Payment/Tourist	% revenue for village
2003	\$0	\$0	\$0		
2004	\$498	\$128	\$370	\$ 10	11.4%
2005	\$2,588	\$1,058	\$1,530	\$ 21	14.1%
2006	\$3,553	\$1,453	\$2,100	\$ 21	14.1%
2007	\$5,961	\$3,641	\$2,320	\$ 47	19.9%
2008	\$12,271	\$8,491	\$3,780	\$ 67	23.9%

Services

Fund

Average Service Payment/Tourist

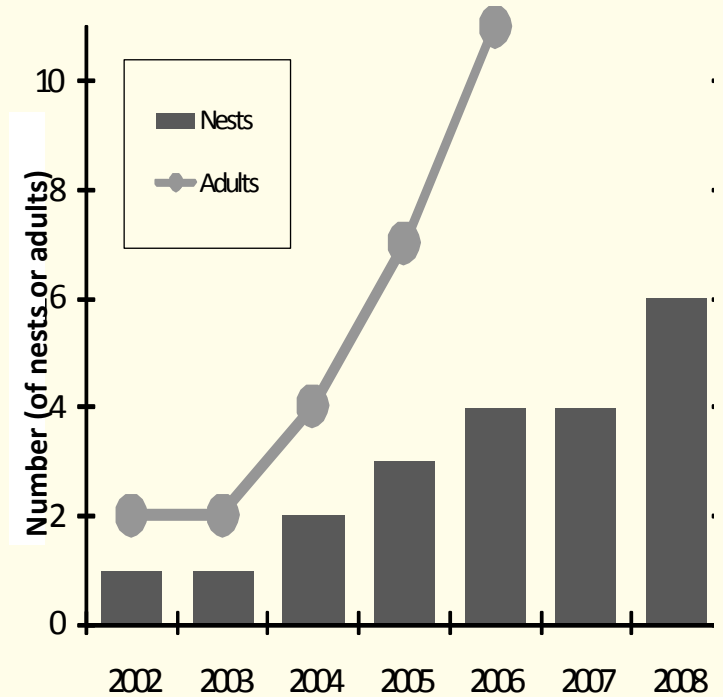
% of overall revenue captured by the village

**2003**

\$0

\$0

\$0



Wildlife population trends: White-shouldered Ibis (*Pseudibis davisoni*).



# Payments for Climate Regulation Services

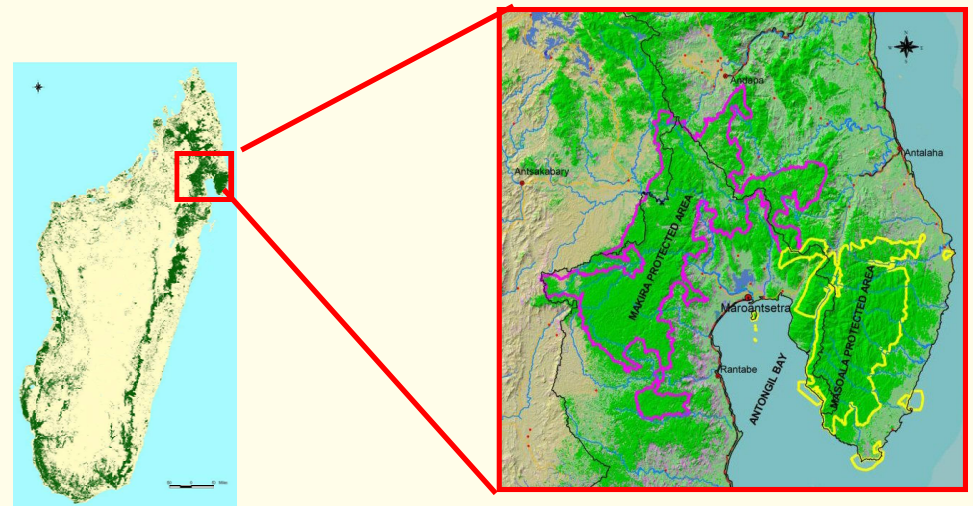
## **Ecosystem Service(s):**

Carbon storage by standing forests

**Buyer:** International individuals, corporations and/or governments

**Sellers:** Malagasy government and local communities

**Conditionality:** Payments are conditional upon reduced deforestation



Makira, Madagascar (Holmes et al. 2008)



# Multiple Benefits

- Makira Forest Carbon Project
  - 374,470 ha of protected area
  - 323,383 ha of community managed area
- Forest protection activities for Makira have been successful:  
Deforestation rate from 1990-2000 = 1.4%; 2000-2005 = 0.12%
- Forest carbon offsets may provide long term funding & help leverage sustainable practices at the site level: 40,000 tons CO<sub>2</sub>e retired (at a cost of \$5/ton)
- Communities are empowered through resource rights and governance structures: address issues of tenure, equity to reduce risks of impermanence
- Incentives to communities lead to improved management of resources that benefit others: addressing leakage and reducing impermanence





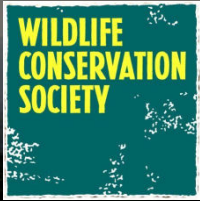
# Summary

## **PES can be a useful tool for conservation of biodiversity and ecosystems**

- Increases in target species and habitats have been recorded after the initiation of PES projects

## **PES can provide an important source of rural income, particularly in isolated places where few market opportunities exist**

- Income can be comparable to what government provides to a community (Cambodia)
- Income may be more consistent than other sources of income (Guatemala)
- Income may be the only source of discretionary funds available to a community for projects they care about supporting (Tanzania)



# Summary

- PES can catalyze the development of natural resource management structures and processes where none previously existed
- PES and the revenue generated from community based PES projects have required transparency in financial management and how the money is used
- PES projects have established equitable community partnerships with government and the private sector
- Experience with democratic processes and transparency at the local scale may “trickle up” to higher levels

# Thank you

For more information please see  
<http://programs.wcs.org/>