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UNDP

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Impact Evaluation of GEF Support to Protected Areas and Protected Area Systems

Preliminary Results and Next Steps

World Parks Congress

Sydney, Australia

17 November 2014

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PARTNERS

JOINT EVALUATION of the GEF and UNDP

Independent Evaluation Offices

WITH TECHNICAL SUPPORT FROM

- WCPA-SSC Joint Task Force on Biodiversity and Protected Areas at IUCN

- Global Land Cover Facility, University of Maryland

WHAT WE WANT TO FIND OUT

- What have been the impacts and contributions of GEF support in biodiversity conservation in PAs and their adjacent landscapes?

- What have been the contributions of GEF support to the broader adoption of biodiversity management measures at the country level through PAs and PA systems, and what are the key factors at play?

- Which GEF-supported approaches and on ground conditions are most significant in enabling and hindering the achievement of biodiversity management objectives in PAs and their adjacent landscapes?

FRAMEWORK FOR ANALYSIS

INPUTS

TRANSFORMATIONAL PROCESSES

IMPACTS

PROTECTED AREAS

WILDLIFE

- Species Richness
- Management Capacities
- Management Effectiveness

- Population Trends

Adoption of Interventions at Scale

PEOPLE

FORESTS
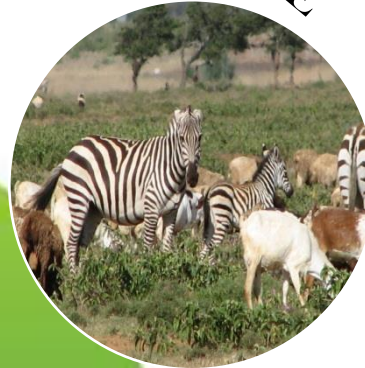
- Community Interactions
- Governance Systems
- Other Large-scale Drivers
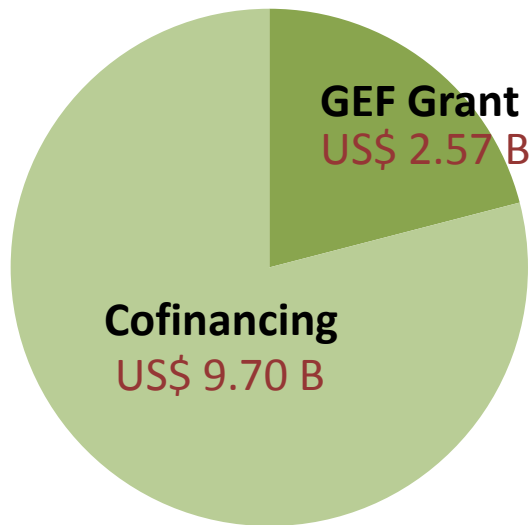
- Loss and Gain

HOW WE ASSESS IMPACT: MIXED METHODS

- Portfolio Analysis

  ▪ Progress towards impact of almost 200 completed projects

- Global Analysis

  ▪ Forest Cover Change
  ▪ Wildlife Abundance Change
  ▪ Management Effectiveness Tracking Tool (METT)
  ▪ Statistical Analysis: Before/After, With/ Without GEF Support

- Case Study Analysis

  ▪ Interviews and field visits in 7 countries, 17 GEF-supported PAs and 11 non-GEF PAs on changes/ trends and causal factors for biodiversity, management effectiveness and community engagement outcomes
  ▪ Qualitative comparative analysis (QCA) at the PA system and PA levels

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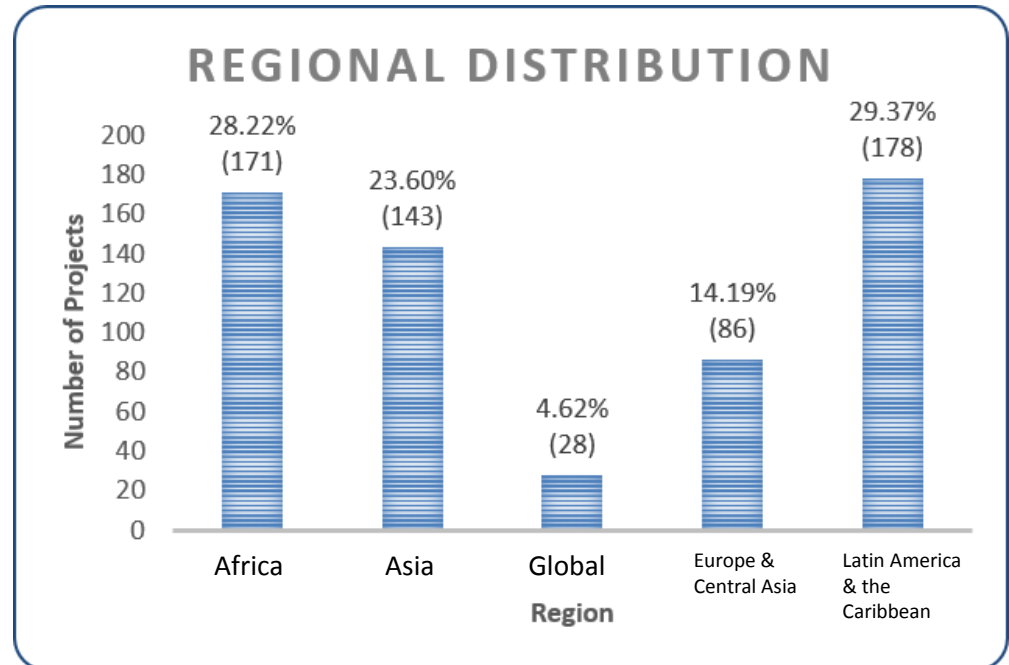GLOBAL ENVIRONMENT FACILITY

Portfolio Analysis

- Total of 606 projects included in evaluation portfolio as having interventions in non-marine PAs and PA systems from 1992 to the present
  - More than half completed or implemented for at least 6 years
  - 68% (415) full size and 32% (191) medium size
- Implementing agencies: UNDP (48%), World Bank (37%), UNEP (9%), and other UN agencies and regional development banks (5%)
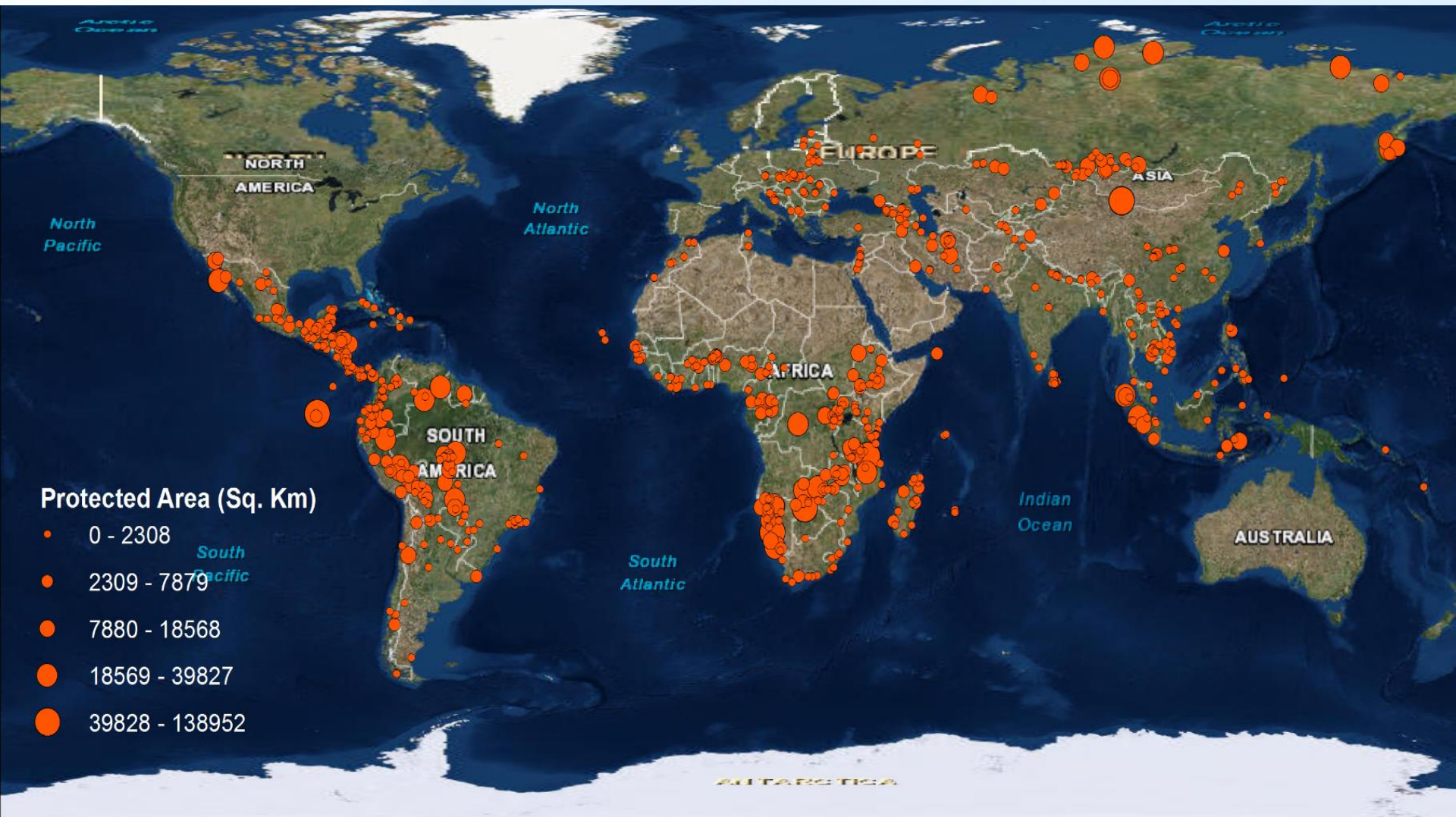
GEF Grant
US$ 2.57 B

Cofinancing
US$ 9.70 B

TOTAL FUNDING* > US$ 12.3 B

*excludes 140 projects for which no financial data was available

REGIONAL DISTRIBUTION

Number of Projects

Region	Percentage (Number)
Africa	28.22% (171)
Asia	23.60% (143)
Global	4.62% (28)
Europe & Central Asia	14.19% (86)
Latin America & the Caribbean	29.37% (178)

Global Analysis

Protected Area (Sq. Km)
- 0 - 2308
- 2309 - 7879
- 7880 - 18568
- 18569 - 39827
- 39828 - 138952
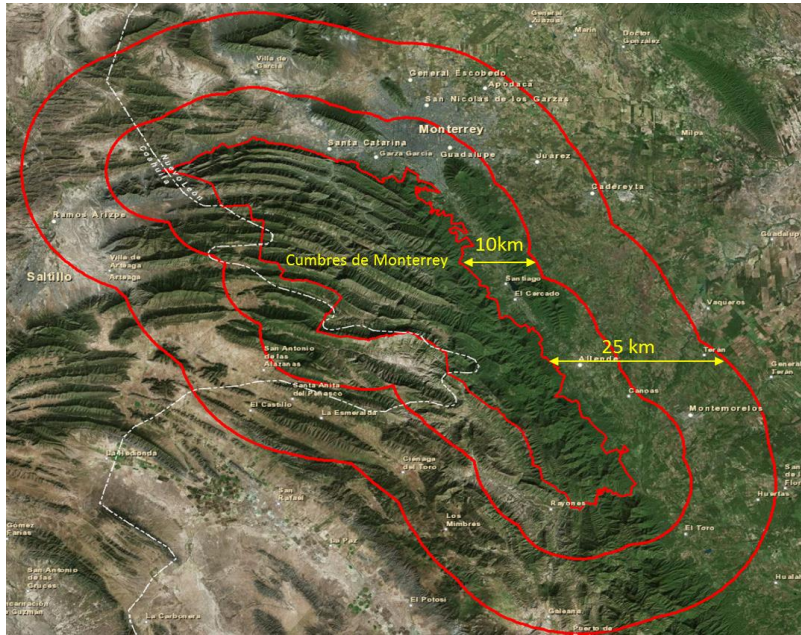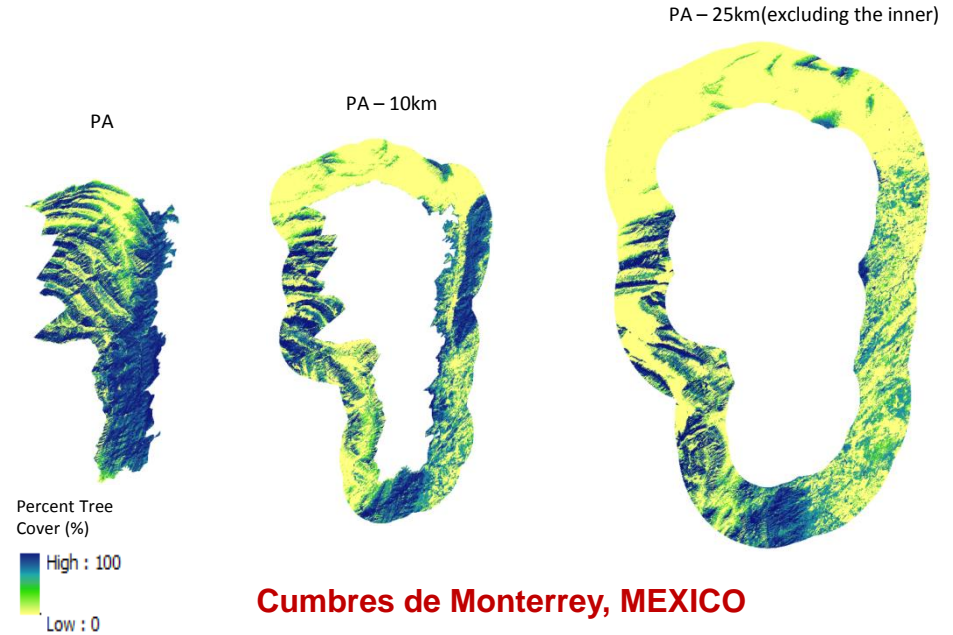
- 838 confirmed GEF-supported PAs in WDPA database
- Another 27,995 Non-GEF PAs used to estimate counterfactual

Forest Cover Change Analysis

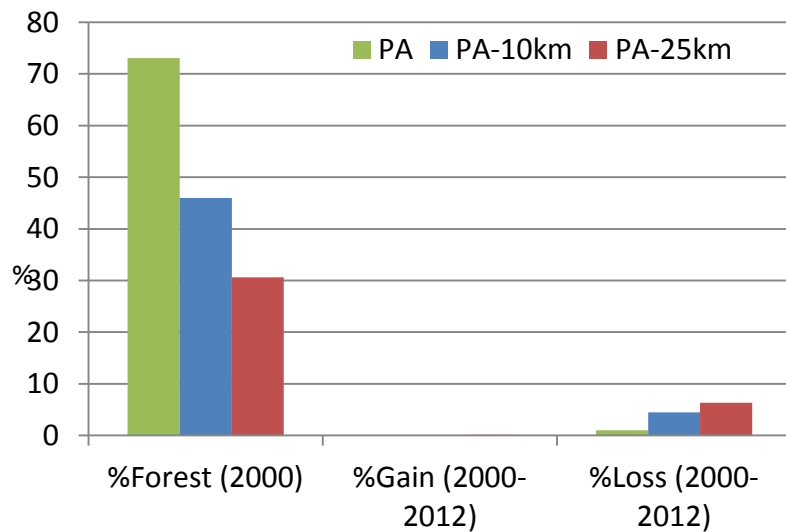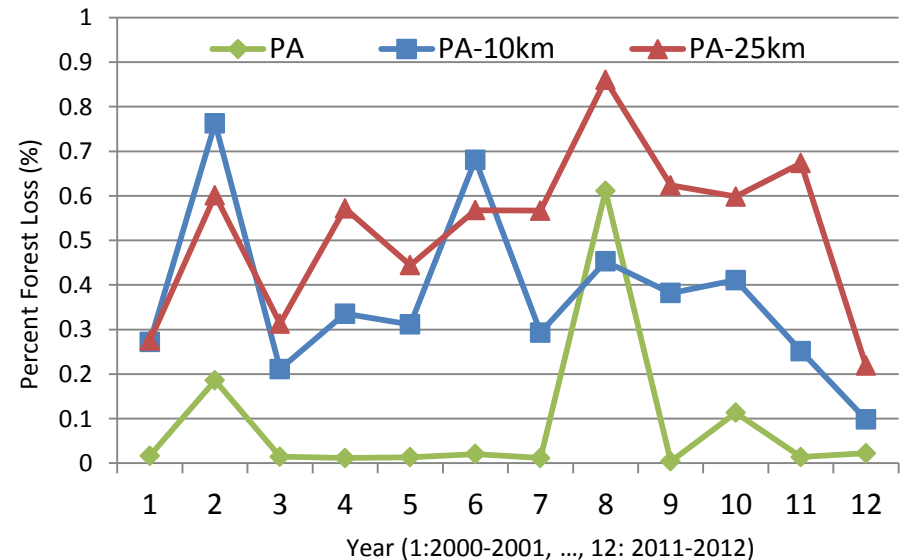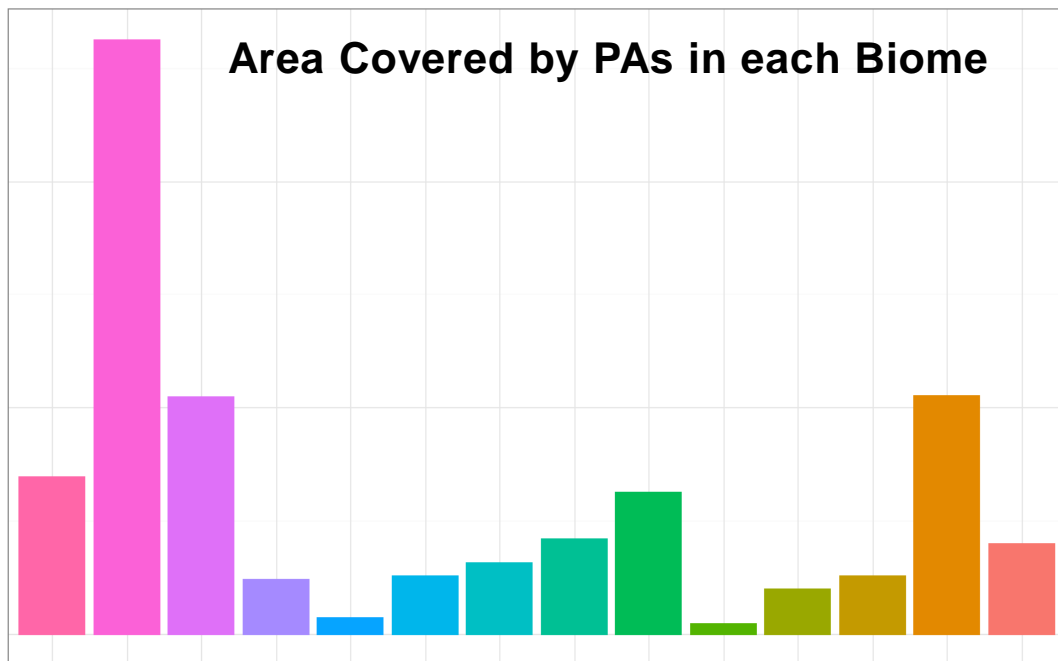## Percent Tree Cover (2000)

PA

PA – 10km

PA – 25km(excluding the inner)

Percent Tree Cover (%)

High : 100

Low : 0

Cumbres de Monterrey, MEXICO

Cumbres de Monterrey
10km
25 km

Decadal Forest Cover, Gain and Loss (2000 – 2012)

Legend: PA, PA-10km, PA-25km

%Forest (2000), %Gain (2000-2012), %Loss (2000-2012)

Yearly Percent of Forest Loss (2000 – 2012)

Legend: PA, PA-10km, PA-25km

Percent Forest Loss (%)

Year (1:2000-2001, ..., 12: 2011-2012)

Biome

- Tundra
- Tropical & Subtropical Moist Broadleaf Forests
- Tropical & Subtropical Grasslands, Savannas & Shrublands
- Tropical & Subtropical Dry Broadleaf Forests
- Tropical & Subtropical Coniferous Forests
- Temperate Grasslands, Savannas & Shrublands
- Temperate Conifer Forests
- Temperate Broadleaf & Mixed Forests
- Montane Grasslands & Shrublands
- Mediterranean Forests, Woodlands & Scrub
- Mangroves
- Flooded Grasslands & Savannas
- Deserts & Xeric Shrublands
- Boreal Forests/Taiga
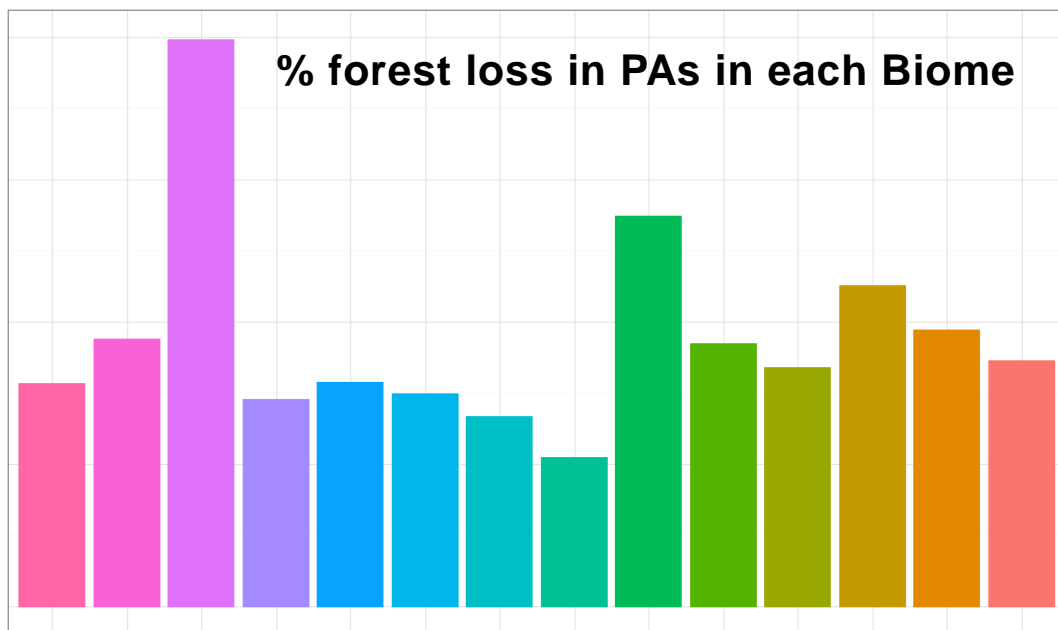
- Maximum area covered by PAs in tropical & subtropical moist broadleaf forests, followed by subtropical grassland, savannas and shrublands

- Maximum loss in tropical and sub tropical grasslands, savannas and shrublands, followed by montane grassland and shrublands

Wildlife Abundance Change Analysis

Before / After GEF intervention

LPIID = 5661; GEFID = 50; WDPAID = 2299
Cercocebus_galeritus
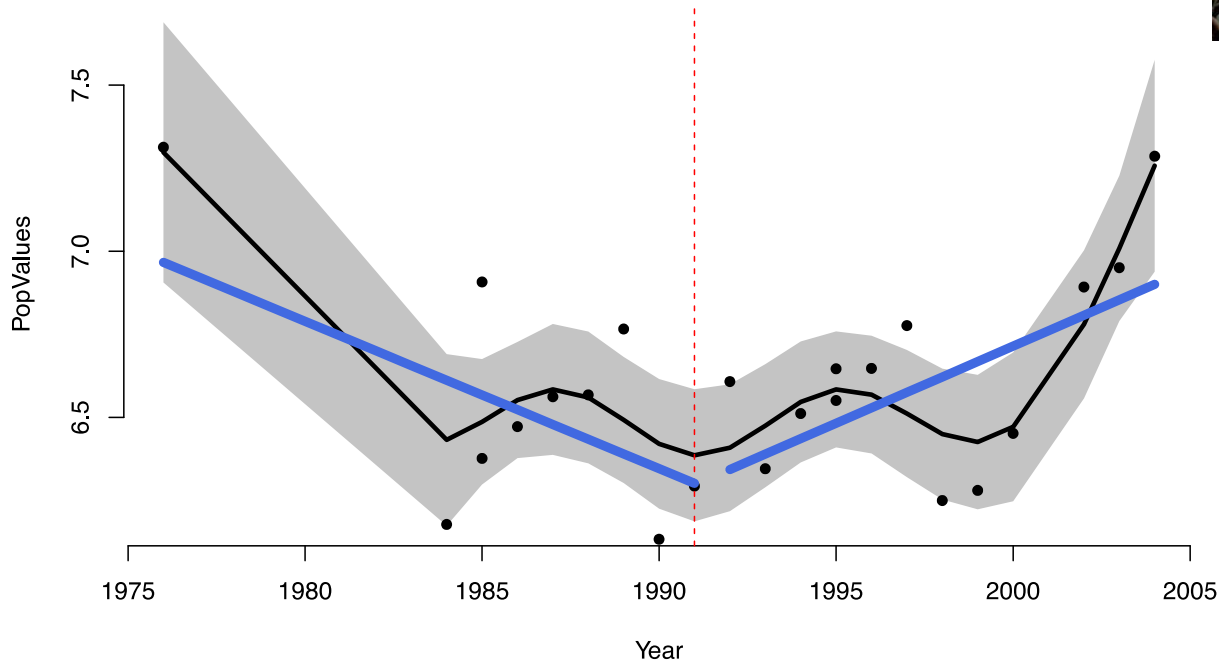
Species: *Cercocebus galeritus* (Tana River Red Colobus)

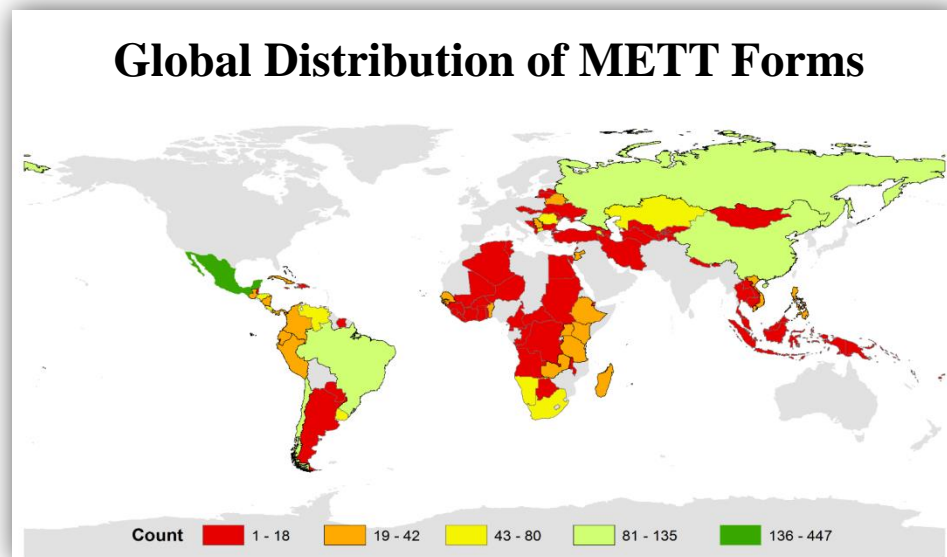Red List Category & Criteria: Endangered C2a(ii) ver 3.1

- A time series showing a clear change in population trend of Tana River Red Colobus after the GEF project started in Tana Reserve, Kenya

- Red dashed line shows start of GEF support, blue lines show population trend

- GEF project objective consistent with observed outcome

Shah Roge Photograph

Management Effectiveness Tracking Tool (METT) analysis

- 2440 METTs encoded from 1924 GEF supported PAs
- Covers 107 countries
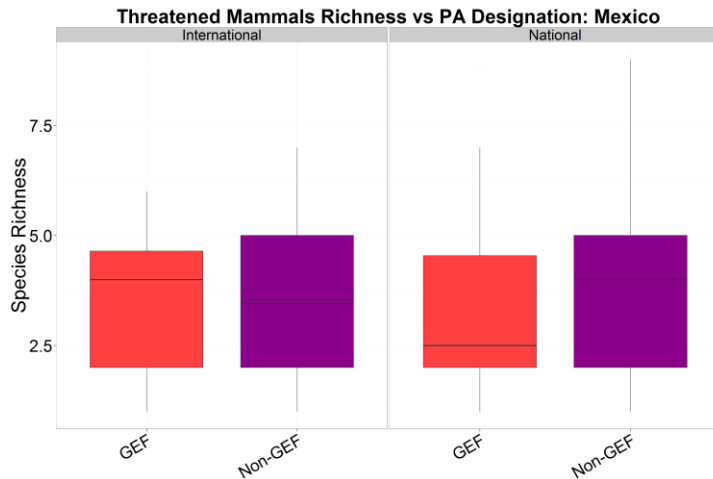- 275 PAs have time series data

METTs are analyzed for:

- Compliance and completeness
- Scores and quality of assessments
- Overall difference between GEF and non-GEF assessments
  - Difference in mean scores for individual questions
  - Scores before and after GEF involvement

Global Distribution of METT Forms

Count: 1 - 18 | 19 - 42 | 43 - 80 | 81 - 135 | 136 - 447

Species richness study

Mexico: Threatened Mammals richness

Species Richness
High : 9
Low : 1
GEF Supported PA
Non-GEF Supported PA
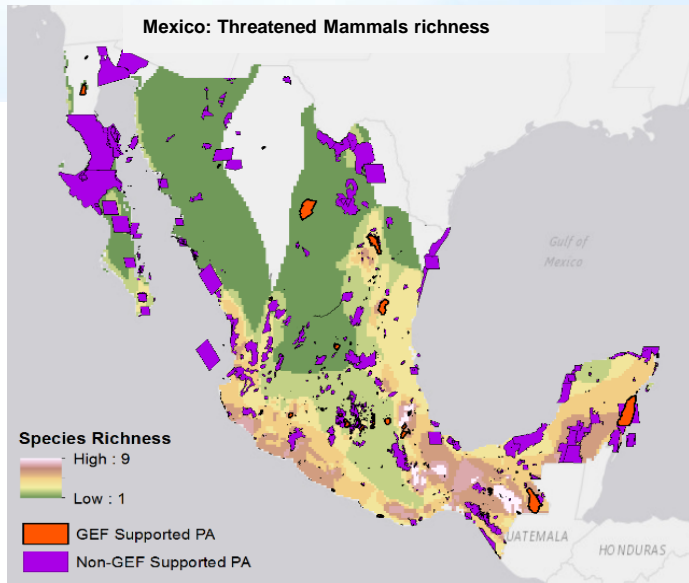
Species-rich areas in Mexico vs. PA locations

Threatened Mammals Richness vs PA Designation: Mexico
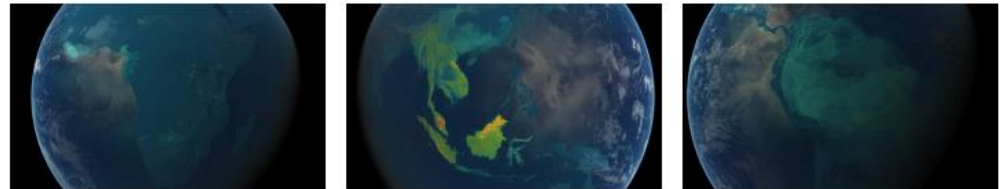
Is GEF supporting areas of high biodiversity?

Small-ranged mammals

Threatened mammals

All mammals
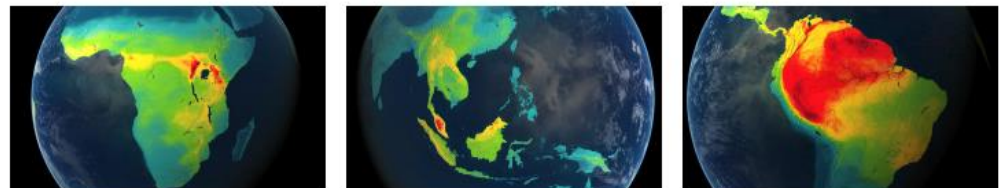
Pimm, SL et. al (2014) *Science* 344 (6187): 1246752

Other Statistical Analyses

Contextual Analysis (with IUCN Joint Task Force)

➢ Using Mixed Effect Modelling

➢ 13 datasets used to derive 85 variables of which
- 47 were based on the protected areas polygons
- 19 each from a 10-km and 25-km buffer surrounding the PAs

➢ Variables assessed to be of potential importance for the performance of PAs

➢ Intended use is to help explain the differences in PA performance in relation to:
- management effectiveness
- biodiversity outcomes
- habitat change

Other Statistical Analyses

Propensity Score Matching (with UMD)

➢ Pilot study planned for Uganda and Mexico

➢ Quasi-experimental setup, corrects for the non-random nature of PAs

➢ GEF and non-GEF polygons are used as control and treatment, derive the average treatment effect on the treated (ATT)

➢ UMD 30-m forest loss data as the dependent variable

➢ Other covariates for propensity score matching are:
- Agricultural suitability
- Elevation, slope
- Rural-Urban coverage (GRUMP)
- Human impact footprint
- Distance to roads, transportation network, forest edge, nearest major city
- District-level population density etc.

CASE STUDY ANALYSIS

PA Field Sites GEFEO 2014

Field sites visited during the PA evaluation. Please zoom in and click on the placemarks to

☑ Field Sites

GEF(17)

Non-GEF (11)

MEXICO

Area de Protecci Rio Lagartos Fauna Yum Balam
Reserva de la Biosfera Sierra de Mahantlán ea San-Ka'an
Tepetl

COLOMBIA

Iguaque National Park

UGANDA
Itwara Central Forest Reserve
Bwindi Impenetrable National Park

KENYA
Lake Nakuru National Park

NAMIBIA
BW Mudumu National Park
Etokhaudum Game Reserve

VIETNAM
Ba Be National Park
Cuc Phuong National Park
Cat Tien national park

INDONESIA
Taman Nasional Aketajawe-Lolobata
Manusela
North Buton Game Reserve

3 REGIONS ◊ 7 COUNTRIES ◊ 28 PAs

Qualitative Comparative Analysis (QCA)

Cases: 7 countries
Outcome: FUNCTIONAL PA SYSTEM

Cases: 28 PAs
Outcome: DECREASE IN TRENDS IN ILLEGAL ACTIVITIES

- Findings will assess which combinations of factors are most important for producing observed outcomes:
  - biodiversity
  - management effectiveness
  - community engagement
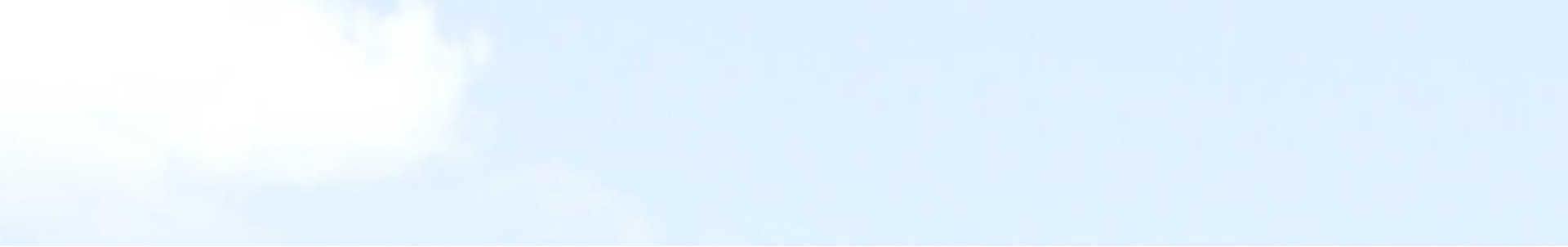- Uses set theory rather than probabilistic methods

Limitations and challenges

- Global scope of analysis
  - requires high level of resources
  - contextual variables often vary widely across countries and sites
  - unorganized, differently formatted datasets
  - inconsistency across datasets and information sources
- Sampling bias
  - not randomly selected, uneven spatial distribution dependent on availability of data from sites
- Data scarcity gaps
  - we don't know what we don't know (unknown total global population and distribution, missing spatial information on locations of interventions)
- Constraints to evaluation utility
  - mismatch between institutional requirements, stakeholders outlooks and scientific criteria

NEXT STEPS

- Analysis and Writing: June 2014 to February 2015

- Draft Report: February 2015

- Final Report: May 2015

  - To be presented to the GEF Council and UNDP Executive Board

  - Will inform design of future GEF support to protected areas and biodiversity conservation in general

  - To be posted on http://www.thegef.org/gef/ImpactEvaluations

Join us tonight for a drink a more a in-depth presentation and discussion on the challenges in evaluating global support to biodiversity conservation.

The Charley Room (Stadium)

8:00 PM

Thank you

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Impact Evaluation

Biodiversity Focal Area Impact Evaluation

- Joint Impact Evaluation of GEF support to non-marine Protected Areas and Protected Area systems (GEF-UNDP IEOs)
- State of the art science and methodology being used to assess:
  - Forest change using remote sensing data in 839 Protected Areas covering 141 countries
  - Species population abundance by trend analysis before and after GEF support
  - Human interaction with the PAs using case studies from field visits in 28 PAs across 7 countries
  - Environmental trend and changes in capacity and governance in PAs & PA systems
  - Contribution to strengthening national PAs & PA system through portfolio analysis of 200 completed projects
  - Management Effectiveness by analysis of 2440 tracking tools from 1924 GEF supported PAs covering 107 countries

-Mainstreaming of impact into other evaluation streams such as country level evaluation

-The Evaluation will be presented at the next council meeting