Monitoring Progress In Biodiversity Mainstreaming: Experiences from GEF Portfolio Monitoring

Mark Zimsky-GEF Secretariat
Senior Biodiversity Specialist,
Biodiversity Focal Area Coordinator
Regional Program Manager, Latin America and the Caribbean

Outline of Presentation:

1) GEF-4 Biodiversity Strategy
2) Biodiversity Portfolio Monitoring
3) What is mainstreaming & why do we support it?
4) Measuring Mainstreaming Outputs, Outcomes & Impact at Project and Portfolio Level
5) What's Next?

GLOBAL ENVIRONMENT FACILITY

GEF's Goal in Biodiversity

The goal of GEF's biodiversity program is the conservation and sustainable use of biodiversity, the maintenance of ecosystem goods and services, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

GLOBAL ENVIRONMENT FACILITY

GEF-4 Strategic Objectives

Strategic Objectives	Drivers of Biodiversity Loss		
	Habitat Change	Over-exploitation	Invasive species
	Underlying/indirect driver: Policy and legal framework, institutions and governance		
Sustainable protected area systems	√	√	
Mainstreaming biodiversity	√	√	
Safeguarding biodiversity	√		√
Acess and Benefit sharing		√	

Objective 1: Catalyze Sustainability of Protected Area Systems

Strategic Programs

- Sustainable Financing of PA Systems
- Marine Protected Areas Networks
- Terrestrial Protected Areas Networks

(underpinned by CB)

GLOBAL ENVIRONMENT FACILITY

Objective 2:
Mainstream Biodiversity Conservation and Sustainable Use in Production Landscapes/Seascapes and Sectors

Strategic Programs

- Strengthening the policy and regulatory framework for mainstreaming biodiversity
- Fostering markets for biodiversity goods and services

GLOBAL ENVIRONMENT FACILITY

Objective 3:
Safeguard Biodiversity

Strategic Programs

- Building capacity for the implementation of the Cartagena Protocol on Biosafety
- Prevention, control, and management of invasive alien species (IAS)

GLOBAL ENVIRONMENT FACILITY

Objective 4:

Build Capacity on Access and Benefit Bharing

Strategic Program

- Capacity Building on Access and Benefit Sharing (ABS)

GLOBAL ENVIRONMENT FACILITY

Biodiversity Portfolio Monitoring: Challenges

Challenges:

1) Very large & heterogeneous portfolio of projects that are monitoring progress towards achieving many different outcomes.
2) Projects are relatively short-term investments therefore outcomes and impact may not be seen or measurable until after project closure (particularly with biodiversity mainstreaming).
3a) Portfolio monitoring can add costs to project level monitoring (data is at project level).
3b) GEF as a networked institutional arrangement- many partners and many systems of monitoring at work.

Working solutions:

1)Limit portfolio indicators to a few key indicators that all projects can easily deliver.
2)Use proxies that are reliable indicators of progress towards the outcomes and impacts sought; follow up with post-project monitoring on the ground.
3)Identify indicators that add value to project level monitoring to minimize all transaction costs--rolling up
4) Create simple tools for data collection

Measuring Portfolio Performance with Tracking Tools

- **Objective**:
  To measure progress in achieving outputs, outcomes and impacts established at the portfolio level under GEF strategies (GEF-3 and GEF-4).

- **Rationale:**
  Project data from the GEF-3 and GEF-4 project cohort, respectively, are aggregated for analysis of directional trends and patterns at a portfolio-wide level to both inform the evolution of the biodiversity strategy of the GEF and to report to GEF Council on portfolio-level performance in the biodiversity focal area.

  Links GEF support directly to global monitoring processes (2010 indicators, e.g., coverage of PAs and management effectiveness of PAs, sustainable use, etc.)

- **Process:**

  The tracking tool is to be submitted to the GEF Secretariat at three points in time:
  - ✓ With the project document at CEO endorsement or CEO approval for MSPs
  - ✓ Within 3 months of completion of the project's mid-term evaluation or report; and
  - ✓ With the project's terminal evaluation or final completion report, and no later than 6 months after project closure.

GLOBAL ENVIRONMENT FACILITY

Objective One:
Catalyze Sustainability of Protected Area Systems

Outcomes	Indicators	Measurement Tools
Sufficient revenue for PA systems to meet total expenditures for management	Funding gap for management of PA systems	PA financing scorecard (developed by UNDP)
Improved management effectiveness of PAs	Protected area management effectiveness	METT (developed by WWF and WB)
Increased representation of ecosystems effectively conserved (marine focus)	Coverage and PA management effectiveness	METT and GEF tracking tool

GLOBAL ENVIRONMENT FACILITY

Objective Three: Safeguard Biodiversity

Outcomes	Indicators	Measurement Tools
Potential risks to biodiversity from LMOs avoided or mitigated	National biosafety decision-making systems operability score	Tracking tool developed by GEFSEC and GEF biodiversity task force
Potential risks posed to BD from IAS avoided or mitigated	IAS management framework operability score	Tracking tool developed by GEFSEC and GEF biodiversity task force

GLOBAL ENVIRONMENT FACILITY

Objective Four:
Build Capacity in Access and Benefit Sharing

Outcomes	Indicators	Measurement Tools
Legal and regulatory frameworks and administrative procedures	National ABS frameworks operability	Tracking tool under development by GEFSEC

GLOBAL ENVIRONMENT FACILITY

Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors

GLOBAL ENVIRONMENT FACILITY

What is Mainstreaming?

At a GEF Science and Technical Advisory Panel Workshop held in Cape Town, South Africa in 2004 on the subject of mainstreaming, the participants defined the objective of mainstreaming as “to internalize the goals of conservation and sustainable use of biological resources into economic sectors and development models, policies and programs, and therefore all human behavior”.

GLOBAL ENVIRONMENT FACILITY

Why does the GEF support it?

To complement its investments to strengthen the sustainability of protected area systems, GEF promotes sustainability measures to help reduce the negative impacts that productive sectors exert on biodiversity, particularly outside of protected areas, and highlight the contribution of biodiversity to economic development and human well being, a set of actions often referred to as “mainstreaming”.

Biodiversity-dependent production sectors, with large ecological footprints have been the focus to date: agriculture, fisheries, forestry, tourism, and the major extractive industries of oil and gas, and mining.

GLOBAL ENVIRONMENT FACILITY

Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors

Outcomes	Indicators	Measurement Tools
Measures to conserve and sustainably use biodiversity incorporated in legal and policy frameworks	Policies and regulations governing sectoral activities that integrate biodiversity conservation & sustainable use	Tracking tool developed by GEFSEC and GEF biodiversity task force
Increase in sustainably managed landscapes and seascapes that integrate BD conservation and sustainable use	Landscape/seascape by area that have been certified by internationally recognized standards that incorporate BD considerations	Tracking tool developed by GEFSEC and GEF biodiversity task force (certification standards: FSC, MSC, etc.)
Markets created for biodiversity goods and services (revised for GEF-5)	*Number and extent of new PES schemes, new markets for BD goods*	*Tracking tool developed by GEFSEC and GEF biodiversity task force*
Global certification schemes for goods produced in agriculture, forestry etc include biodiversity standards (revised for GEF- 5)	*Internationally accepted certification systems that include technically rigorous biodiversity standards*	*Public record*

GLOBAL ENVIRONMENT FACILITY

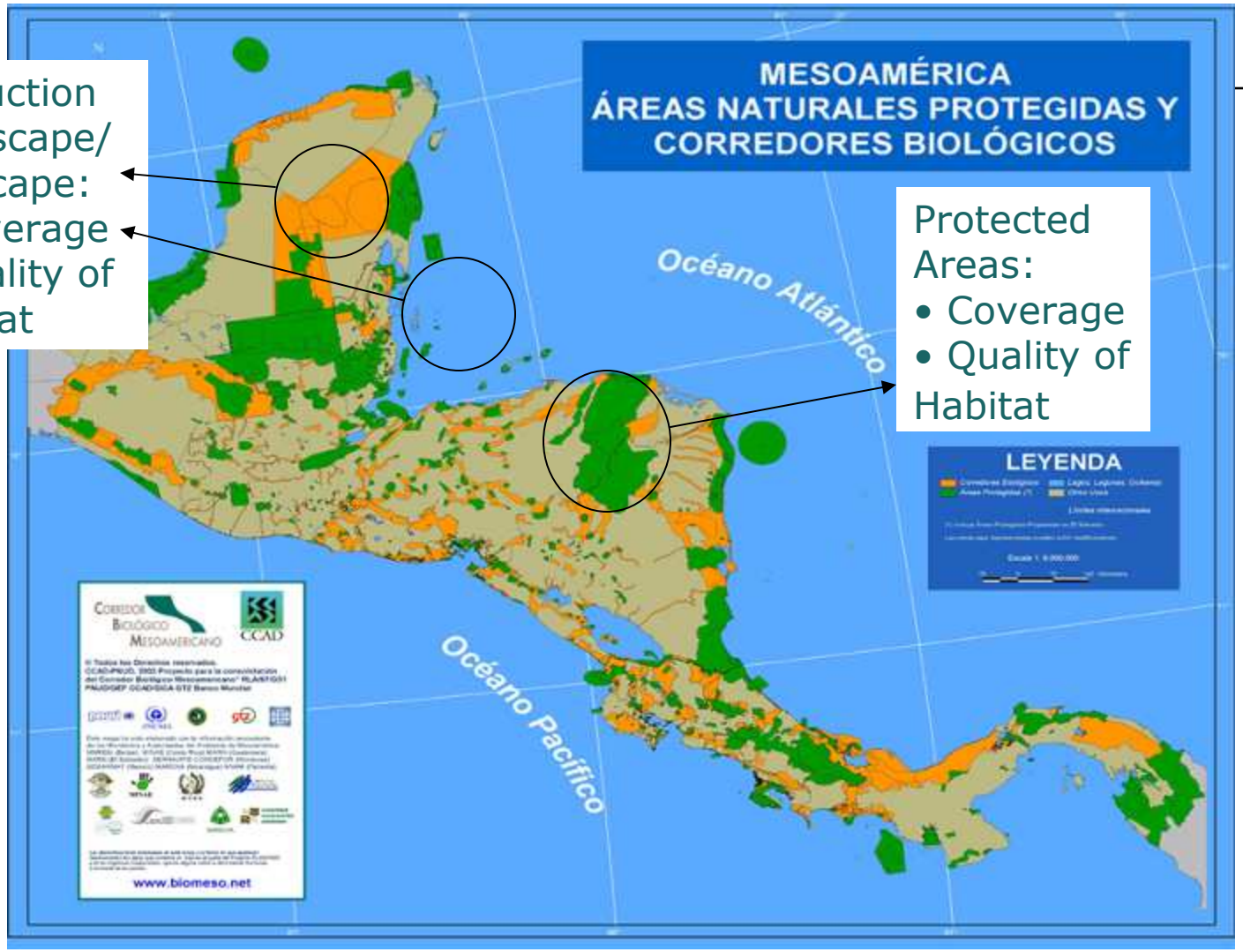
Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors—What do we track?

Data recorded	Unit of measure
Coverage of production landscape or seascape	Hectares covered
Coverage of protected areas impacted or influenced by project intervention	Hectares covered
Coverage of payment for ecosystem service schemes	Hectares covered Payments generated (dollars)
Coverage of certified landscape or seascape	Hectares certified
Market transformation: unit of measure of market impact	Variable, $ sales of certified product, volume of certified product
Policy and regulatory frameworks	Progression from policy→legislation→regulations→ implementation of regulations→ enforcement→ independent monitoring of enforcement

GLOBAL ENVIRONMENT FACILITY

Biodiversity Portfolio Monitoring: Measuring Impact

Production Landscape/ Seascape:
- Coverage
- Quality of Habitat



Protected Areas:
- Coverage
- Quality of Habitat

Why is Quality of Habitat Important to Measure: The Species-Area Relationship

- Species-area curve: larger areas will hold more species than small fragmented areas that contain the same habitats (MacArthur and Wilson, 1987)
- Studies on optimal patch size concluded that larger areas will:
  - ✓ Contain a greater variety of environmental heterogeneity which has been positively linked with species diversity (Burnett *et. al.* 1998);
  - ✓ Provide a buffer against the detrimental effects of catastrophic events (Benson 1993)
  - ✓ Decrease genetic deterioration and likelihood of demographic imbalance (e.g., populations containing a large amount of males) (Soule and Simberloff, 1986)

Biodiversity Mainstreaming: Measuring Impact

Impact	Indicators	Measurement Tools
Conservation and sustainable use of biodiversity integrated into production landscapes and seascapes	Intact vegetative cover and degree of fragmentation in production landscapes measured in hectares	Remote sensing, supported where possible by other verification methods
	Coastal zone habitat (coral reefs, mangroves, etc.) intact in MPAs and productive seascapes	Remote sensing, supported where possible by other verification methods

GLOBAL ENVIRONMENT FACILITY

What is around the corner…assessing impacts of GEF-3 and GEF-4 projects and portfolio learning

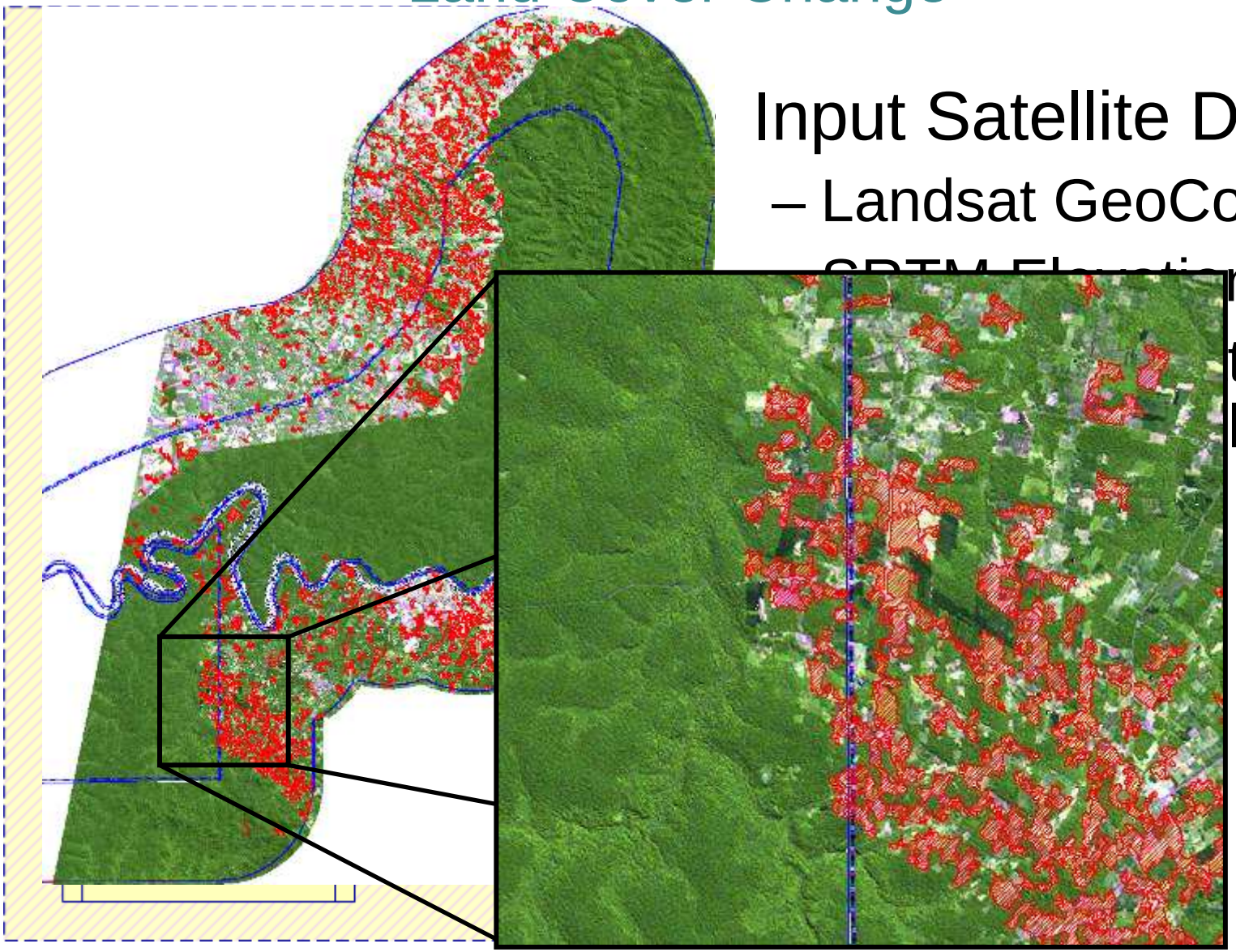
GLOBAL ENVIRONMENT FACILITY

Site Condition Assessment

Assessing condition of sites where GEF is promoting biodiversity mainstreaming through analysis of:

- ✓ Land cover change (primary)
- ✓ Fragmentation of habitat (primary)
- ✓ Incidence of Fire (PAs mainly)
- ✓ Infrastructure development

Iguaçu National Park (WH site)
Land Cover Change



Input Satellite Data:

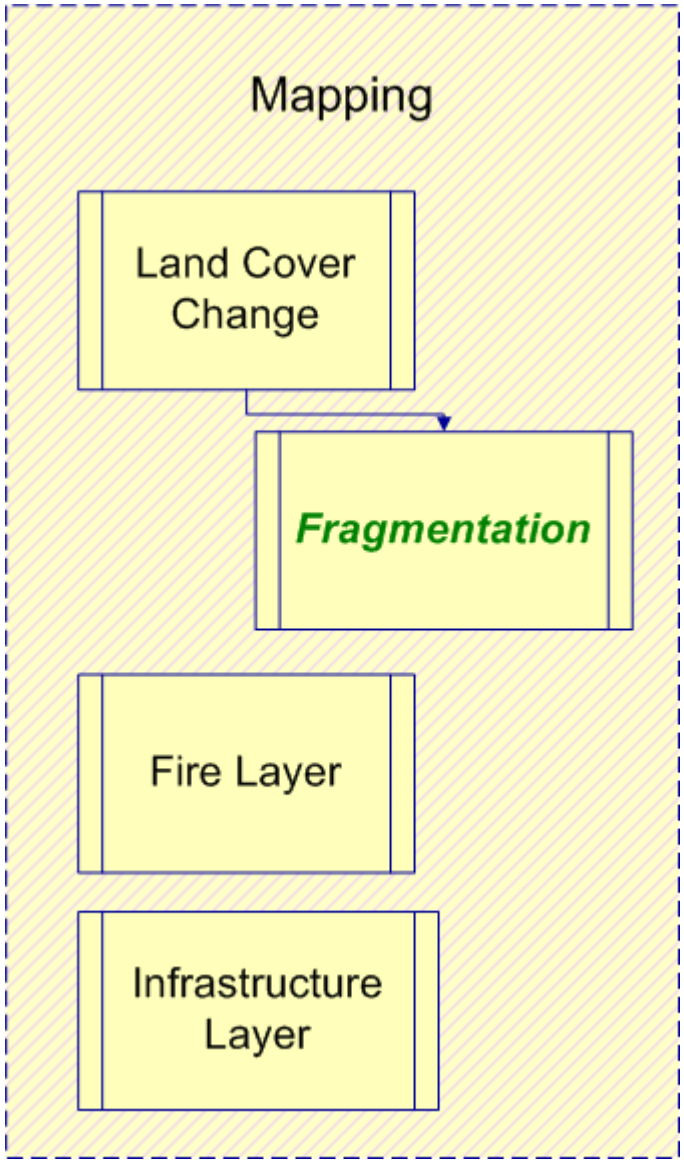
– Landsat GeoCover

– SRTM Elevation

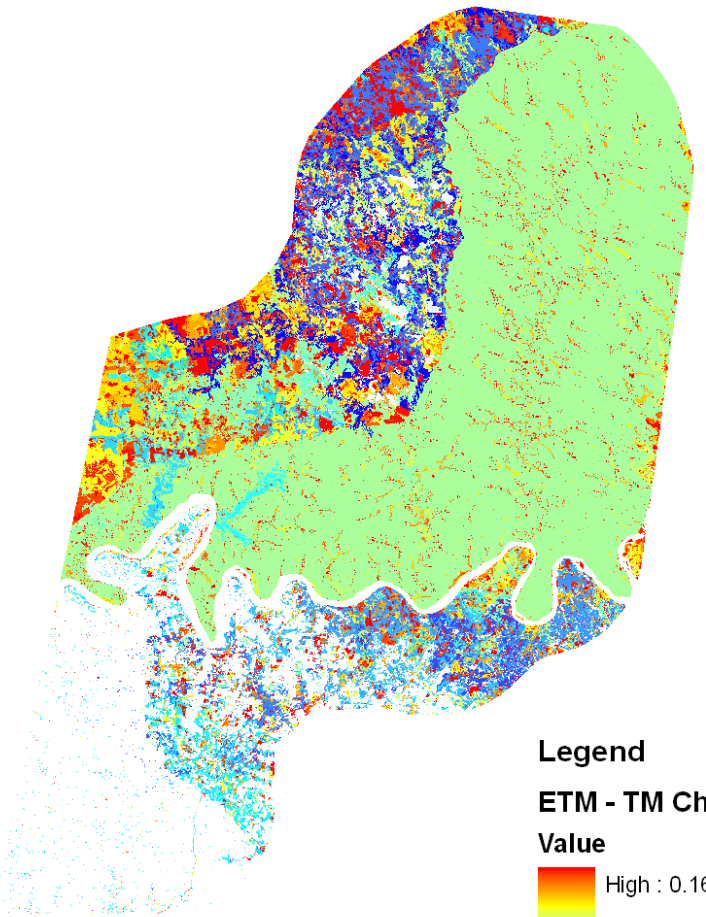
tion

lds

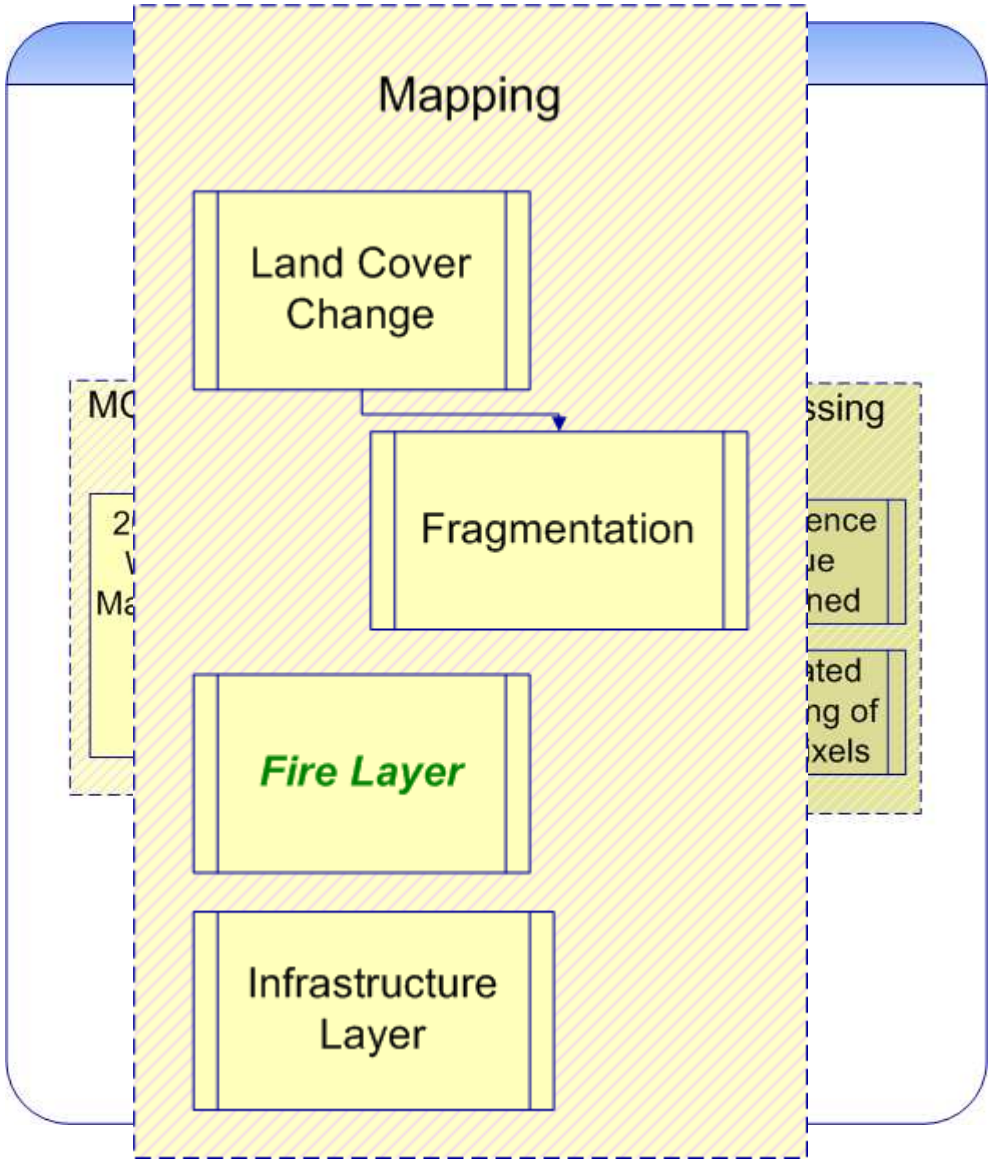
Fragmentation



- F
  fr
- A
  -
  -
  -
- F
  p
  -
  -
  -



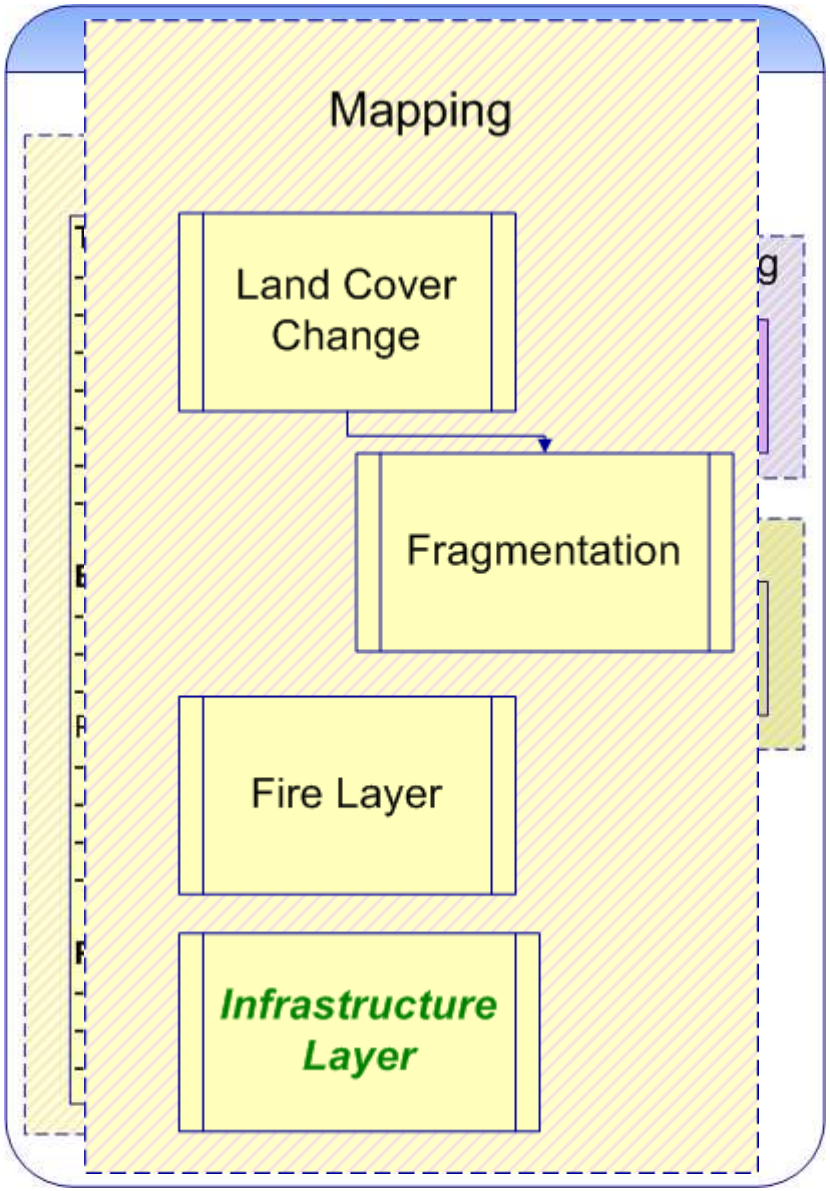
Fire Layer



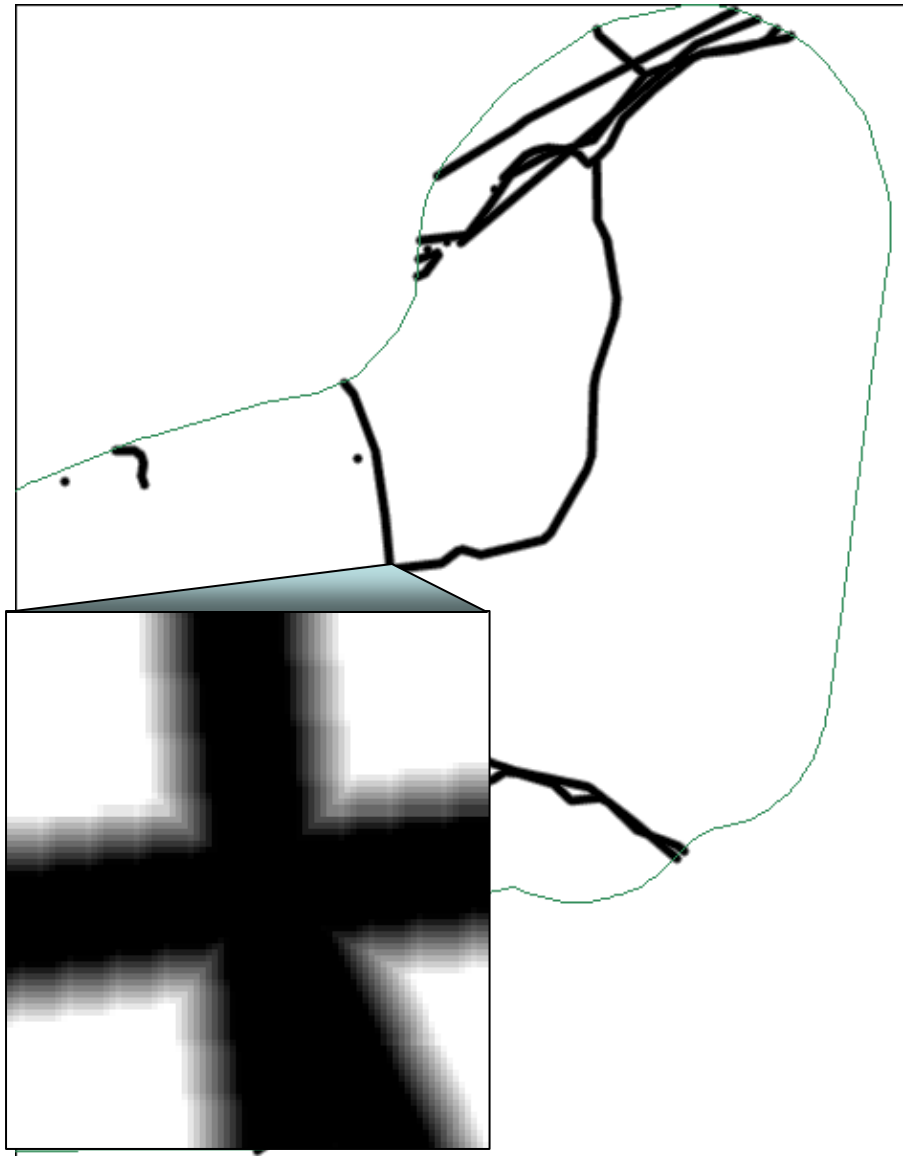
- Landscape

protected area.

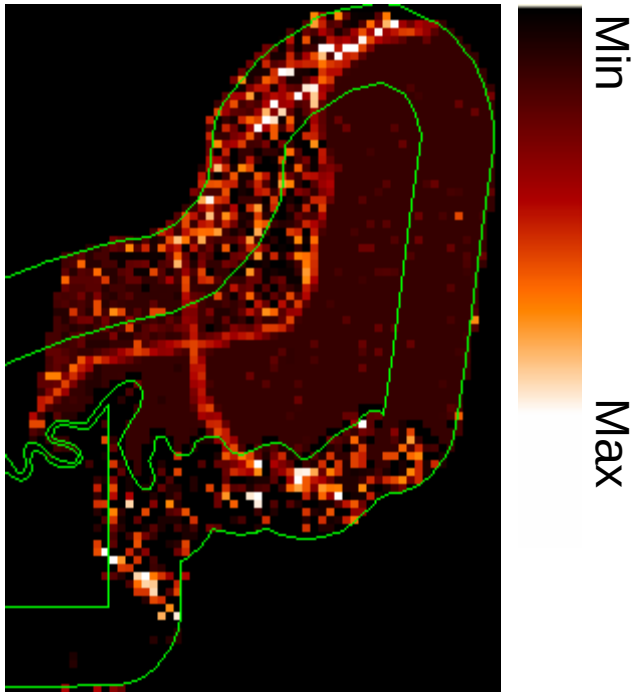
Infrastructure Layer



-
-
-
-



Iguaçu Summary Impact



Coincident impacts are visualized in orange to white

- Significant change both within the site and its border
- Multiple Impacts (white, left)
- Increased forest loss, fragmentation, encroachment, access
- ***Site records failed to spatially characterize the full extent of the degradation***

Learning from the Mainstreaming Portfolio

Three intervention types (often in combination)
(1) certification;

(2) payments for ecosystem services;
(Increasing the incentives among resource users to mainstream biodiversity values into their decision making.

(3) information transfer on the spatial distribution of species and ecosystem service and the valuation of these species and services.
(Increasing information among policy decision makers (and sometimes resource users) about the economic value of mainstreaming and allocating resources to conservation.

GLOBAL ENVIRONMENT FACILITY

Learning from the Mainstreaming Portfolio

"How do certification, PES and transfers of information about the distribution and values of ecosystem services affect conservation and sustainable use outcomes, and in what circumstances are they likely to be most effective?"

This will be accomplished primarily through support of prospective experimental and quasi-experimental project designs.

GLOBAL ENVIRONMENT FACILITY

Concluding remarks

Complement of qualitative and quantitative data gives best picture and most realistic assessment of biodiversity mainstreaming progress: outputs, coverage, outcomes (including process indicators), impacts.

Evidence base for mainstreaming is nascent.
(e.g., from Sutherland et al., 2009, (One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Conservation Biology*.)
1)"What are the impacts of different conservation incentive programs on biodiversity and human wellbeing?" and
2)"How do different values (e.g., use vs. preservation) and the framing of these values (e.g., ecosystem services vs. species) motivate policy makers to assign public resources to conservation programs and policies?"

Thank you for your attention.

GLOBAL ENVIRONMENT FACILITY