

Aggregated offsets: what are the benefits and risks?



3rd Global Partnership for Business & Biodiversity – 2 / 3 October 2013

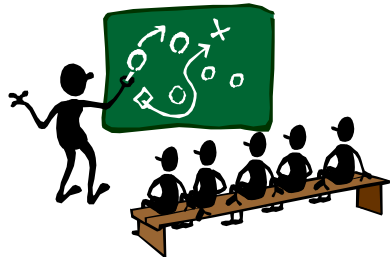
Dr. Joël Houdet



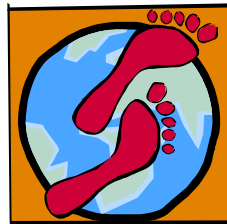
ABOUT INTEGRATED SUSTAINABILITY SERVICES (ISS)

- **ISS** is based in Johannesburg, South Africa
- **ISS** offers a wide range of Corporate Sustainability & Responsibility (CSR) services:

Strategy design & implementation



Sustainability footprints - carbon, water, biodiversity & social
- Cost-benefit analysis



Reporting authorship support & assurance



SYNERGIZ

- ✓ Association loi 1901 à but non lucratif
- ✓ Fondée en 2006
- ✓ Objectif: Réconcilier économie et biodiversité au travers de la production d'outils innovants
- ✓ Publication en 2012: Le Bilan Biodiversité / Biodiversity Footprint Guidelines



www.synergiz.fr

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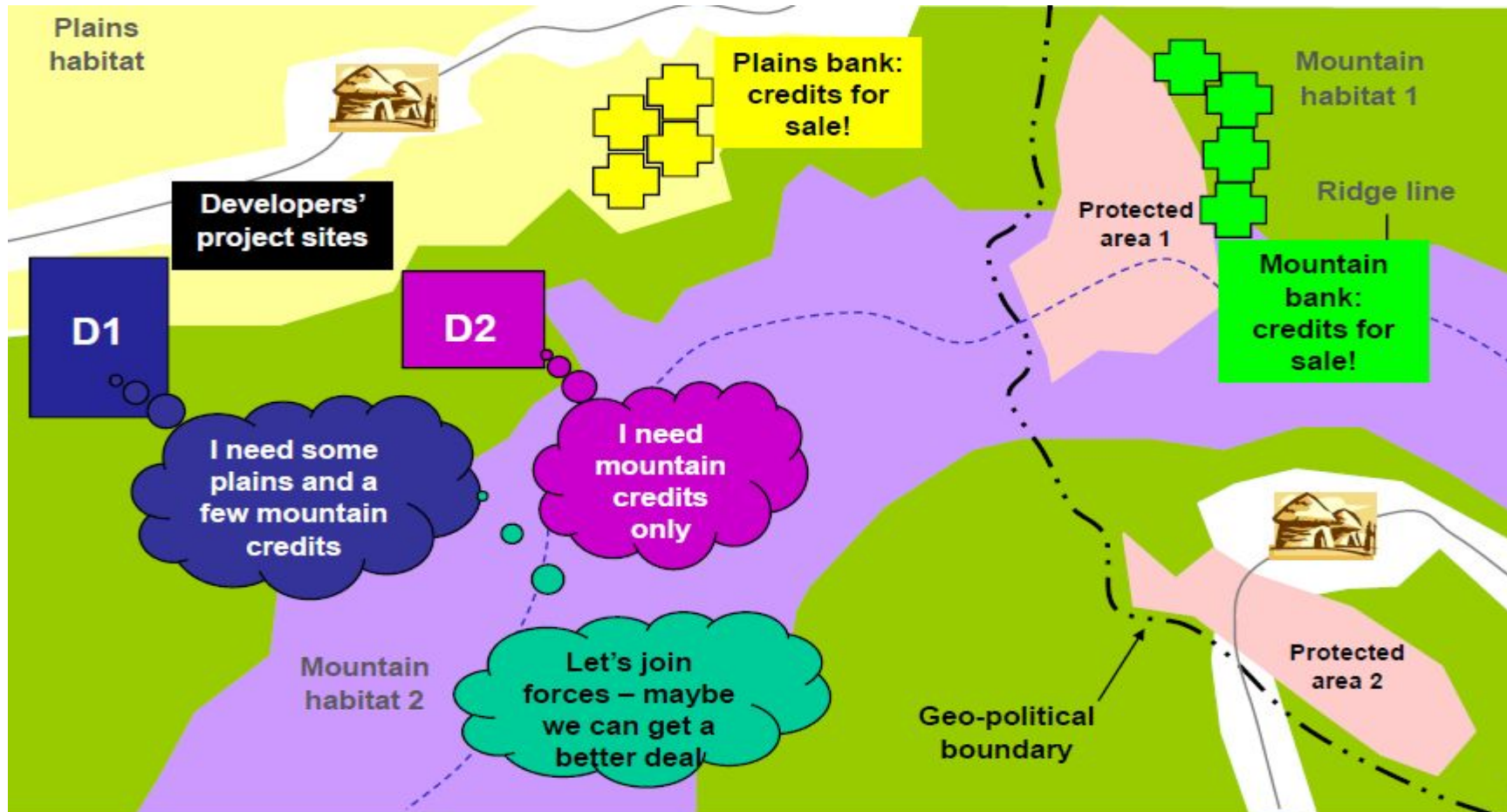
1- Aggregated offsets

- Background information
- Principles
- Examples
- Key elements
- Risks

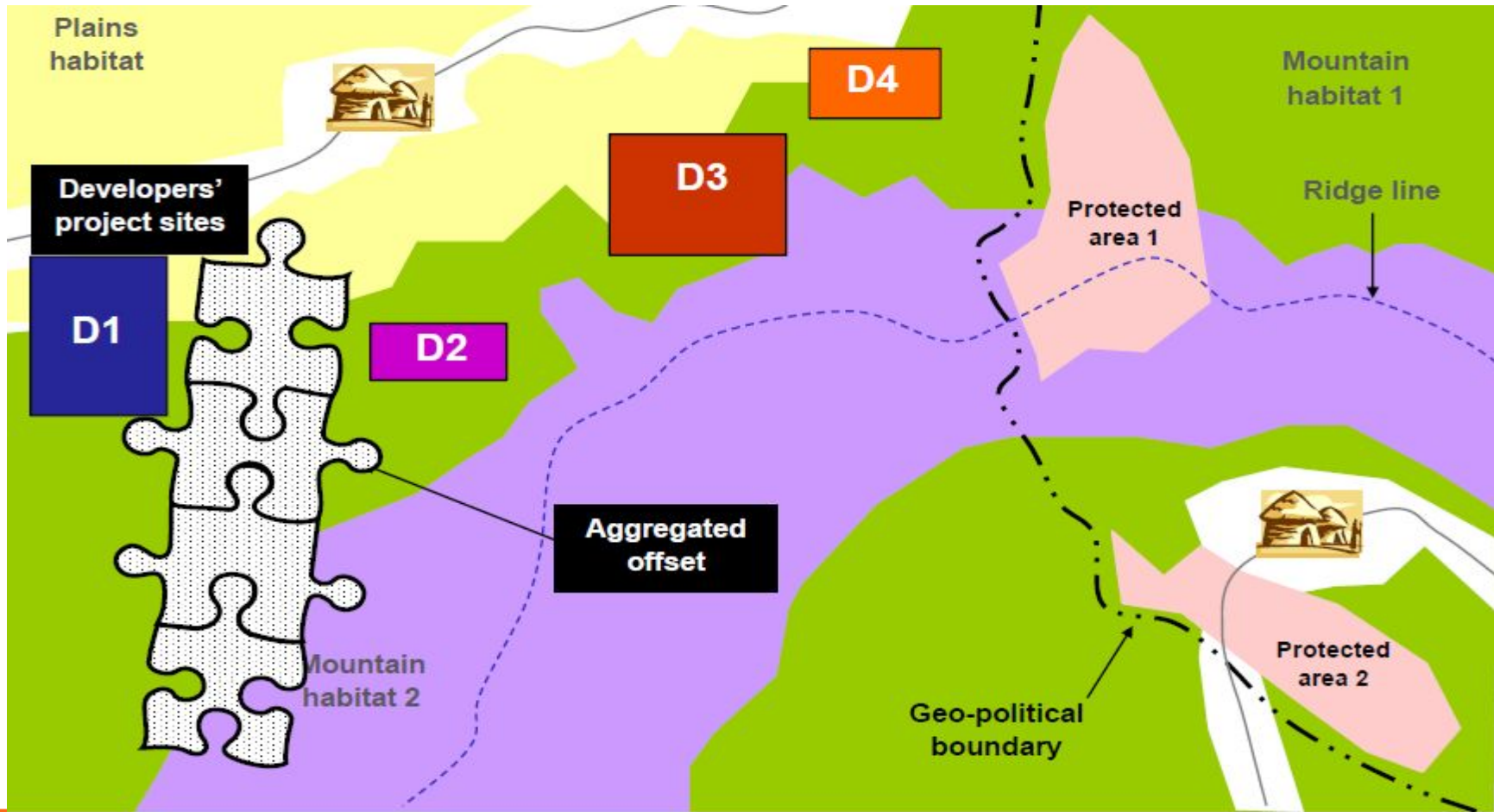
2- Biodiversity offsets in SA – very brief review

3- ES Payment Stacking – Addressing key accounting and accountability challenges

DIFFERENT RESIDUAL IMPACTS AND OFFSET NEEDS



AGGREGATE OFFSETS MAY PROVIDE THE SOLUTION



WETLAND BANKING HISTORY IN US

Wetland banking from early 1980's


- Species banking from early 1990's in California
- Currently ~800 wetland banks in the US
- ~115 species credit banks in the US
- Credits sell from US\$4,000 to US\$500,000
- Dependent on ambient land value & demand
- 80,000 acres protected in species banks
- Market size: US\$3.3 billion/year (2007)
- US\$2 billion in single offsets
- US\$1.3 billion = offset banking

CASE STUDY : SPECIES BANK

**Vieira-Sandy Mush Road Conservation Bank
San Joaquin kitfox Service Area**



The map displays the San Joaquin kitfox Service Area, outlined in black, covering parts of California's Central Valley. Key locations include Modesto, Merced, Fresno, and Visalia. Major highways like I-5, I-80, and SR-99 are shown. A red diamond on the map indicates the 'Approximate Bank Location' near Merced. A legend at the bottom left identifies the 'Service Area' and 'Approximate Bank Location'. A scale bar and north arrow are also present.



- 333 acres
- Banking agreement w/ USFWS
- Management plan
- Endowment fund
- Cons easement

- Impact 7 acres of kit fox habitat
- Incidental take permit from FWS
- Developer buys 7 credits to satisfy permit requirement

RESTORING STEPPE-BIRD HABITAT



Purchase of 357ha at €12500/ha (~4.5 M€)
Restoration & management: 12 M€
Purchase + restoration: €35000/ha

Sources: CDC Biodiversité and *Réserve Naturelle Nationale des Coussouls de Crau* : www.reserve-crau.org



SUITABLE CONTEXTS FOR AGGREGATED OFFSETS INCLUDE

- Several small-scale developments which are individually insignificant but may have significant cumulative impacts (individual offsets not justified or too small scale, or transaction costs prohibitive);
- Individual developers who do not have skills or resources to deliver effective biodiversity offsets; whereas by collaborating and pooling resources, offsets would be achievable.
- A number of developers in the same sector and area of operation required to meet a shared performance standard.
- Effective coalitions in particular locations, with involvement of companies, government, communities and NGOs.
- Enabling legislative and planning frameworks are in place, preferably including reliable biodiversity or conservation plans.

ALLEGED BENEFITS OF MITIGATION BANKS

ECOLOGICAL

- Opportunity to secure large areas for conservation
- Greater ecological value / help secure conservation targets / trading-up?
- Strategic placement
- Avoid temporal loss of habitat
- Turns a liability into an asset
- Net positive impact if ecological attributes / quality restored or improved

ADMINISTRATIVE

- Easier ecological monitoring
- Reduces offset costs through economies of scale
- Work to the same performance standards.
- Transfer of legal liability
- Reduces permitting time

ESSENTIAL ELEMENTS OF BANKING

- Clear requirement / driver
- Product (e.g. 'credit'...'like for like or better')
- Site Selection & Service Area
- Long term control of property
- Legal Agreement
- Science-based management plan to generate credits
- Adequate funding (permanent endowment fund)
- Monitoring and enforcement

How to establish whether and when an offset is appropriate?

- Go/No Go
- Values
- Offsetable/Not Offsetable
- Mitigation Hierarchy

Metrics: how to quantify impact losses and offset gains?

- Structure & Composition
- Socioeconomic and Cultural aspects
- Ecological Process and Function

Offset activities and location

- Landscape level planning
- Delivery
- Out of kind and trading up

Implementation: how to make an offset succeed in practice?

- Roles & responsibilities
- Financial assurance
- Legal structures, institutional arrangements
- Monitoring, enforcement

KEY RISKS FOR HABITAT BANKING

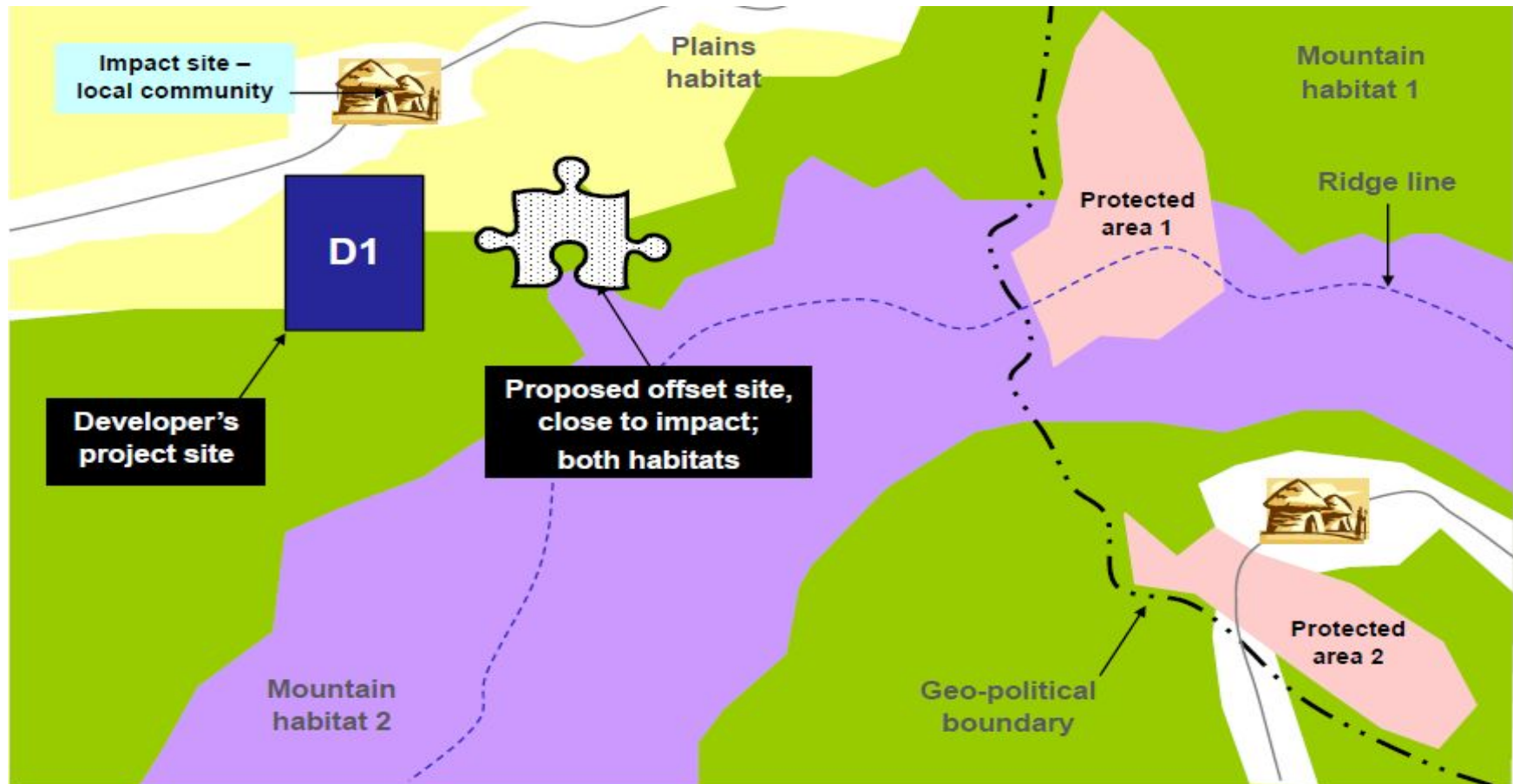
- Additionality
- Regulatory capacity
- Ecological performance & enforcement
- Failure: catastrophe/bankruptcy
- Adaptation (Climate Change)
- Equity (who benefits? Who bears the opportunity costs? i.e. land grabbing)
- Transaction costs
- Macro-level Strategic planning

Actual loss of wetland quality in the US => bank developers focus on 'simple' wetland types

Many studies show this:

Holl et al., 2003; Raffini and Robertson, 2005; Zedler and Callaway 1999

ACTUAL APPROACH IN SA TO OFFSET DESIGN



WETLAND MITIGATION BANKING

ASSESSING THE APPROPRIATENESS OF WETLAND MITIGATION BANKING AS A MECHANISM FOR SECURING AQUATIC BIODIVERSITY IN THE GRASSLAND BIOME OF SOUTH AFRICA



Report reference #
Date: July 2007
Prepared By: Institute of Natural Resources (INR) in
collaboration with Centre for Environment, Agriculture and
Development (CEAD)

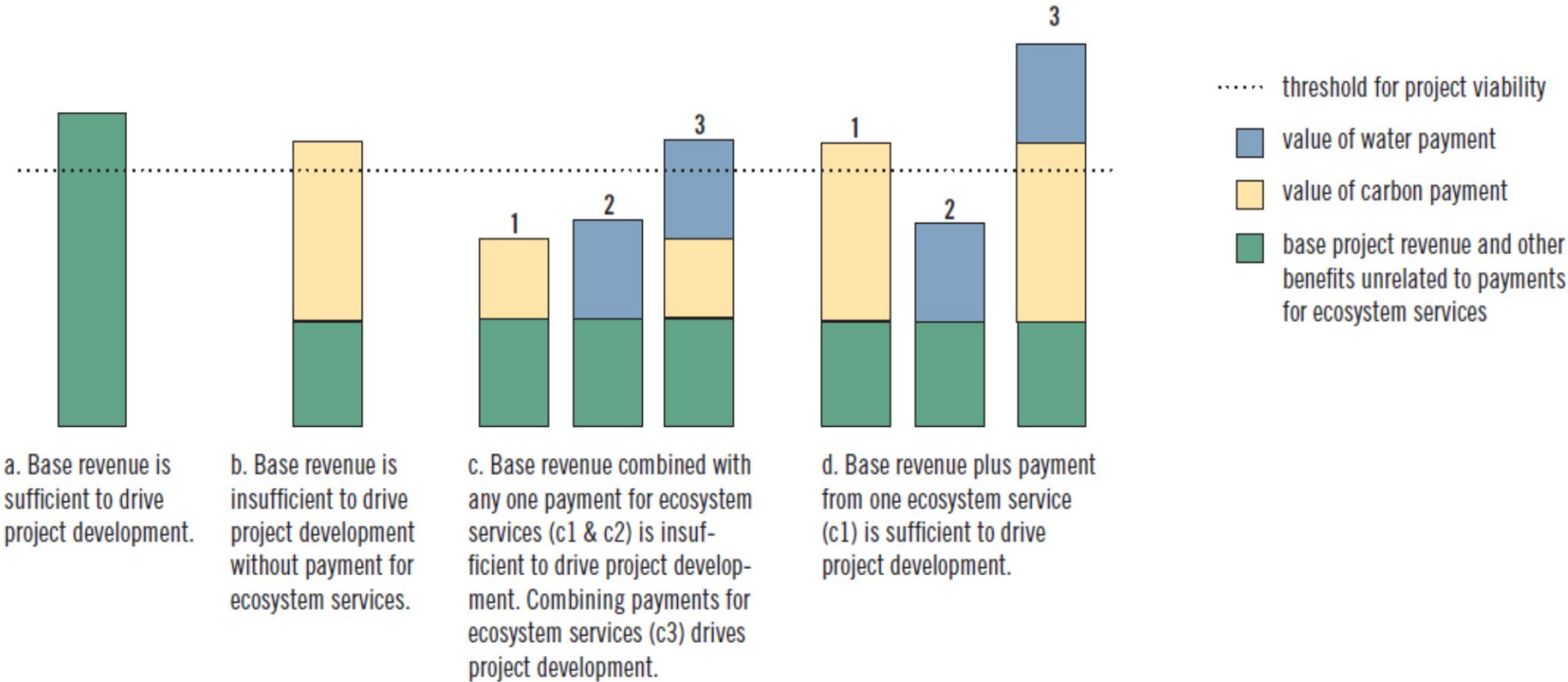
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THE STATUS QUO (Cont.)

- ✘ There may be, at least, five specific types of environmental offsets that may be identified by, for example, their spatial application –
 - + Carbon offsets;
 - + Biodiversity offsets;
 - + Air Quality offsets;
 - + Water Quality offsets; and
 - + Heritage offsets.
- ✘ Each of these types of environmental offsets are at different stages of development or conceptualisation

KEY RISK – ACCOUNTABILITY RELATED TO PAYMENT STAKING



WHAT IS BEING / COULD BE STACKED ?

- Multiple Payments for ecosystem services (PES)
- 1 or more PES with 1 offset or mitigation credits
 - Multiple offsets or mitigation credits

≠ bundling : single payment with different ES outcomes

HOW COULD LANDOWNERS STACK CREDITS ?

1. Horizontal stacking

Selling credits from distinct, non-spatially overlapping parts of a single property parcel

2. Vertical stacking

Multiple payments for a single management activity on spatially overlapping areas (i.e. in the same hectare). E.g. a project involves planting a forested riparian buffer to receive both water quality credits and carbon credits.

3. Temporal stacking

1 management activity, but payments are separated in time. E.g. Restoring habitat to receive endangered species credits, and then later receiving carbon offset credits (or *vice versa*).

Yet, offsets / mitigation markets differ significantly from PES schemes :

i.e. offsets relate to a damage / impact => Accountability?

When it is ok to stack:

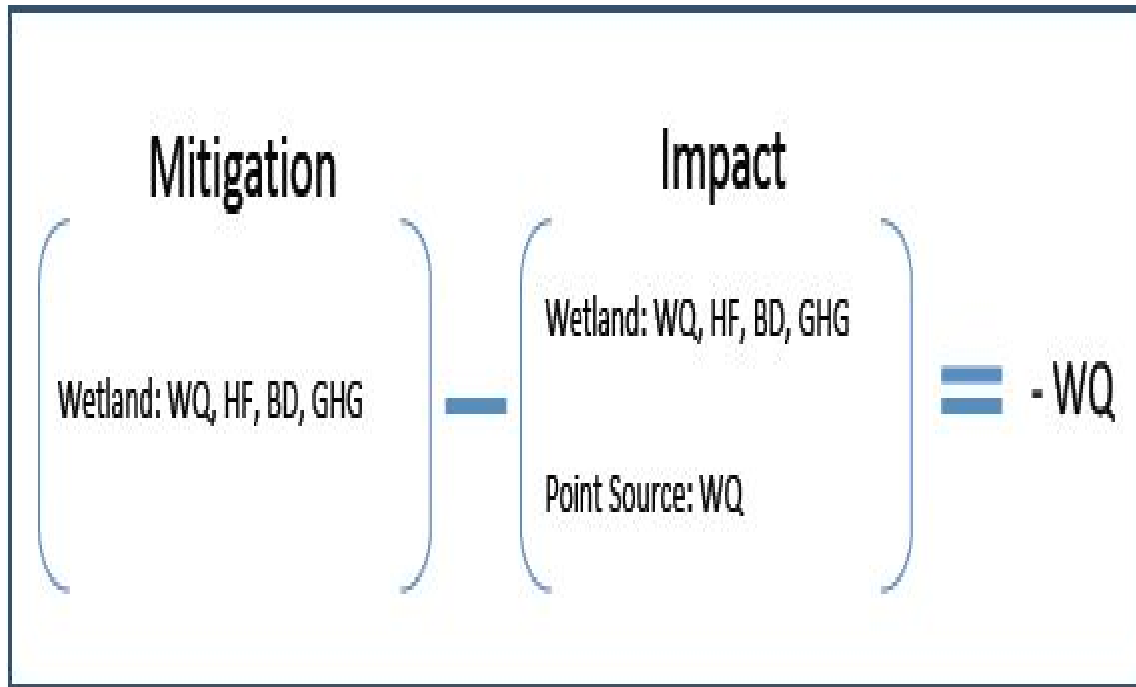
Horizontal stacking - providing there is no competing ES on the same piece of land

When it may be controversial to stack:

Where offset and mitigation programs are part of the stack, there is potential for negative ecosystem service outcomes, because these credits allow others to impact the environment.

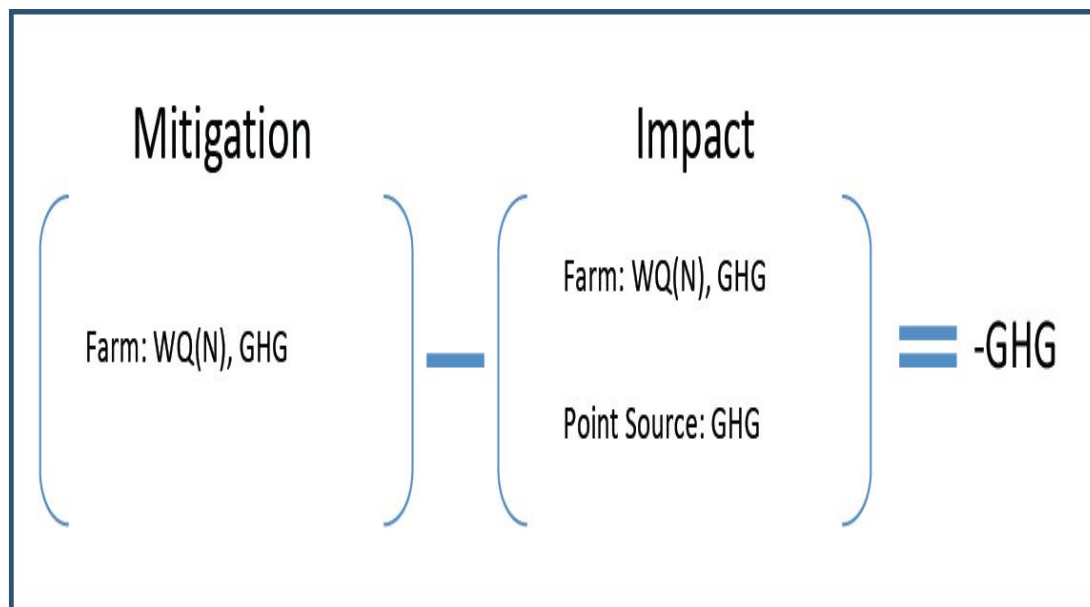
“Double-dipping” => being paid twice for no extra-work / no additionality

OVERLAPPING CREDIT TYPES (COOLEY & ORLANDER, 2011)



E.g. a project in eastern North Carolina to sell wetland and stream credits from same mitigation site to the N.C. Department of Transportation to offset impacts to wetlands and streams from road building

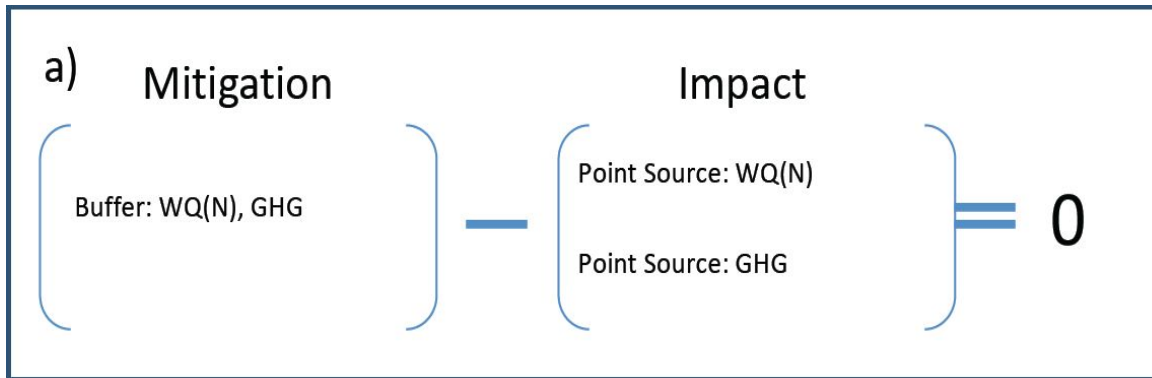
INCOMPLETE COVERAGE (COOLEY & ORLANDER, 2011)



Hypothetical example:

- Non-point regulation for nitrogen releases into waterways (nitrogen fertilizer)
 - No regulation for nonpoint GHG impacts (nitrous oxide emissions from fertilizer use)
 - Farmer B sells to farmer A buys water quality credits (nitrogen)
 - **BUT Farmer B also sells GHG offset credits to Industry C for reducing nitrous oxide emissions**
- => Supply of one action to reduce GHG reduction (Farmer B uses less nitrogen) does not cover the 2 different sources of GHG emissions (Farmer B's nitrogen releases & industry C's carbon emissions)

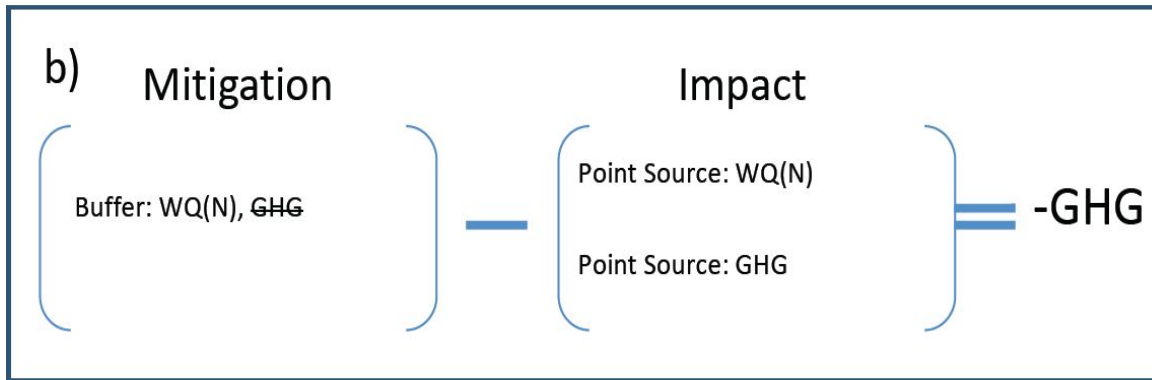
ADDITIONNALITY (COOLEY & ORLANDER, 2011)



E.g. Stream buffer generating reductions in nitrogen for a water quality benefit & carbon sequestration.

A) Without taking into account additionnality

B) If water quality program provides sufficient for project viability => no need for carbon payment => no additional carbon storage to offset additional GHGs emitted



Credit #1	Credit #2	Overlapping Credit Types	Incomplete Coverage	Additionality
PES	PES			
PES	Offsets/Mitigation (Bundled)			M
PES	Offsets/Mitigation (Single service)			M
Offsets/Mitigation (Bundled)	Offsets/Mitigation (Bundled)	M		M
Offsets/Mitigation (Bundled)	Offsets/Mitigation (Single Service)	M		M
Offsets/Mitigation (Single Service)	Offsets/Mitigation (Single Service)		M	M

CONCLUSIONS

- ✓ Habitat / conservation banking is potentially a great idea in developing countries!
- ✓ What would be sold? To whom? Within which legal framework? What is acceptable and what is not?
- ✓ Detailed traceability & accountability of traded 'commodities' is mandatory!

THANK YOU!

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