



# Promoting positive incentives for nature conservation

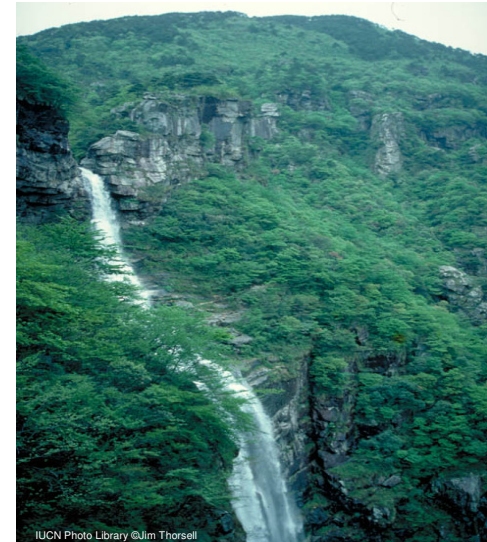
Nathalie Olsen

IUCN Economics

# Promoting positive incentive measures



- Direct approaches
  - Payments for Ecosystem Services
  - Biodiversity offsets and banking
- Indirect approaches
  - New biodiversity business opportunities
  - Community based natural resource management programmes



# What is PES?



1. A voluntary transaction where
2. A well-defined environmental service (or land use likely to secure that service)
3. Is being 'bought' by at least one buyer
4. From a (minimum of one environmental service provider
5. If, and only if, the environmental service provider secures environmental service provision (conditionality)

Source: Wunder 2005

# Investing in protection of ecosystem services: a business opportunity for Vittel (Nestlé Waters), France



## The context

- Vittel relies on water quality for its product but prevented by law from treating water
- Agricultural intensification in 1980s in the catchment above the source aquifer would result in increased levels of nitrates and pesticides
- Vittel considered range of options
- Most cost-effective and legally feasible option - to develop incentives for farmers to switch to less polluting agricultural practices



source: Danièle Perrot-Maître 2006, The Vittel payments for ecosystem services: a “perfect” PES case? IIED/DFiD.

# Vittel: The Scheme



- Large research programme initiated
- Creation of intermediary organisation to negotiate and implement programme (locally based and staffed) – Agrivair
- 30 year contracts in compensation for risk and reduced profitability
- Land purchase: 1450 ha, given in usufruct to farmers
- Subsidy: USD 230/ha/year for 7 years (up to 75% of farms disposable income)
- Cover cost of new farm equipment and buildings and modernization (up to Euros 150,000 per farm)
- Free labour for composting and free technical assistance
- Total cost (first 7 years): about 24.25 million euro (= 980euro/ha/yr)

# Vittel – What was achieved?



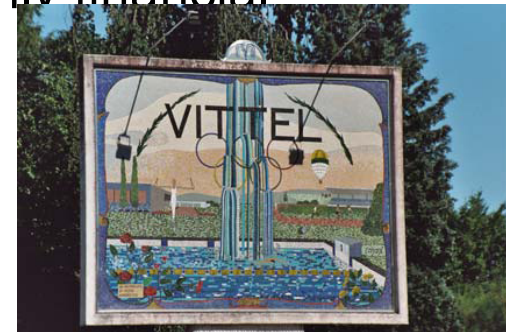
- All 26 farmers in sub-basin adopted new farming system
- 92% of sub basin protected (5100 ha) and maize production had been eliminated
- Nitrate pollution reduced
- Vittel maintains a steady supply of high quality water and its brand reputation



# Vittel – Lessons learned



- Establishing PES programmes is a complex undertaking
  - Interactions between technical, economic, social, legal, political aspects
  - Difficult to estimate cost of programmes and compensation
- Primary reasons for success are not necessarily financial
  - Institutions and trust - Agrivair
  - Understanding farmers and their life choices
  - Long-term rather than annual contracts
  - Payments must ensure no loss of income
- Use of proxies sometimes necessary
  - Payments based on farming practice, not measurable impact on water quality
- There is a business case for private sector participation in PES
- What is the scope for scaling up?



# Biodiversity offsets



## What are biodiversity offsets?

- Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken (BBOP)
- Based on polluter pays principle
- Offsets require developers to restore or conserve an area greater than that damaged of “equivalent” habitat
- “no net loss” or “net positive impact”
  
- Offsets are quite developed for carbon, less so for biodiversity
- Biodiversity is more difficult to measure and is not fungible



# Biodiversity offsets



## Where are biodiversity offsets used or being developed?

- **USA:** Federal Clean Water Act, Endangered Species Act
- **Australia:** Victoria, NSW, Western Australia
- **Brazil:** Protected Areas Law, Forestry Code
- **Canada:** Fisheries Act
- **Mexico:** Protected Areas Law, Forestry Law
- **South Africa:** Western Cape draft provincial guidelines
- **Switzerland:** Federal Law for Protection of Nature & Landscape
- **EU:** Habitats Directive, Environmental Liability Directive
  
- **Voluntary:** IFC, ICCM, Anglo American, Newmont, Shell, BP, Chevron Texaco, Statoil, Walmart, DuPont, Rio Tinto

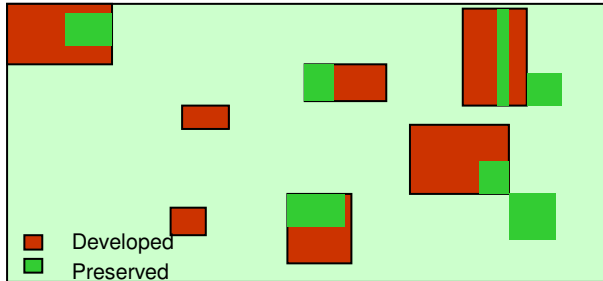
# Biodiversity offsets – case of Rio Tinto



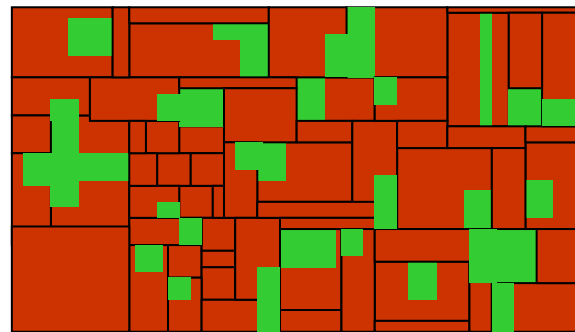
- Policy of 'net positive impact'
- Not possible to fully offset environmental impact of ilmenite mining on site
  - so financed conservation of nearby forest – Tsitongambarika
  - Slash and burn agriculture → deforestation of 1-3% p.a.
  - zoning
- Local communities compensated for loss of access to forest for slash and burn agriculture and community management set up (PES)
- Area conserved > area required for offsetting
  - What is value of surplus credits?
  - Biodiversity as an asset
- In other countries, legislations permits biodiversity banking



# Connectivity, scale and cost: The rationale for biodiversity banking

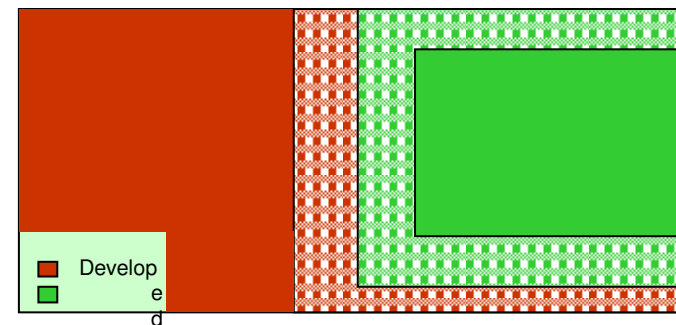


1) case-by-case  
offsets, early stage



2) case-by-case  
offsets, final  
outcome

3) biodiversity banking,  
better results?



Sources: 2004: Insight/IUCN; White; Maze.

# Biodiversity banking in France



- Caisse des Dépôts et Consignations (CDC) created in 2008 a subsidiary CDC- Biodiversité
- Currently testing a habitat banking approach – to anticipate potential demand through financing positive actions for biodiversity before the damage from development occurs
- Pilot site located in Plaine de Crau in Provence-Alpes-Cotes d’Azur region
- Ecosystem is the last semi-arid steppe in W. Europe and contains several rare and threatened species of bird, insects, plants
- Of 40,000 ha, only 11,500 ha remained in 1990 (fragmented)

Source: CDC-Biodiversité 2009

# Biodiversity banking in France



## Background of EHS of EU CAP

- In 1980s, steppes converted to intensive tree orchards in response to subsidies offered under CAP
- In 2007 orchards declared bankrupt due to changes in subsidy policy and competition from north Africa and Mediterranean region



# The CDC-Biodiversité scheme



- 357 ha land converted from arboriculture to sustainable grazing areas for ewe herds and suitable habitat for birds
- Site with high ecological importance with fragile and rare habitats and region where significant economic development is forecast
- Unusual feature in restoration – important role of agriculture
- Adjacent to nature reserve so intended to improve biodiversity connectivity between Crau and Camargue



# CDC-Biodiversité - issues



- Cost of credits in Plaine de Crau = euro 35,000/ha (includes land purchase, restoration, land management over 30 yrs)
- May be cheaper for developers to offset own impacts using time horizon of 1-5 years

## Uncertainty regarding:

Long-term use, governance of site

Rate of recovery of native vegetation

Number of biodiversity credits generated

→ How much damage could be offset?





# Biodiversity offsets/banking- concerns and questions



- Slippery slope –will biodiversity offsets lead to approval of development projects that should not take place?
- Social equity – how to ensure equitable distribution of costs/benefits of offsets while respecting the rights of local communities
- Currency – can offsets provide biodiversity and livelihood benefits comparable to the original ecosystem?
- Responsibility – how far does responsibility for the environmental impact extend? Should indirect impacts (e.g. migration) be offset? How long? Who should monitor and evaluate?
- Additionality – how to ensure that offsets deliver new/additional biodiversity benefits and biodiversity loss is not displaced (leakage)?
- Sustainability – how to ensure biodiversity offsets are secured in perpetuity or at least for duration of impact?
- Timing – should offsets be in place prior to environmental impact?

Source: Bishop et al. 2008. Building Biodiversity Business. IUCN/Shell.



# Biodiversity Business: multiple market segments, sectors and approaches



- Eco-agriculture
  - Sustainable forestry
    - **Non-timber forest products**
    - Sustainable fisheries & aquaculture
    - Bio-carbon offsets including REDD
    - Payments for watershed protection
      - Bio-prospecting for genetic resources
      - Biodiversity offsets, trading and banking
      - Biodiversity management services
      - Sport hunting and fishing
        - **Eco-tourism**

# Biodiversity businesses – Himalayan biotrade



- Asia Network for Sustainable Agriculture and Bioresources (ANSAB) created Himalayan Biotrade to market non timber forest products (NTFPs) produced by local community enterprises in Nepal to national and international markets
- Specialise in natural and sustainably sourced NTFP that hold organic and/or Forest Stewardship Council (FSC) certification
- Essential oils, handmade paper and medicinal and aromatic plants
- Target supply chains of multinational companies committed to sustainability and willing to pay premium for sustainably sourced material (Aveda, S&D Aroma, Altromercato)



# Biodiversity businesses – Himalayan biotrade



- Integrated model of enterprise development and forest conservation has been a successful model
- Local communities responsible for protecting and monitoring resources which then harvest/sell
- Additional incentives provided up the supply chain by linking enterprises so better able to compete and obtain higher returns internationally
- 80,000 ha under improved management (14,000 ha FSC)
- Improved livelihoods for 15,000 households
- Aveda partnership has generated 30,000 jobs
- Key issues
  - Generating demand
  - Local incentives for sustainable management
  - Certification and technical support



# TEEB D3 - Business Impacts & Opportunities



- Consequences of biodiversity loss and ES degradation affect companies with direct reliance on natural resources but also will impact supply chains and growth objectives of most industry sectors
- There are also commercial opportunities for forward looking organisations
- Damage to ecosystem services can result in substantial cost to businesses
  - Collapse of bee colonies in 2007 cost US producers US\$15 billion
  - The oil spill in Alaska cost ExxonMobil US\$5 billion
- Progressive approaches can be used to manage risks and reduce costs (e.g. Vittel)
- There are a range of biodiversity related business opportunities
  - Global market for certified organic food exceeds US\$30 billion p.a.
  - Eco-tourism in Costa Rica earns more than US\$400m p.a.

# TEEB D3 - Business Impacts & Opportunities



- TEEB will outline growing costs of biodiversity loss, the risks this poses to businesses and potential opportunities from biodiversity related activities
- Tools to help business managers **identify biodiversity risks and liabilities**
- The concept of “**no net loss**” or “**net positive impact**” on biodiversity and implications for business accounting systems
- New **biodiversity business opportunities**, including bio-friendly segments within established sectors, e.g. eco-agriculture, eco-tourism, certified forestry, as well as new sectors, e.g. biocarbon, biodiversity banking
- How to make business assets / capacities / skills more relevant to conservation through **public-private partnerships**
- Mainstreaming ecosystem indicators and values in corporate management and annual **reporting systems**
- The role of environmental regulation and market structures in **pricing ecosystem assets and liabilities**
- How business can help build a **green economy and green jobs**



# Thank you

Nathalie Olsen  
IUCN Economics

[Nathalie.olsen@iucn.org](mailto:Nathalie.olsen@iucn.org)