



BIODIVERSITY OFFSET BANKING





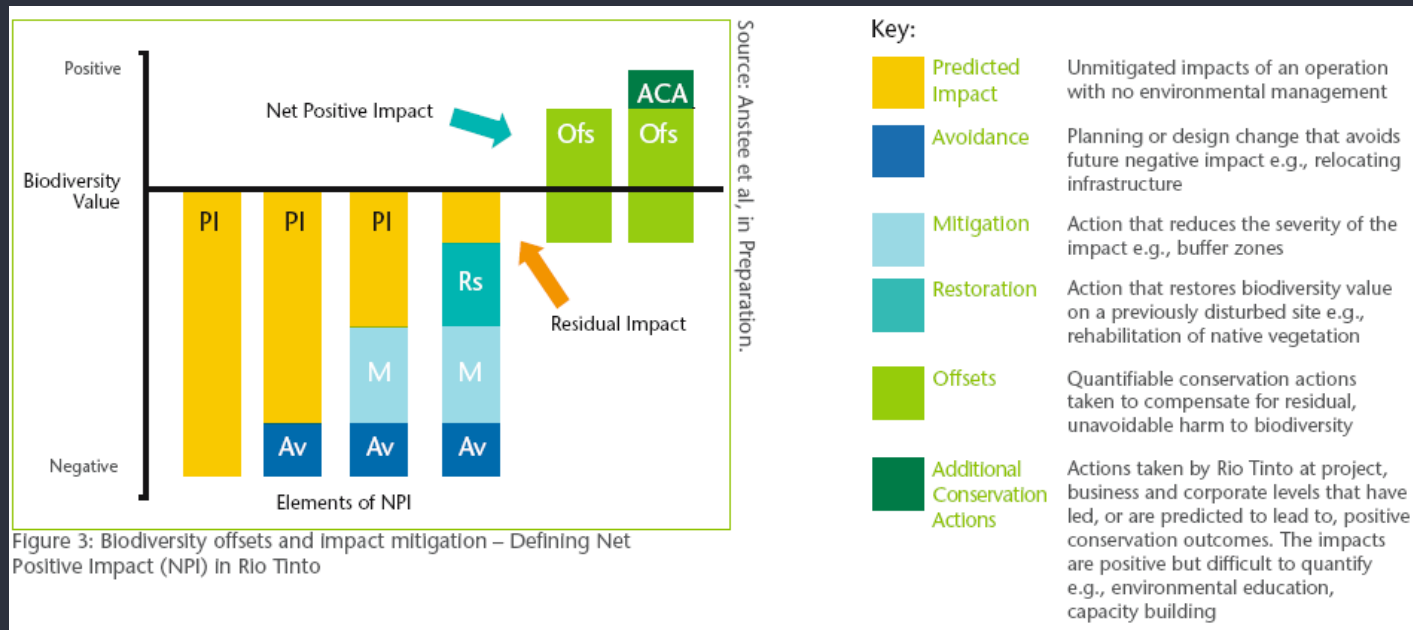
About the Ecosystem Marketplace

- ▶ News and Information Service on Ecosystem Markets
 - ▶ Carbon markets, Water markets, Biodiversity markets
- ▶ Feature articles, Daily news, Reports & Analysis, and Monthly e-Newsletters, Resource Library, & web portals
- ▶ www.ecosystemmarketplace.com & www.mercadosambientales.com

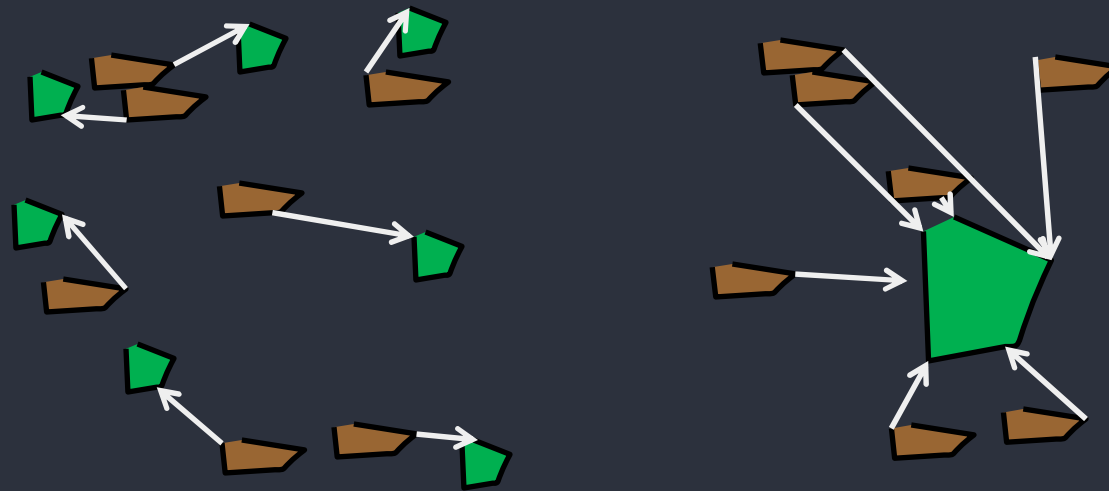
What is a Biodiversity Offset?

The last step in Biodiversity Footprint management

Mitigation Hierarchy



What is Biodiversity Offset Banking?



DEFINITION

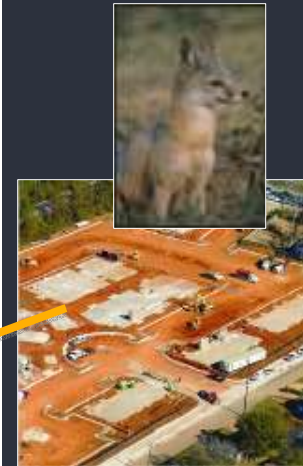
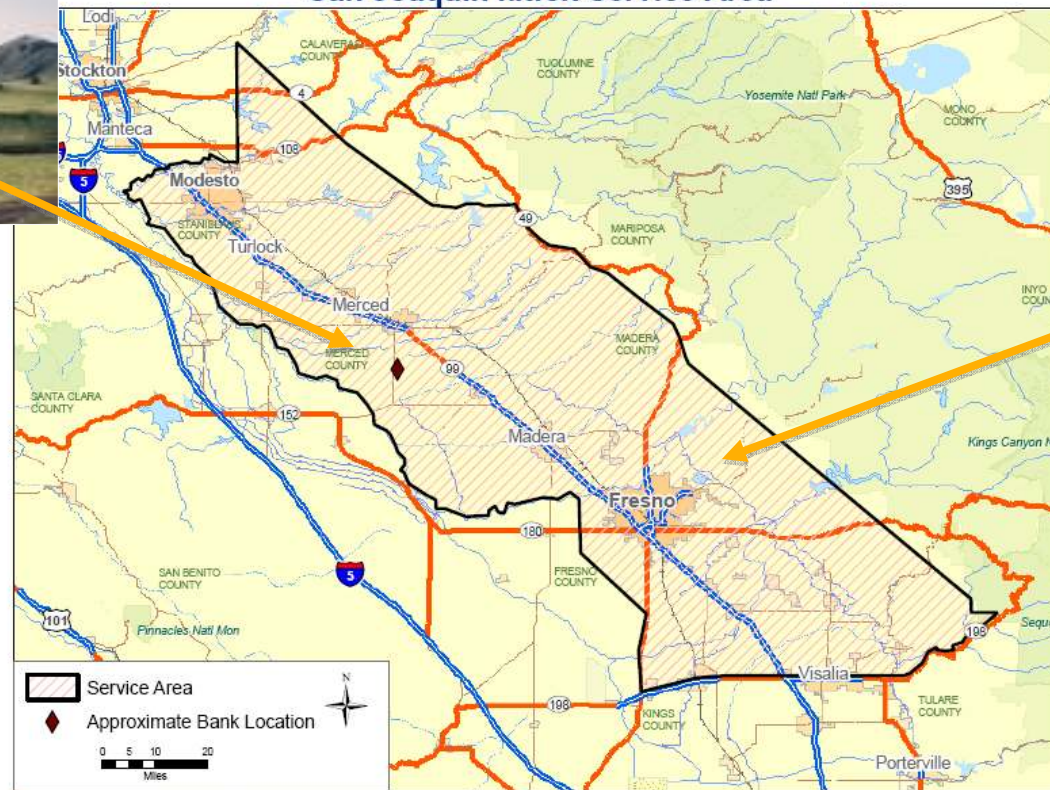
- Offset banking is the consolidation of multiple small offsets into one large contiguous tract of land.

How does an offset bank work?

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



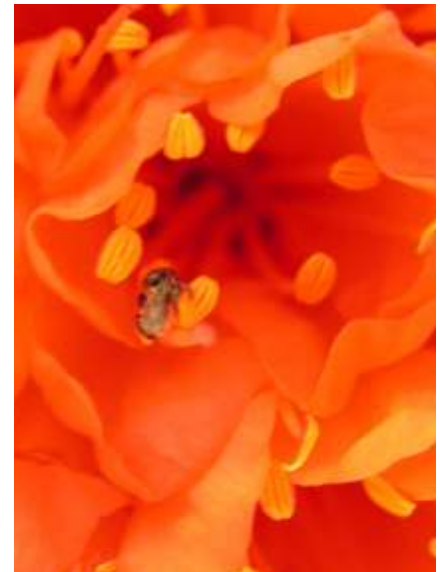
- 333 acres
- Banking agreement w/ USFWS
- Management plan
- Endowment fund
- Cons easement
- \$65,000 credits



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

Basic Features - Anatomy of a bank

- ▶ Credit
- ▶ Bank Agreement
- ▶ Management Plan
- ▶ Endowment Fund
- ▶ Service Area
- ▶ Site Selection
- ▶ Commercial vs Internal



Necessary Conditions

for Offset Banking & Aggregation

- ▶ Demand
- ▶ Spatial Concentration
- ▶ Supply
- ▶ Property Rights
- ▶ Information & Services
- ▶ Monitoring & Enforcement



Why Biodiversity Offset Banking?

What are the benefits?

Ecological

- Greater ecological value
- No temporal loss of habitat
- Easier ecological monitoring
- Turns a liability into an asset



Why Biodiversity Offset Banking?

What are the benefits?

Administrative

- Reduces permitting time
- Reduces buyer's costs
- Severance of liability



U.S. Offset Market

Wetland & Stream Mitigation
(CWA) \$3 billion/year

Endg Species Mitigation (ESA)
\$2-300 million/year

Develop
mitigation
parcel

Buy credits
from bank

In-lieu fee
fund

Develop
mitigation
parcel

Buy credits
from bank

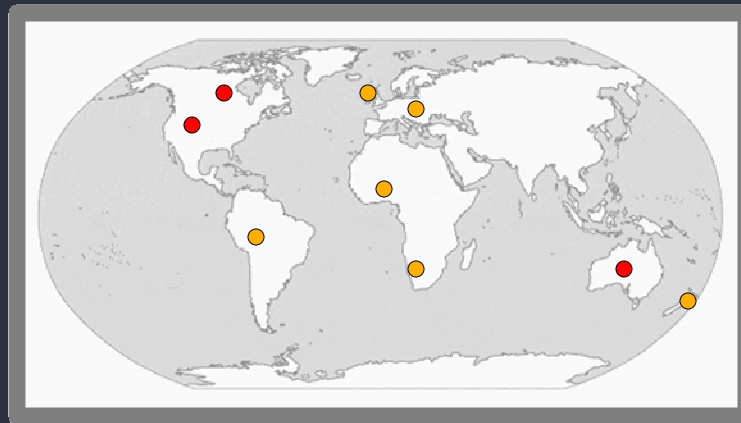
In-lieu fee
fund

US Offset Banking

A Market Snapshot

- Wetland banking started in the early 80's
- Species banking started in the early '90s in California
- Currently ~800 wetland banks in the US
- ~115 species credit banks in the US
- Credits sell from \$4,000 to \$500,000
 - Dependent on ambient land value & demand
- 80,000 acres protected in conservation banks
- Market size: \$3.3 billion/year
 - Wetland offsets - \$2 billion
 - Wetland banking - \$1 billion
 - Species offset & banking - \$2-300 million

Where is Biodiversity Banking?



EXISTING

- ▶ **United States**
 - ▶ Wetland & Endg Species Mitigation
- ▶ **Australia**
 - ▶ Biobanking (NSW)
 - ▶ BushBroker (Victoria)
 - ▶ Native Vegetation Offsets (South)
- ▶ **Canada** – Wetland Mitigation Banks

INTERESTED

- ▶ France
- ▶ UK
- ▶ South Africa
- ▶ New Zealand
- ▶ And others

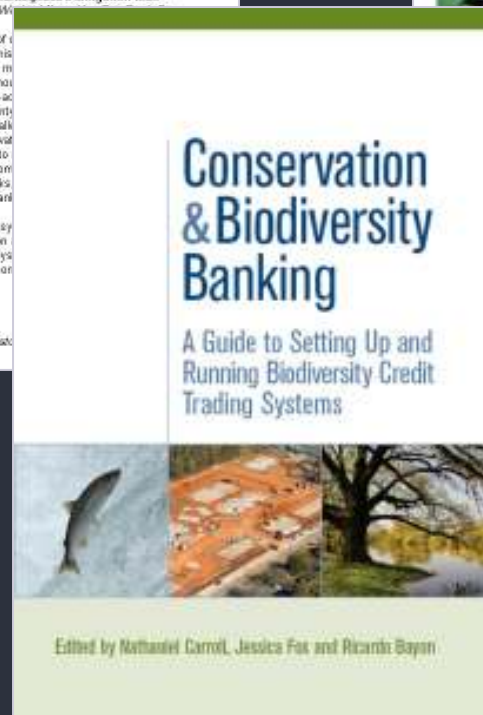


Concerns/Risks

- ▶ Based on biodiversity impacts
- ▶ Failure: bankruptcy/catastrophe
- ▶ Additionality
- ▶ Ecological performance/enforcement
- ▶ Equity (who benefits?)
- ▶ Transaction costs
- ▶ Adaptation (Climate Change)
- ▶ Strategic planning (US vs. S Africa)



EM Resources





Nathaniel Carroll
Director, Biodiversity Markets, Ecosystem Marketplace

www.ecosystemmarketplace.com
www.speciesbanking.com

OAS Ecosystem Markets Course
June 17, 2009