

Developing Markets for Ecosystem Services

USDA Office of Ecosystem Services

Sally Collins

SFI PROGRAM: 2010 AND BEYOND

Ecosystem Services Dialogue

September 23, 2009



Farm Bill 2008: section 2709

The Farm Bill authorizes USDA to create a federal framework to facilitate markets for environmental services...

guidelines and protocols for measuring environmental benefits

registry to collect and record environmental



Farm Bill 2008: section 2709

➔ *The Farm Bill specifically calls for guidelines*

The Secretary shall establish **guidelines** for a process to verify that a farmer, rancher, or forest landowner who reports an environmental service be pursuant to the protocol required by paragraph (2) of subsection (b) for inclusion in the registry required by

Verification

in carbon market terms



Validation: project eligibility - validation that project complies with rules/standards/protocols

Verification (3rd party): project performance - that emission reductions were generated by a project in accordance with rules/standards/protocols

Office of Ecosystem Services and Markets...

... to help build a more unified, transparent market system where landowners can actively participate in emerging market where investors can trust that they're purchasing a real conservation benefit.



er markets in the U.S.

Water quality (N, P, sedimentation, temperature

e.g. Willamette Partnership OR; Miami River

Wetlands

500 mitigation banks in 42 states wo

Regulatory drivers

Clean Water Act: Section 404



iversity markets in the U.S.

pecies and Conservation Banking

113 banks total, operating in 12 states wor

78 banks protect 63,000 acres for 30 feder
pecies

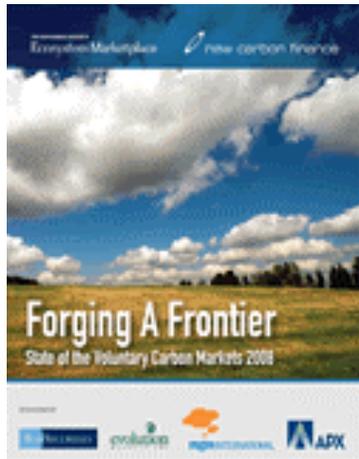
\$3,000/acre for San Joaquin Kit Fox ha

\$125,000/acre for Least Bell's Vireo ha



Carbon markets in the U.S. are largely voluntary

Two components to the voluntary carbon market



Voluntary carbon markets nearly do 123 million metric tons CO₂e worth

potential regulatory driver

venue



+



+

traditional products:
food and fiber

green products: eco-labeling



BIODIVERSITY CREDITS

Conservation organizations are leasing development rights from the owners of undisturbed forests and other habitats that host threatened endemic species and fast-vanishing ecosystems.



CO₂ OFFSET CREDITS

When landowners plant new forests and promise never to cut or burn the trees, they can receive carbon dioxide offset credits that industries will buy to help them comply with restrictions on greenhouse gas emissions.



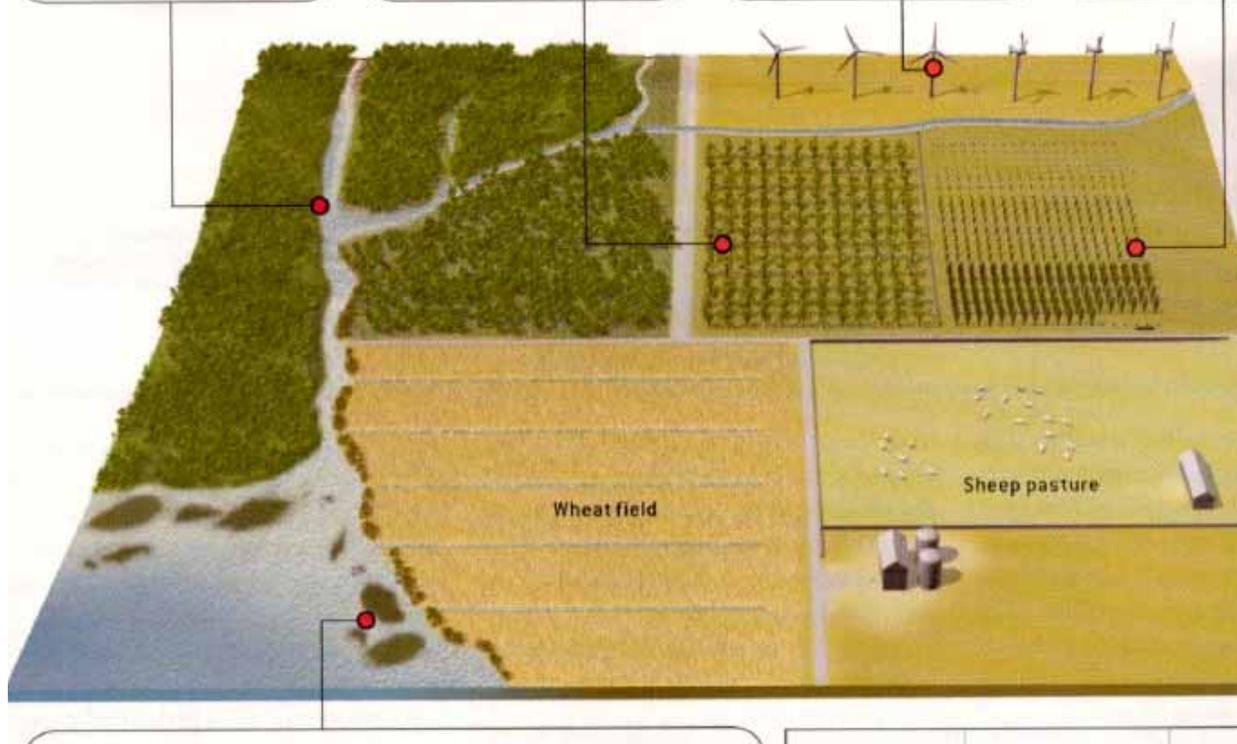
RENEWABLE ELECTRICITY

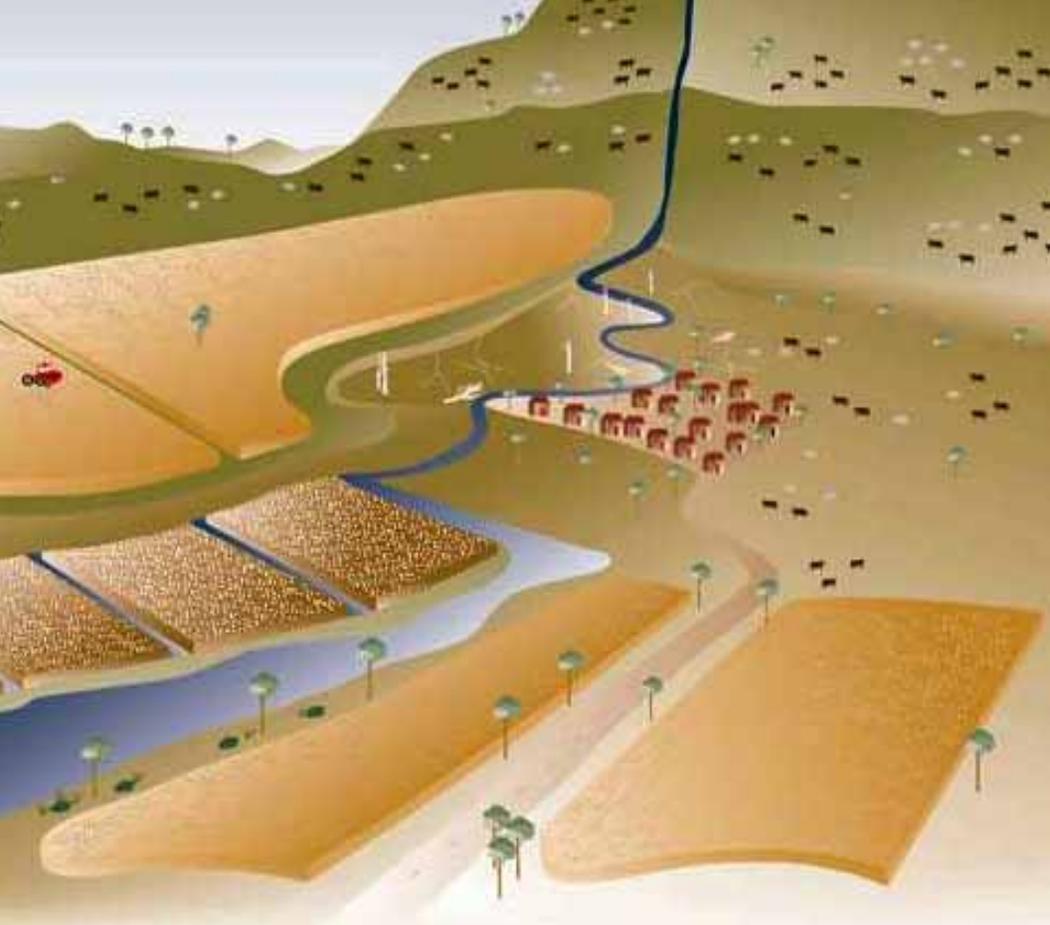
Wind farms generate nonpolluting electricity that commands premium prices in deregulated power markets. The turbines can also garner tax credits that subsidize their capital and operating costs.



CERTIFIED SUSTAINABLE

Sustainably harvested timber is now or numerous "eco-products" that are sold at a premium specialty market.





P R E S E N T

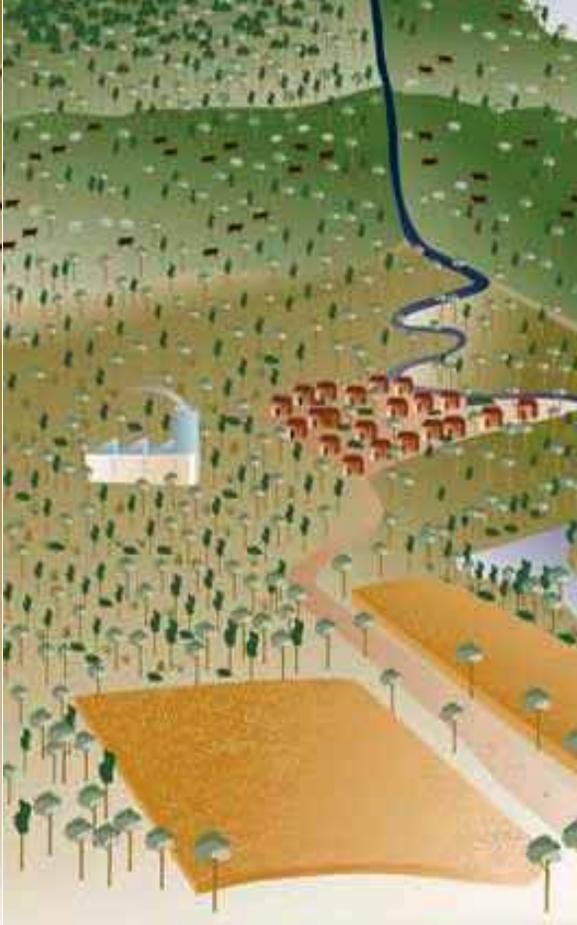
The existing rural landscape.

LAND USE

Area (ha)	REVENUE (000's)
100	25,000

ENVIRONMENTAL PROBLEMS

- ◆ Dryland salinity increasing
- ◆ Rising water tables and saline discharge



F U T U R E

Planted forests in the landscape create

LAND USE

OUTPUT	AREA (ha)	REVENUE (000's)
Sheep	150,000	18,000



nd credits

...this means meeting with a lot of people.

Investors Solano Partners | New Forests | Working Lands
Partners | Equator Environmental | **Registry providers** T2
Profit organizations World Wildlife Federation | Ecoagric
Forest Trends | Winrock International | Resources for the
Sources Institute | Rainforest Alliance | The Nature Cons
| American Lands Alliance | Pacific Forest Trust | Natu
sect **Cross-cutting teams** Forest Carbon Standards C
Forest Carbon Network Initiative | **Government agencies**
y Corps | OMB | Maine Forest Service | **Private secto**
e Timber Company | **Offset Providers** TerraPass | Fo
itt Foundation | Walton Family Foundation **Academia**
Institutions Yale University | Duke University | Sustainabl
ndtable | Ecological Restoration Institute Stanford Uni

themes we hear:

It's more than carbon

We need unified standards

Stakeholders need to be involved

We can learn from experience

Coordination across governments is key



SM's work is organized around four programmes

Facilitating market innovation

Shaping the development of national **markets**
infrastructure for emerging carbon, water
and biodiversity markets

Operating

Fostering **collaboration** around market-based

ing an information gateway

Establishing **informational platforms** and
facilitate market transparency, landowner
collaborative decision-making

defining an ecosystem

Helping USDA and other land management
ecosystem services approach t
programs, partnerships, and decisions

... year...FY 2010

- **Develop technical guidelines for CAF**
- **Develop strategy for WATER QUALITY**
- **Convene intergovernmental ecosystem dialogue**
- **Establish USDA Ecosystem Services Council**

important to me that the **USDA lead efforts to**
incentivize management practices that **promote and**
provide clean air, clean water, and wildlife habitat,
and to help farmers participate in markets that reward
them for sequestering carbon and limiting greenhouse
emissions.

*The Forest Service must play
a leading role in the development of new markets
while protecting their integrity.*

Secretary \

CONTACT US

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USA

Proposed climate change legislation:

Waxman-M

Covers 85% of U.S. emissions

Emissions cap uses 2005 Baseline for targets:

3% below 2005 levels in **2012**, **20%** in **2020**, **42%** in **2050**

ETS

on tons of offsets allowed each year, 50/50 split dome

GHG Market Potential: U.S. Forests

A (2005) study for Lieberman-Warner is more authoritative:

- Uses FASOMGHG (Forest and Ag Sector Optimization GHG)
- Assumes prices at \$1, 5, 15, 30 and 50/MMtonne CO₂e
- Makes basic assumptions about baseline and additional sequestration
- **DOES NOT** model landowner behavior

Summary results for annual forest sequestration

Afforestation

125-150

MMtCO₂e @ \$15/t

... 150 MMtCO₂e

Improved forest management

250 MMtCO₂e

~ 475 MMtCO₂e

Waxman-M

INTERNATIONAL OFFSETS

US ODA in 2007 ~100 million |

REDD offsets ~up to 15-20 billion p

→ increasing to as much as 22-30 billion

REDD supplemental ~3.5 billion + per year

Waxman-M

INTERNATIONAL OFFSETS

from U.S. (USFS and USAID) aimed at conservation and management totaled around **\$100 million** in 2007

Supplemental Emissions Reductions from Reduced Demand of allowances to 2025, drops to 3% in 2026 and 2% 20

→ Assume 15-20 USD/ton over first 10 years (EPA):
per year

supplemental is **in addition to** market transactions that

Forest Service – NFS Certification Study

Evaluation of whether management practices on five national forests are consistent with FSC and SFI standards...

evaluations /

ts

6-2007

lessons learned report

September 2007

public comment

g

