Markets for Ecosystem Services
A Nod to the future?

Sally Collins
Next Generation Leaders, July 2015
Ecosystem Services

• Ecosystems provide a wide range of life-sustaining services that people depend on
• Ecosystem services are being lost at an alarming rate
• How can we create “incentives” to protect and restore these important services
Ecosystem Services

What do we mean?

* Carbon * Pollination * Wildlife * Clean water * Flood Control * Recreation

* Aesthetics * As well as services (with existing markets): timber and other NTFPs, minerals, cattle grazing, etc.
Pollination

- 66% of world’s 1500 crop species require animal pollinators
- 15% to 30% of foods people rely on are pollinated by animals (mostly bees)
- Most of the edible oils, fibers, and alcoholic beverages (bats and agave) pollinated by animals
One Approach: Ecosystem Services Markets and Payment Regimes

- Mechanism for placing economic value on services provided by nature
- Sends a “market signal” about the value of these services, creating an incentive to protect them
- Mobilizes new money for conservation
Contribution to Restoration/Jobs?

- Valuing natural capital puts nature on a level playing field with other economic goods and services.
- Creating markets based on those values can help make restoration of land financially attractive compared to competing land uses.
- This can create new jobs, often in local communities.

Courtesy of Michael Verdone
Markets and Payments

Number of different ways to do this around the world:

- **PES** – Agreement between providers of ecosystem services (land owners) and beneficiaries (those who benefit from services) to assure services are sustained

- **Conservation Easements** - US Primarily but expanding

- **Mitigation Banks** (eg Water, Biodiversity--US primarily)

- **Markets** (Carbon) through REDD, others
Watersheds Restored

• In 2013, governments, companies, and NGOs invested $12.3 billion in watersheds to regulate the supply and quality of water delivery
• More than 365 million Ha were protected or restored with these funds
• PES – hundreds of private transactions (between private landowners/beneficiaries) and dozens of countries participating in government funded programs 646 MM Ann

Courtesy of Michael Verdone
Over just past 5 years...


- Water quality (investments in watershed protection, water conservation and storm water management)
- Sustainable Food and Fiber (investments in sustainable agriculture, timber production, aquaculture, and wild-caught fisheries)
- Habitat Conservation (investments in the protection of shorelines to reduce coastal erosion, projects to Reduce Emissions from Deforestation and Degradation (REDD+), land easements, and mitigation banking)
What Might the Future Look Like?

The existing rural landscape.

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>AREA (ha)</th>
<th>REVENUE (000$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>250,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Cattle</td>
<td>200,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Wheat</td>
<td>250,000</td>
<td>118,000</td>
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<tr>
<td>Canola</td>
<td>150,000</td>
<td>112,000</td>
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<tr>
<td>Cotton</td>
<td>150,000</td>
<td>490,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,000,000</td>
<td>785,000</td>
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Planted forests in the landscape create a more diverse economy and a healthier environment.

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>AREA (ha)</th>
<th>REVENUE (000$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>150,000</td>
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<tr>
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<td>Cotton</td>
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<tr>
<td>Timber</td>
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<td>Bioenergy</td>
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<tr>
<td>Charcoal</td>
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<tr>
<td>Carbon credits</td>
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</tr>
<tr>
<td>Salinity credits</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>1,000,000</td>
<td>822,000</td>
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ENVIRONMENTAL PROBLEMS
- Dryland salinity increasing
- Rising water tables and saline discharge
- Nutrients leaching into waterways
- Low biodiversity
- Soil erosion and turbid waterways

ENVIRONMENTAL BENEFITS
- Dryland salinity reduced
- Lower water tables and clean discharge
- Nutrients retained on farm
- Biodiversity increased
- Soil erosion reduced

Courtesy New Forests
Towards the Future

Can forestry represent a “natural infrastructure” asset class?

- Mechanisms to price ecosystems via carbon (REDD), watershed protection (water), PES, alongside commercial timber plantations could produce the basis for the stabilization of conservation and production that rival timber values.

- Ultimately this must be driven by private capital and private investment.

- Need to align public policy, supply chain initiatives, and NGO interests.

Courtesy of David Brand, New Forests
THANK YOU!

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