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Presentation Goal

Show how Private Investment Capital can fund environmental restoration through Ecosystems Markets (ESMs) and ultimately enhance our Environment and Rural Economies.

- Working Lands & Waters restoration is “biggest bang for the buck”.
- Ecosystems Markets are key to unlocking lands’ potential.
- Economic Development from ESMs is significant in jobs & growth.
- Private Investors can be the financial engine - “the Bank”.
Scale of Working Lands in the US

The United States has a total land area of nearly 2.3 billion acres.

74% (over 1.5 billion acres) of that area is working lands of farms and forests.

Major uses from the most recent land inventory in 2002 were:

- Forest-use land - 651 million acres (28.8 %);
- Grassland pasture and range land - 587 million acres (25.9 %);
- Cropland - 442 million acres (19.5 %);
- Special uses (primarily parks and wildlife areas) - 297 million acres (13.1 %);
- Miscellaneous other uses, 228 million acres (10.1 %);
- Urban land, 60 million acres (2.6 %).

(www.ers.usda.gov/Publications/EIB14/)
Enhancing Economies & the Environment
Globally, over the past 50 years, humans have negatively changed our ecosystem more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel.

As is happening around the globe, in the United States our vast working lands and waters continue to be developed, depleted and degraded. These important natural resources face the twin challenge of maintaining their integrity for the benefit of our environment, and continuing to act as an economic engine for our rural communities. **Restore Capital's mission is to create private investment strategies that enhance the economy and environment of our working lands and waters.**
Undervalued Farm Land

- In 2009 16.9% of farm operator households lived below the poverty level, as compared to 14.3% of the general U.S. population and farm household income was $77,169, declining by 3.3% from the previous year.

- While overall farm household income is expected to increase in 2010, the average family farm is still forecasted to only receive 13% ($10,850) of its household income from farm sources, with the rest from earned and unearned off-farm income. This forces farmers to squeeze as much profit as possible out of their land, no matter the environmental consequences. (http://www.ers.usda.gov/Briefing/WellBeing/; http://www.ers.usda.gov/Features/FarmIncome/)

- If current demographic trends continue, the amount of intensive farming will increase as agricultural output will need to nearly double by 2050, yet the available fertile farmland per person will be one-third the levels of 1950. (Farmland LP Sustainable Farming White Paper. May 2009. Jason Bradford, Ph.D. and Craig Wichner)
Traditional Funding Sources

State Budget Shortfall:
State budget shortfalls in FY 2010 totaled $191 billion. If revenue declines persist as expected in many states, additional spending and service cuts are likely. Budget cuts often are more severe later in a state fiscal crisis after largely depleted reserves are no longer an option for closing deficits. Spending cuts are problematic policies during an economic downturn because they reduce overall demand and can make the downturn deeper. These State deficits will also be magnified by reduced federal support, as federal debt increases and funding from the American Recovery and Reinvestment Act runs out in 2011.  
(Center on Budget and Policy Priorities Recession Continues to Batter State Budgets; State Responses Could Slow Recovery."
www.cbpp.org/cms/?fa-view&id=711)

Decline in Foundation Giving:
In 2009, the 8.4% decrease in giving is less than half the 17% loss in foundation assets recorded in 2008. This discrepancy indicates that many foundations are pulling from their endowments and will become even more vulnerable to instability in our economy and reliant on US economic recovery to once again increase giving.

(Foundation Center - Press Release - 2009 Saw Record Decline in Foundation Giving http://foundationcenter.org/media/news/20100420.html)

Ecosystem Markets’ Economic Impact

In the US over $3.7 billion worth of ESM credits (excluding carbon) within pre-compliance and regulated ESMs have been transacted annually between 2008 and 2009. This includes targeted Payment For Ecosystem Services (PES) government programs.

- 400 wetland mitigation banks exist transacting over $1.7 billion annually in the US.
- In 2008, the transactions from the 11 active US Water Quality Trading programs totaled $10.8 million annually.
- The Federal government’s Conservation Reserve Program (CRP) provided $1.8 billion of Payments for Ecosystem Services in 2009.
- The 134 conservation/biodiversity banks totaled $200 million in transactions in 2009.


Private debt funds have the opportunity to act as a “banker” in the emerging ecosystem markets. This creates the critical capital infrastructure needed to bring together traditional funding, private equity and debt sources in order to fund our restoration projects.

**Restore Capital Fund I** provides loans that finance restorative land practices generating ESM credits. Loan repayment will come from the contracts for the purchase of Ecosystem Credits from regulated or creditworthy sources, and not require liens on land or personal guarantees.

*The appropriate capital for restoration projects.*
Ecosystem Markets & Restoration
Ecosystem Market Definition:

Ecosystem Markets (“ESM”) apply a dollar value to environmental benefits that come from enhanced land & water practices changing the benefits from non-valued economic externalities into financially valued assets or ecosystem ‘credits’.

Examples include:
- **Wetland Mitigation Credits** – restoring nature’s water filters,
- **Water Quality Credits** – reducing harmful nutrient runoff,
- **Biodiversity Credits** – rebuilding endangered species habitats,
- **Carbon Offset Credits** – sequestering excess carbon emissions.

Valuing Ecosystems – Air, Water, Soil, and Habitats.

Market Demand

Several different stages of ESMs have emerged due to varying environmental regulations:

- **Voluntary ESMs**: Demand for environmental benefits that is philanthropic or mission-driven rather than driven by regulation.
- **Pre-Compliance ESMs**: Demand for environmental benefits driven by anticipated future regulations.
- **Regulated ESMs**: Demand for environmental benefits driven by regulatory requirements.

In addition, Federal Farm Bill Programs purchase the beneficial effects of land practices through **Payments for Ecosystem Services (PES)**.
Wetland Mitigation
When a development or infrastructure project permanently impacts a wetland they are required to compensate or mitigate those impacts. To mitigate, the project may purchase credits from a ‘wetland mitigation bank,’ which is another wetland within the watershed that has been restored.

Federal Legislation: Passed in 1972, the Clean Water Act (CWA) aims to improve water quality in the US, with Section 404 of the act addressing the degradation of wetlands. In 2008, EPA and the Corps issued revised regulations to Section 404. These new regulations establish a preference for the use of wetland mitigation banks when appropriate credits are available. As of 2008, resulting from CWA regulations, over 400 mitigation banks exist transacting over $1.7 billion annually in the US.

State Legislation: Many State and Local governments also have additional mitigation requirements.


Project Example: Nahunta Swamp Site - Wayne County, North Carolina
The North Carolina Department of Transportation sought a restoration project to offset the disturbance of wetlands in conjunction with road-building activity. 117 acres of fully-functioning wetlands were restored within the impaired Neuse-River basin. An additional 31 acres of existing wetlands were preserved and protected with a permanent conservation easement.

(www.ebxusa.com/our-work/wetland-restoration.php)
(Slide map: Ecosystem Marketplace, State of Biodiversity Markets: offset and compensations programs worldwide)
Farm Bill Cost Share Programs

These programs provide Payment for Ecosystem Services (PES) funded by the federal Farm Bill, where the government purchases the environmental benefits from a landowner/farmer who implements specific environmental practices on his/her land.

**Federal Legislation:** Using funds from the Farm Bill, the Conservation Reserve Program (CRP) provides participants with annual rental payments, incentive payments, and cost-share assistance or other incentive mechanisms to place highly erodible or other environmentally sensitive land into a 10-15-year contract for the implementation of Best Management Practices such as planting cover crops or riparian buffers. **In 2009, CRP alone provided $1.8 billion in conservation funding.** In addition, there are other PES programs such as the Environmental Quality Incentives Program (EQIP) providing $731 million in 2009 and Conservation Stewardship Program (CSP) providing $180 million in FY 2011.

**Website:** [www.nrcs.usda.gov/programs/](http://www.nrcs.usda.gov/programs/)

Water Quality Trading

When an entity (for example: water treatment plants, manufacturers, developers, animal feedlots) releases too much nitrogen, phosphorus, temperature, or sediment pollution into a waterway, they must compensate for that excess. To compensate they may purchase credits from similar (point-source) entities that have reduced their pollution below required levels, or non-point source entities such as agriculture operations that have changed their management practices to create credits.

**Federal Legislation:** Section 303d of the Clean Water Act requires the establishment of Total Daily Maximum Loads (TMDLs) that establish the amount of pollution allowed to enter into a waterway. EPA's 2003 National Water Quality Trading Policy outlines how nutrient trading programs can be implemented to achieve TMDLs within a certain watershed.

In the Chesapeake Bay, pending legislation is working towards meeting the goals set out by EPA. S 1816: Chesapeake Clean Water and Ecosystem Restoration Act of 2009 would create an interstate water quality trading program in the states surrounding The Bay.

**State Programs:** Federal Policy has spurred the creation of several regional trading programs at the state level. For example, in Oregon a non-profit organization, the Willamette Partnership received a grant from EPA to develop a system of trading water quality credits. This system will facilitate the buying and selling of credits between farmers/landowners and industry polluters who must meet certain environmental regulations (NPDES permits). Currently several states have pilot projects underway. **In 2008, the transactions from the 11 active US Water Quality Trading programs totaled $10.8 million annually.** This number is predicted to increase substantially as stronger legislation is passed. (Ecosystem Marketplace/Forest Trends “State of Watershed Payments, an emerging marketplace”)

**Websites:** [http://water.epa.gov/type/watersheds/trading.cfm](http://water.epa.gov/type/watersheds/trading.cfm)
Payment for Restoration Example: Mudford Farm

8 miles northeast of Centreville in Queen Anne’s County, is the 277 acre Mudford Farm. In addition to cropland, the farm consists of 110 acres of mature forest, with opportunities for carbon sequestration, biodiversity and mitigation banking.

The general easement provisions provide:

1. One 5 acre building site.
2. Management of restored habitat areas per management plan updated every five years by experts in wildlife ecology, and acceptable to grantees.
3. Remaining croplands (80 acres) to be cultivated using BMP’s and more sustainable practices (rotations, nutrient management, no pesticides). Food plots (clover, sunflowers, standing corn) are also encouraged.

With ESMs, the same farmers who struggle to profit from their farms can now increase their revenue by becoming environmental stewards.
Ecosystem Markets & Economic Development
Restoration as Economic Stimulus

In addition to the benefits brought to individual farmers and local communities, investing in agriculture and restoration creates huge impacts throughout our economy. **Compared to more traditional stimulus measures (infrastructure), restoration efforts create over twice as many jobs per dollar invested.** This is because restoring forests (as well as rivers, wetlands, peat bogs, and prairies), requires people, which means jobs: soil scientists, tree planters, equipment operators, water engineers, and people to nurture the trees over time.  


In addition, economic multipliers demonstrate the economic power of restoration. A study of the Northern Plains Region determined a $4.98 : $1.00 multiplier effect for every federal dollar invested for conservation by NRCS. In comparison to economic studies of other industries, **investment in restoration provides three times the economic stimulus than more traditional infrastructure and construction projects.**


Economic Theory Behind Market Solutions
Economist Ronald Coase argued that “pollution is doing something bad and good. People don’t pollute because they like polluting. They do it because it’s a cheaper way of producing something else.” According to Coase, in a perfect market (a market with no restrictions or transaction costs), equilibrium will be reached where the cost of polluting and the amount of pollution during production will be ‘optimized’.
Successive economists, such as J.H. Dales, built upon Coase’s model. However, they argued that the government, not an imaginary ‘perfect market’, should set the best overall levels of pollution (ie-“caps”). Within the caps, the markets will then work to ‘optimize’ pollution.

Example- Chesapeake Bay Water Markets
In the Chesapeake Bay the government is working to set caps, called Total Maximum Daily Loads (TMDLs), of nutrients that can flow into the tributaries of the Bay. Within that cap, water quality trading markets are being developed where, emitters (ie- water treatment plants) can reach their TMDL by purchasing credits from other emitters (ie- small farmers/landowners) who can reduce their nutrient flow at a lower cost.
Public Policy Spurs Markets

- **Establish** criteria and methods for incorporating environmental externality in our economy.
- **Set** rules providing level “playing field” to ensure benefits to all constituents.
- **Monitor** markets and regulate activities.
- **Support** initiatives through direct subsidies, loan guarantees and co-investment.
Bringing Money ‘Off the Sideline’

Economic recovery can only be achieved if the current buildup of cash reserves are brought ‘off the sidelines’ and into our economy.

In an interview with the Wall Street Journal’s Market Watch, Richard Fisher, president of the Federal Reserve Bank of Dallas explained that the S&P 500 companies "have over 1.8 trillion dollars in excess cash, above their cash flow needs. And banks who keep their reserves at the Federal Reserve ... have over a trillion dollars in excess reserves right now. So there is money sitting there, but it's not being used.... One of the reasons is because, obviously, there's too much uncertainty."

BMP Example: Conservation Tillage

By averaging and annualizing the results of several pilot projects, we can estimate the approximate cost of implementing the practices defined by the Chesapeake Bay Program. The following example provides a potential scenario of implementing conservation tillage on a 200-acre farm over 10 years:

- Costs to meet baseline (after cost share subsidy of $15/acre): $600/year
- Annual credit implementation costs: $1,280
- Nitrogen reduced: 400 lbs/year
- Credit Revenue (assuming $20/lb): $8,000
- Net Profit: $6,120

* Other considerations not reflected in this analysis include: opportunity costs, certification and monitoring costs, and farmers who have already partially reached baseline.

Ecosystem Markets & Private Capital
Capital Amount Available
The amount of funding available within the capital markets dwarfs the amount in the foundation community which, along with government grants, has been the traditional funding source for environmental initiatives.

1. Foundation Grants (total) - $42.9 billion (2009)
   (Foundation Growth & Giving Estimates publication – Foundation Council)

2. FDIC Bank Loans (Commercial & Industrial Loans) - $1.166 trillion (2009)
   10% of which are Ag Loans

   $822 billion traded daily

Accessing this immense pool of untapped capital is key to funding and driving the environmental change needed.
Obstacles & Opportunities

- **Traditional Sources (public funds & charity)** - Not enough and limited.

- **Commercial Banks** - Too risk averse to initially participate in new ESM.

- **Private Equity Capital** - Limited in ability to finance large scale land practice due to scale, need for high returns, and demand for ownership.

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**Bank Lending Hesitation**

“Banks got burned on private-label mortgage securities and other bonds that are illiquid in terms of marketability,” explains Jeffrey Caughron, chief market analyst in Oklahoma City at The Baker Group LP, which advises community banks on investing assets totaling $23 billion. As a result, banks have made credit harder to get. Commercial and industrial lending by banks has fallen by 25 percent to $1.24 trillion at the end of July from the peak of $1.65 trillion in 2008, according to the Fed. Instead of lending money, banks are investing in Treasury and agency securities to take advantage of the historically wide spread between their cost to borrow and the returns on the debt. Their holdings of such assets increased to $1.57 trillion at the end of July, up 40 percent from $1.12 trillion in mid-2008, the same Fed report shows.


“There is clear acknowledgment here that there's too much liquidity, and instead of it going away it is being stored in US Treasuries... This is the exact same thing that happened from 1998-2006 except the massive influx into Treasuries came from China.”

(Zach Pessin – Distributed Capital August 15, 2010)
**Filling the Finance Gap for ESM Practices**

*Restore Capital Debt Fund* fills the gap for funding ESM project development and implementation. Our Investment Criteria includes:

- **Land based Practices** - Directly with large projects or through regional funder (i.e., loan fund for new farm practices).
- **Short Term Debt** - Focused on providing bridge, construction and/or restoration work loans – 1 to 3 year in duration.
- **Market Rate** - Currently 7 to 14% return range.
- **Secure Repayment Streams** - Contracted revenues derived from credit worthy and/or regulated sources.
- **Strong Collateral** - Credit purchase contract from credit worthy and/or regulated sources. No need to use land or personal guarantees.

Current sources of funding can be used for:

- **PRI, Grants, & Subsidies** - Purchase of conservation easements, practice-based conservation, etc.
- **Commercial Bank Loans** - Loans with land, equipment, and/or personal guarantees as collateral.
- **Private Equity** - Membership in land and timber funds, purchase of carbon futures.
Example - Wetland Mitigation Loan

- **Project Summary**
  - $2.5 million cost
  - $6 million in credit sales
  - Large credit buyer (infrastructure)
  - Equity Investment for 10 years
  - Land under Easement

- **Loan Terms**
  - $500,000 for construction
  - 1 Year Term
  - 12% Interest

<table>
<thead>
<tr>
<th>Range of Returns</th>
<th>23.58%</th>
<th>25.33%</th>
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</thead>
<tbody>
<tr>
<td>$2.5 mm Equity &amp; No debt</td>
<td>$2.0 mm Equity &amp; $500k Debt</td>
<td></td>
</tr>
</tbody>
</table>

**Improved Capital Cost**

- **Incorporating Different Type of Capital** - Financing beginning to use private equity and lower cost debt
- **Potential Lower Cost Insurance and Bonding** - Financial certainty and credit worthy credit buyers drive down costs
- **Mitigation Banks Underpin Larger Land Transactions** - Can anchor large landscape projects that incorporate newer markets (forest carbon offsets, nutrient reduction BMP's, etc.)
**Incorporating Private Capital with ESMs**

An analysis of a 500-acre hypothetic farm operation (based on true life experience) conducted for the book *EcoCommerce IOI* by Tim Gieseke demonstrates the strong financial viability of Ecoservice Markets.

According to the analysis, implementing Best Management Practices for water quality markets, carbon markets, etc, increases both gross and net income on the farm. While the increase in gross income is incremental, the significant increase in net income provides high margins that are *highly financeable*.

Potential revenue stream a 500-acre farm including ESMs:

<table>
<thead>
<tr>
<th>Commodities</th>
<th>Gross Return</th>
<th>Net Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary (Corn, Wheat, Lumber, CRP)</td>
<td>$462,000</td>
<td>$54,050</td>
</tr>
<tr>
<td>Secondary (Biomass)</td>
<td>$31,500</td>
<td>$10,500</td>
</tr>
<tr>
<td>Ecoservices</td>
<td>$13,866</td>
<td>$9,685</td>
</tr>
<tr>
<td>Grand Total</td>
<td>$507,366</td>
<td>$74,235</td>
</tr>
<tr>
<td>% from Ecoservices</td>
<td>2.7%</td>
<td>13.0%</td>
</tr>
</tbody>
</table>

(Table modified from: Gieseke, Tim. EcoCommerce IOI. 2011. P 307)
Debt Fund Benefits All

- **Land Owners**
  Provides more types of capital with appropriate cost allowing project financing that fits the individual project.

- **Investors**
  Allows larger pools of capital for investments in projects matching returns with appropriate risk.

- **Public Sector**
  Enables large scale efforts needed to restore our environment & enhance rural economies.

*Brings financial discipline and rigor to enhancing the economies and environment of our working lands and waters.*

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**Our Opportunity as Investors**

Be the **Financial Partner** enhancing the economics & environment of our working lands & waters, and their rural communities by...

- **Stimulating Economic Development**
  Creating a multi-billion economy within our rural communities.

- **Restoring the Environment**
  Aligning our working lands & waters with their surrounding environment.

- **Transforming Community and People**
  Growing the new ESM economy for everyone’s benefit.

*Creating new markets and economy.*
Creating private investment strategies that enhance the economy and environment of our working lands and waters.

2002 Clipper Park Road 4th Floor
Baltimore, MD 21211
(410) 878-7084
www.restorecapital.com