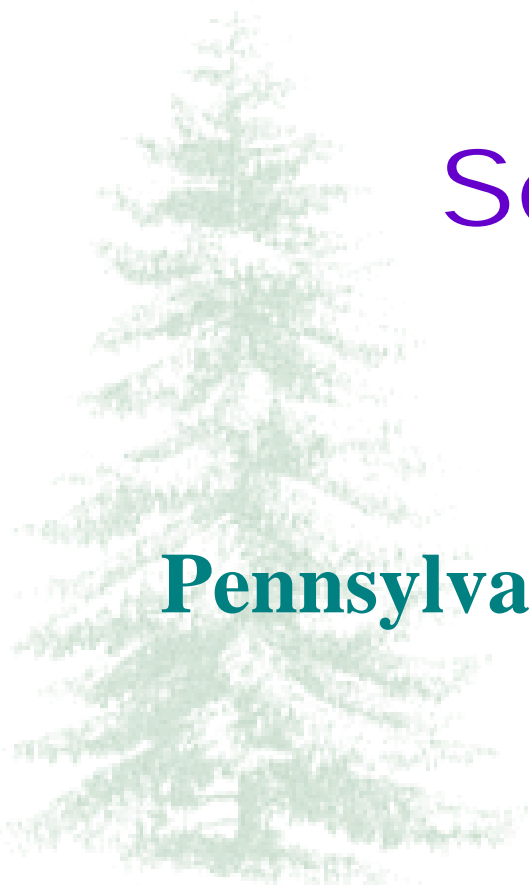


# **Evergreen** *Conservation Finance*

## Selling Nutrient Credits to Preserve Farms

**Presentation to the 7<sup>th</sup> Annual  
Pennsylvania Land Conservation Conference**

**Daniel Patrick O'Connell  
May 9, 2009**



# Nutrients in Chesapeake Bay



- **Largest estuary in US: 64,000 square-mile watershed**
- **Blue crabs, oysters, rockfish: 45,000 tons/year**
- **1970's: deadzones began**

# Pennsylvania Nutrient Trading Plan



- **EPA mandate to reduce flows**
- **Cap nutrients from POTWs**
- **Credits to farmers for BMPs:  
Best Management Practices**
- **Cost of credits < cost of upgrades**

# Cost of Treatment Plant Upgrade



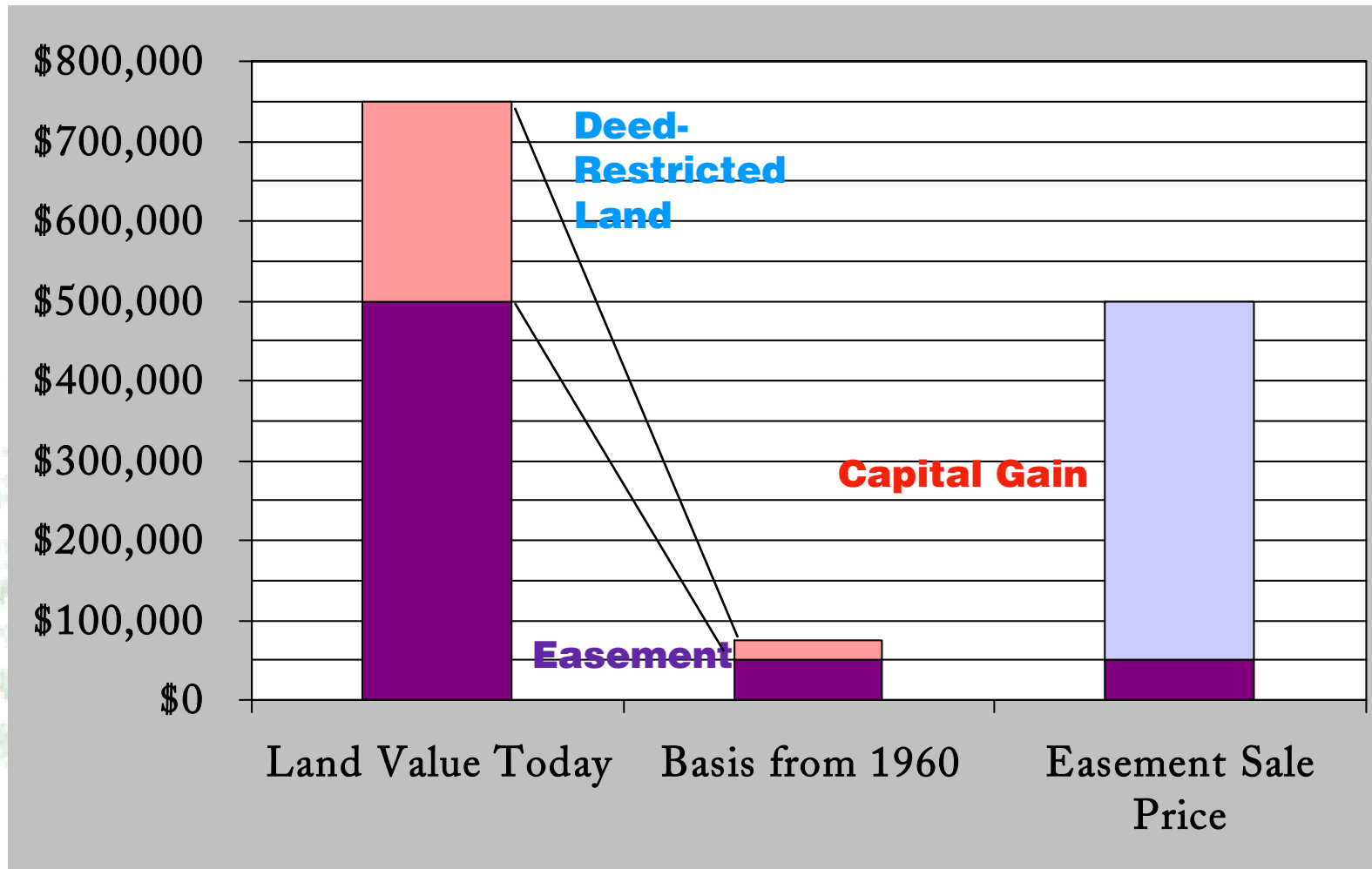
<b>\$6,200,000</b>	<b>Cost of plant upgrade</b>
<b>6.00%</b>	<b>30-year A-rated interest rate</b>
<b>\$450,423</b>	<b>Annual debt service payment</b>
<b><u>94,000</u></b>	<b>Average additional operating cost</b>
<b><u>\$544,423</u></b>	<b>Average annual cost of upgrade</b>
<b>20,000</b>	<b>Pounds of nitrogen reduced</b>
<b>\$27.22</b>	<b>Cost per pound of nitrogen</b>

# Impediments to Trades



- **Credits depend on annual compliance with BMPs**
- **Variable versus fixed costs**
- **Vested interest in construction**

# Problem for Sellers: Capital Gains



# Buy Easements w/Imbedded BMPs



- **Cash for structural BMPs**
- **15-year IPA for easement:  
annual principal, interest**
- **Enforceable easement requires  
maintenance of BMPs**

# Benefits to Seller from IPA



- **Cash for structural BMPs**
- **Capital gains tax deferral on balance**
- **Tax-exempt interest**
- **Funded from credit sales**



# Sell Credits for Annual Costs



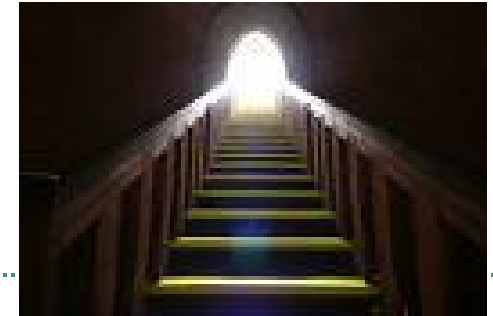
- **Broker sells credits to POTWs in lieu of bonds**
- **POTWs pay set annual price**
- **Easement holder paid to enforce BMPs**
- **Farmers paid for easement**

# BMPs, Easements from Credit Sales



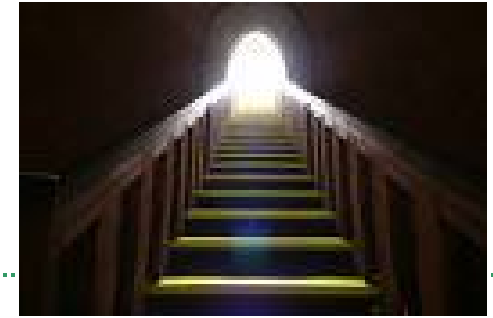
<b>\$1,000,000</b>	<b>FMV of 100-acre farm</b>
<b><u>700,000</u></b>	<b>Agricultural value of farm</b>
<b>\$300,000</b>	<b>Value of easement</b>
<b><u>50,000</u></b>	<b>Cash at closing for BMPs</b>
<b>\$250,000</b>	<b>Balance with 15-year IPA</b>
<b>\$25,000</b>	<b>Annual debt service @ 6%</b>
<b>5,000</b>	<b>Pounds of nitrogen reduced</b>
<b>\$5.00</b>	<b>Cost per pound of nitrogen</b>

# Steps to Credit Certification



	<b><i>Phase I - Assess Nutrient Credit Potent</i></b>	May-09
-\$1,000.00	Review application waiting list	
-1,500.00	Identify farms most likely to generate credits	
-1,500.00	Identify new farms for preservation	
-1,000.00	Prepare prioritized list of target farms	
<b><u>-\$5,000.00</u></b>	Phase I Expenses	
	<b><i>Phase II - Negotiate Options:</i></b>	Jun-09 to Aug-09
-\$2,000.00	Contact landowners	
-8,000.00	Inspect farms and assess potential	
-1,500.00	Prepare transactional budgets	
-1,000.00	Obtain county approval for offers	
-2,500.00	Enter into option agreements	
<b><u>-\$15,000.00</u></b>	Phase II Expenses	
<b><u>-\$20,000.00</u></b>	Cumulative Expenses	
	<b><i>Phase III - Obtain Credit Certification:</i></b>	Sep-09 to Dec-09
	Prepare applications for credit certification	
	Answer state questions and facilitate review	
	Prepare transactional budgets	
-\$50,000.00	Obtain certification for five farms	
<b><u>-\$50,000.00</u></b>	Phase III Expenses	
<b><u>-\$70,000.00</u></b>	Cumulative Expenses	

# Steps to Credit Sale, Easement Purchase



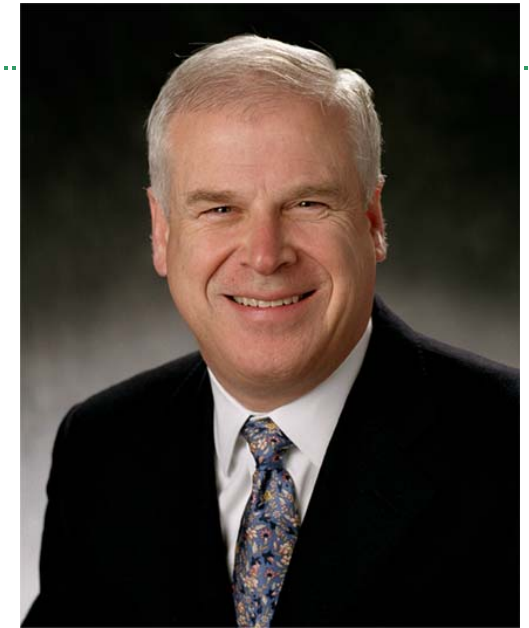
	<b>Phase IV - Market Credits:</b>	Jan-10 to	Apr-10
\$500,000.00	Identify POTWs that are likely buyers		
	Meet with POTW advisors		
	Enter into nutrient credit option contracts for 25,000 credits		
<b><u>\$500,000.00</u></b>	Phase IV Revenues		
<b><u>\$430,000.00</u></b>	Cumulative Revenues		
	<b>Phase V - Purchase Easements, Implement BMPs, Sell Credits:</b>	May-10 to	Oct-10
-\$100,000.00	Close five purchases totaling \$1.5 million for easements		
-250,000.00	Implement BMPs on five farms		
	Enter into nutrient credit sale contracts for 25,000 credits		
<b><u>-\$350,000.00</u></b>	Phase V Expenses		
<b><u>\$80,000.00</u></b>	Cumulative Revenues		
	<b>(Ongoing)</b>		
\$250,000.00	Annual payment @ \$10/lb for 25,000 nutrient credits		
-150,000.00	Annual principal and interest payments on easement purchases		
<b><u>\$100,000.00</u></b>	Available annually for fees, monitoring, additional acquisitions		

# Credit Opportunities



- **Counties and land trusts**
- **Chesapeake and Ohio River Valley watersheds**
- **Already preserved and unpreserved farms**

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