

# Land Use Policy and Planning for Farming

Funded by:



Commissioned by:



Prepared by:



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## Transforming Open Space to Sustainable Farm Enterprises

In Philadelphia, Delaware, Chester, Montgomery and Bucks County, Pennsylvania

Transforming Open Space to Sustainable Farm Enterprises



## Study Purpose:

- Increase local food production and promote open space conservation
- Identify key issues that either threaten or support sustainable farm enterprises
- Use results of the study to inform municipal officials and land trust professionals about the opportunities and benefits of promoting sustainable food production on protected lands in southeastern Pennsylvania where appropriate



## Primary Project Goals

- Raise awareness about compatibility of sustainable agriculture and conservation
- Show magnitude and locations of land potentially appropriate
- Identify barriers, create tools to overcome
- Promote sustainable farm enterprises

## Secondary or Implied Goals

- Better access to healthy food
- Economic development
- Environmental remediation
- Community greening
- Community building
- Connect farmers to farms (land)
- Use sustainable farm enterprises to promote good stewardship of land



# Mapping Data - Areas Examined

## Public Open Space:

- Municipal, County and State preserved open spaces



## Quasi-Public Open Space:

- Land Trust owned and eased lands
- Overhead power line corridors



## City of Philadelphia Vacant Lands:

- Philadelphia Housing Development Corporation (PHDC)
- Philadelphia Redevelopment Authority (RDA)
- Department of Public Property (PUB)

## Not Included (reason):

- Federal Lands (constrained by funding, cultural resources, comparative land area)
- Preserved Farms (already used for agriculture)





# Mapping Data - Constraints Subtracted:



## Constraints subtracted from Open Space:

- Important habitat areas (Smart Conservation Project)
- Flood prone areas (floodway and 100-year flood plain)
- Steep slopes greater than 15%
- Wooded areas
- Parking
- Active recreation areas

## Additional considerations:

- Assume that on average 15-30% of the non-constrained land could be used for sustainable farm enterprises since some portion of “non-constrained” areas will not be farmed due to regulatory issues, physical constraints or lack of political will.



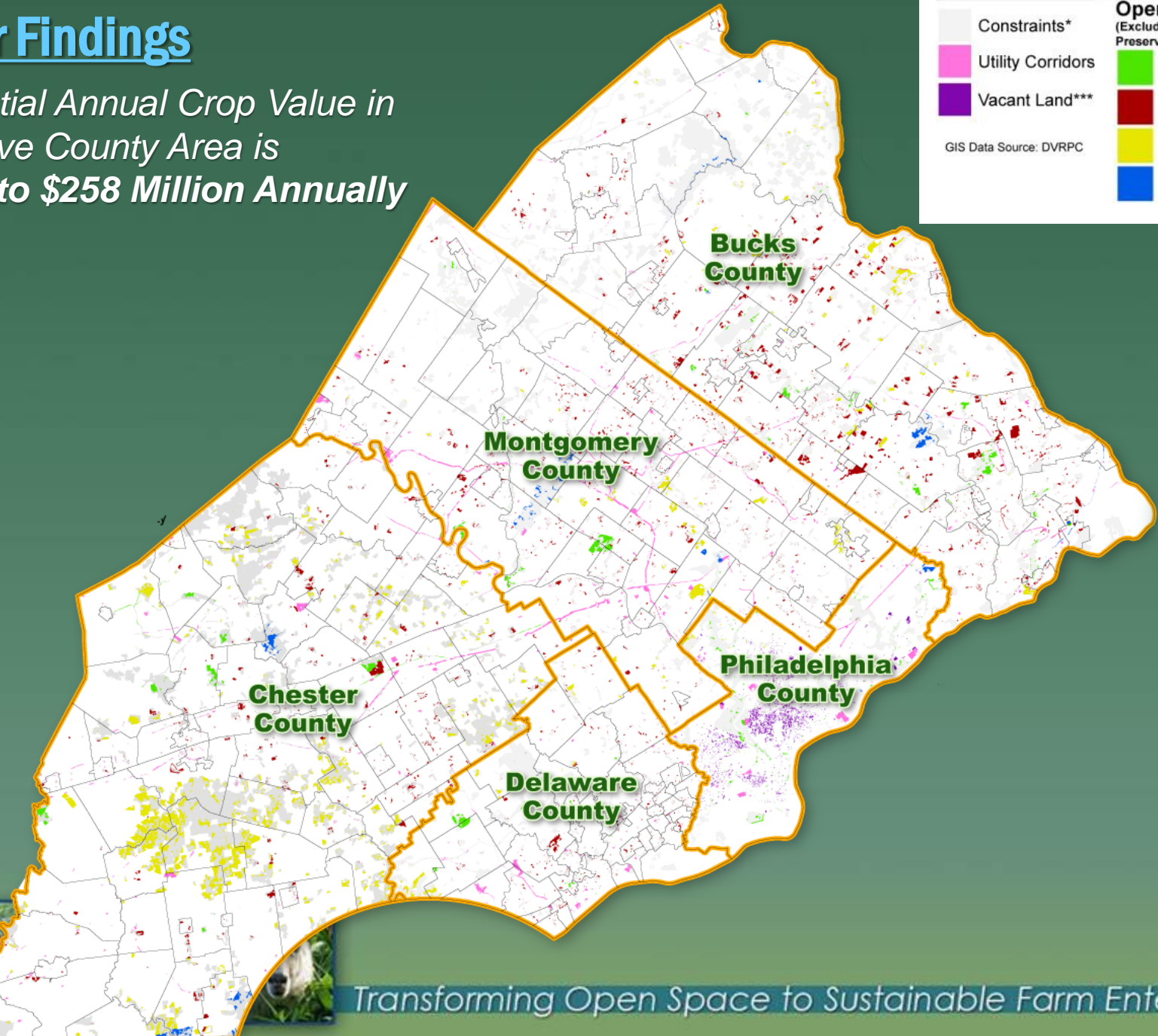
# Major Findings

- Potential Annual Crop Value in the Five County Area is \$155 to \$258 Million Annually

**Legend**

Constraints*	<b>Open Space</b> (Excluding Federal and Preserved Farmland)
Utility Corridors	County
Vacant Land***	Municipal
	Nonprofit
	State

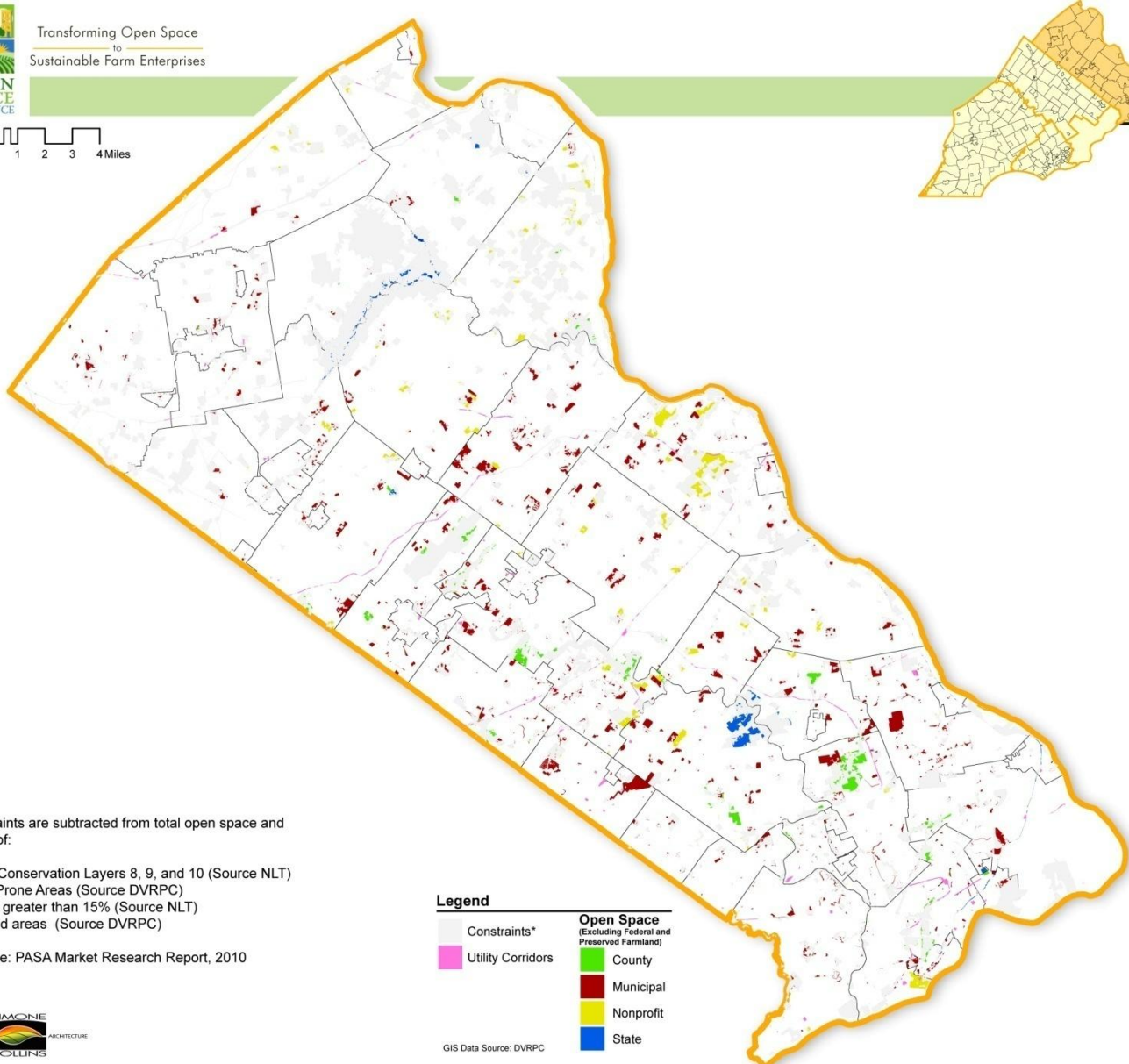
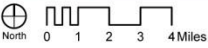
GIS Data Source: DVRPC



Transforming Open Space to Sustainable Farm Enterprises



# Potential Annual Economic Value in Bucks County: \$37 to \$62 Million (3,000 acres)



### Legend

- |                   |           |
|-------------------|-----------|
| Constraints*      | County    |
| Utility Corridors | Municipal |
|                   | Nonprofit |
|                   | State     |
- Open Space**  
(Excluding Federal and Preserved Farmland)

GIS Data Source: DVRPC

## Potential Economic Value Bucks County

**Open Space**

	Total Open Space:	<b>56,968.16</b>	ACRES
	Total Constraints*:	<b>47,190.15</b>	
	Total Open Space Suitable for Sustainable Agriculture:	<b>9,778.04</b>	

**If only 30% of these lands are utilized.**

Potential Economic Value in Bucks County	VALUE Low to High	AMOUNT
		<b>\$35.2 Million</b>
		<b>\$58.7 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Utility Land**

	Total Utility Lands:	<b>3,967.98</b>	ACRES
	Total Constraints*:	<b>3,040.88</b>	
	Total Utility Land Suitable for Sustainable Agriculture:	<b>927.10</b>	

**If only 15% of these lands are utilized.**

Potential Economic Value in Bucks County	VALUE Low to High	AMOUNT
		<b>\$1.7 Million</b>
		<b>\$2.8 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

### Total Potential Economic Value in Bucks County

(Open Space Combined With Utility Land)

**\$36.9 Million to \$61.5 Million Annually.**

**Total**

\*Constraints are subtracted from total open space and consist of:

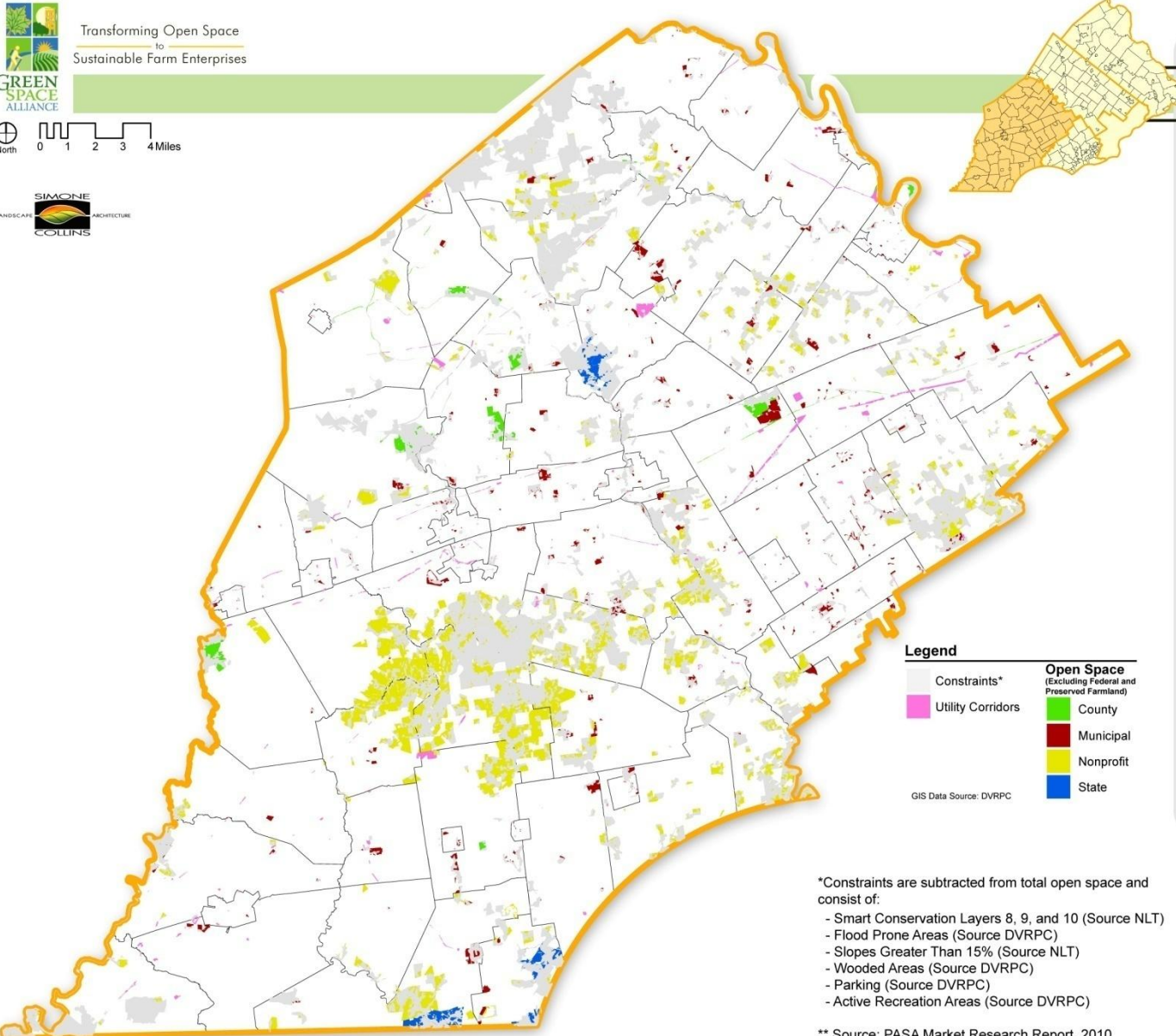
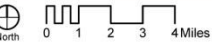
- Smart Conservation Layers 8, 9, and 10 (Source NLT)
- Flood Prone Areas (Source DVRPC)
- Slopes greater than 15% (Source NLT)
- Wooded areas (Source DVRPC)

\*\* Source: PASA Market Research Report, 2010



# Potential Annual Economic Value in Chester County: \$77 to \$129 Million (6,500 acres)

Transforming Open Space  
to  
Sustainable Farm Enterprises



**Legend**

<p>Constraints*</p> <p>Utility Corridors</p>	<p><b>Open Space</b> (Excluding Federal and Preserved Farmland)</p> <p>County</p> <p>Municipal</p> <p>Nonprofit</p> <p>State</p>
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GIS Data Source: DVRPC

\*Constraints are subtracted from total open space and consist of:

- Smart Conservation Layers 8, 9, and 10 (Source NLT)
- Flood Prone Areas (Source DVRPC)
- Slopes Greater Than 15% (Source NLT)
- Wooded Areas (Source DVRPC)
- Parking (Source DVRPC)
- Active Recreation Areas (Source DVRPC)

\*\* Source: PASA Market Research Report, 2010

## Potential Economic Value Chester County

**Open Space**

<p>Total Open Space: <b>74,436.28</b></p> <p>Total Constraints*: <b>53,692.65</b></p> <p>Total Open Space Suitable for Sustainable Agriculture: <b>20,743.63</b></p>	<p>ACRES</p>
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**If only 30% of these lands are utilized.**

Potential Economic Value in Chester County	<table border="0"> <tr> <td>VALUE</td> <td>AMOUNT</td> </tr> <tr> <td>Low to High</td> <td><b>\$74.7 Million</b></td> </tr> <tr> <td></td> <td><b>\$124.5 Million</b></td> </tr> </table>	VALUE	AMOUNT	Low to High	<b>\$74.7 Million</b>		<b>\$124.5 Million</b>
VALUE	AMOUNT						
Low to High	<b>\$74.7 Million</b>						
	<b>\$124.5 Million</b>						

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Utility Land**

<p>Total Utility Lands: <b>2,260.66</b></p> <p>Total Constraints*: <b>804.70</b></p> <p>Total Utility Land Suitable for Sustainable Agriculture: <b>1,455.96</b></p>	<p>ACRES</p>
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**If only 15% of these lands are utilized.**

Potential Economic Value in Chester County	<table border="0"> <tr> <td>VALUE</td> <td>AMOUNT</td> </tr> <tr> <td>Low to High</td> <td><b>\$2.6 Million</b></td> </tr> <tr> <td></td> <td><b>\$4.4 Million</b></td> </tr> </table>	VALUE	AMOUNT	Low to High	<b>\$2.6 Million</b>		<b>\$4.4 Million</b>
VALUE	AMOUNT						
Low to High	<b>\$2.6 Million</b>						
	<b>\$4.4 Million</b>						

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

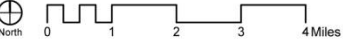
**Total Potential Economic Value in Chester County**  
(Open Space Combined With Utility Land)

**\$77.3 Million to \$128.9 Million Annually.**

**Total**

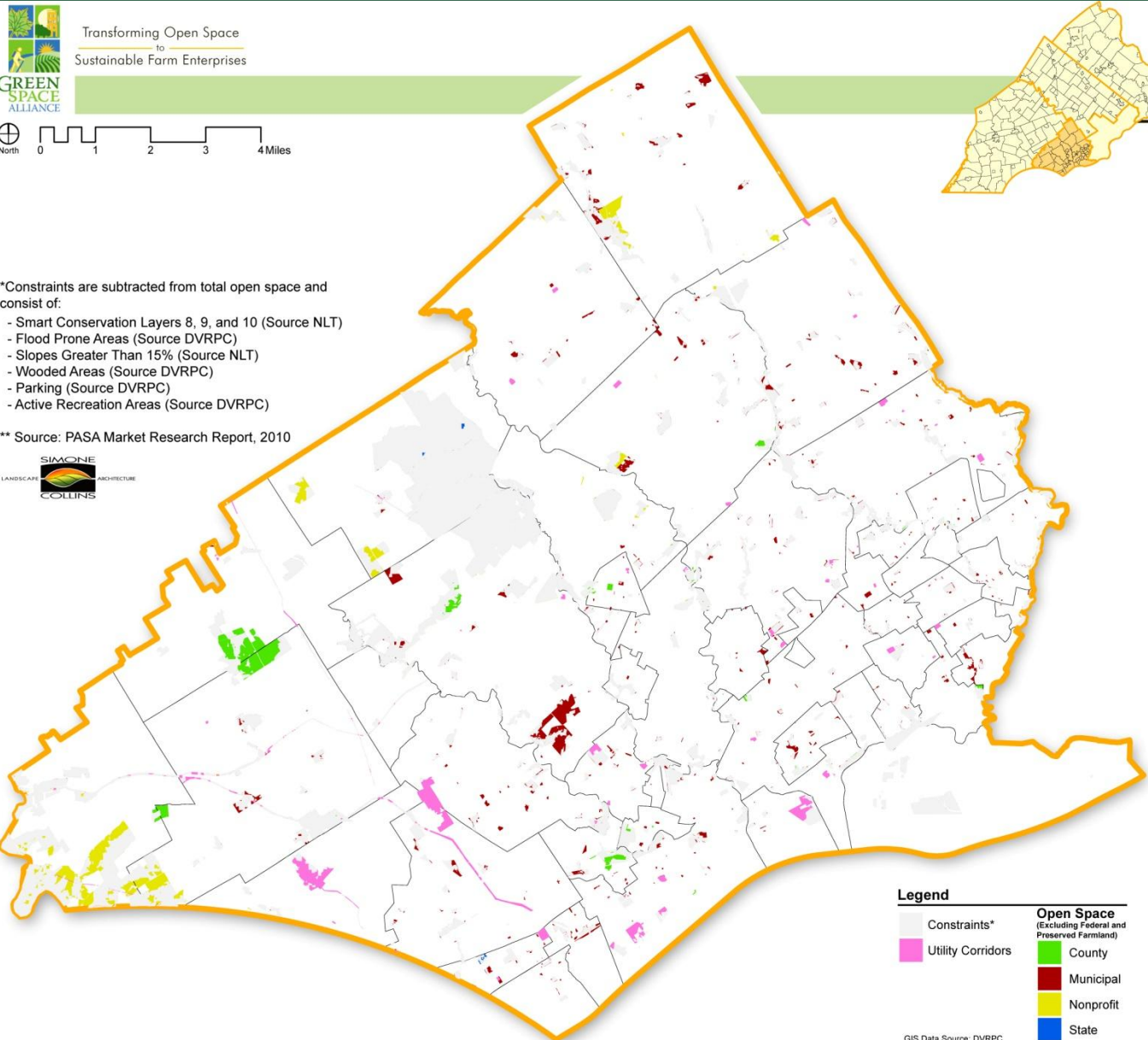


# Potential Annual Economic Value in Delaware County: \$7.5 to \$12 Million (620 acres)



- \*Constraints are subtracted from total open space and consist of:
- Smart Conservation Layers 8, 9, and 10 (Source NLT)
  - Flood Prone Areas (Source DVRPC)
  - Slopes Greater Than 15% (Source NLT)
  - Wooded Areas (Source DVRPC)
  - Parking (Source DVRPC)
  - Active Recreation Areas (Source DVRPC)

\*\* Source: PASA Market Research Report, 2010



**Legend**

- Constraints\*
- Utility Corridors
- Open Space (Excluding Federal and Preserved Farmland)
  - County
  - Municipal
  - Nonprofit
  - State

GIS Data Source: DVRPC

## Potential Economic Value Delaware County

**Open Space**

	Total Open Space:	ACRES	<b>11,954.16</b>
	Total Constraints*:		<b>10,190.20</b>
	Total Open Space Suitable for Sustainable Agriculture:		<b>1,763.96</b>

**If only 30% of these lands are utilized.**

Potential Economic Value in Delaware County	VALUE	AMOUNT
	Low to High	<b>\$6.4 Million</b>
		<b>\$10.6 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Utility Land**

	Total Utility Lands:	ACRES	<b>1,016.45</b>
	Total Constraints*:		<b>424.20</b>
	Total Utility Land Suitable for Sustainable Agriculture:		<b>592.25</b>

**If only 15% of these lands are utilized.**

Potential Economic Value in Delaware County	VALUE	AMOUNT
	Low to High	<b>\$1.1 Million</b>
		<b>\$1.8 Million</b>

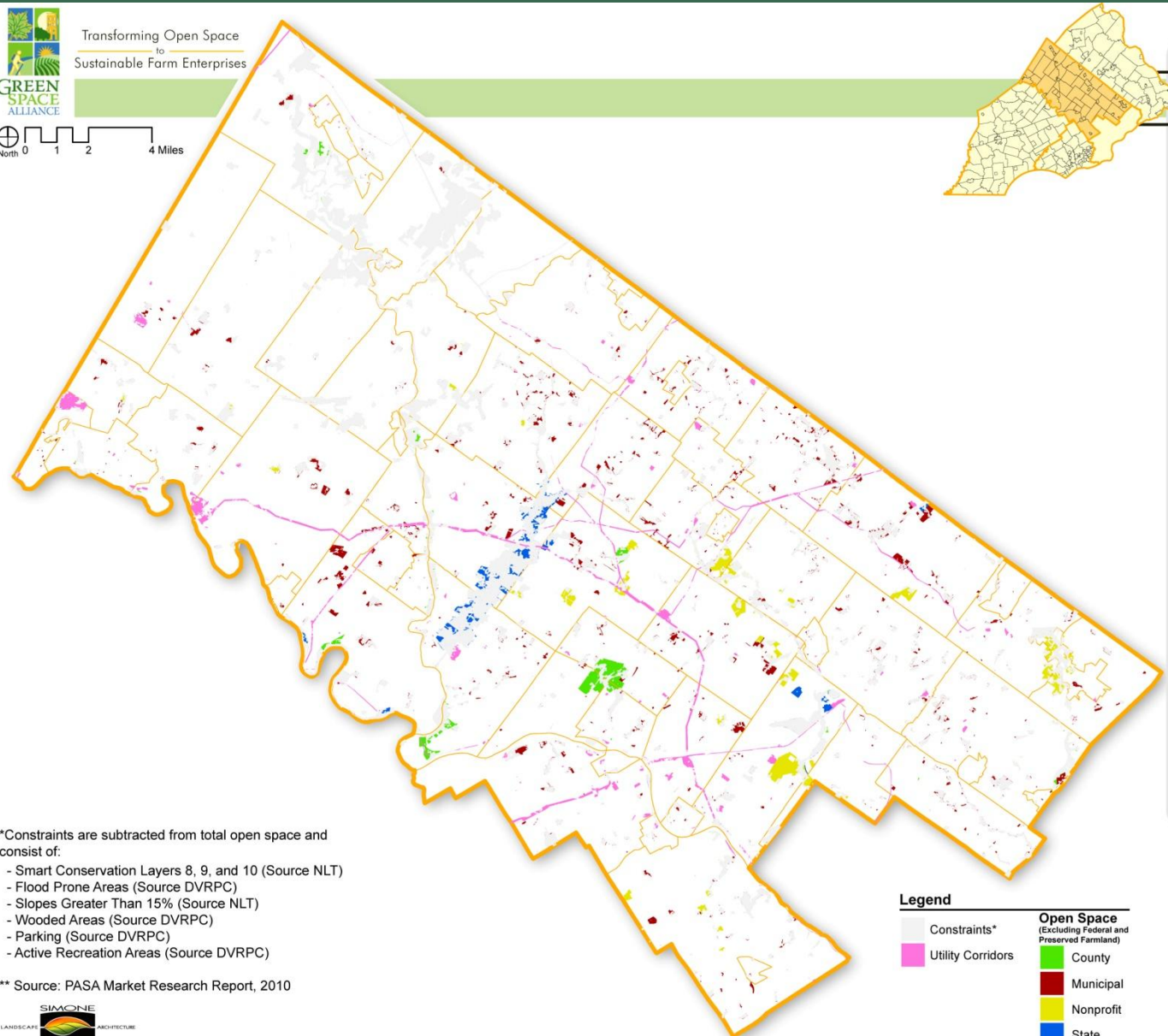
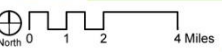
(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Total Potential Economic Value in Delaware County**  
(Open Space Combined With Utility Land)

**\$7.5 Million to \$12.4 Million Annually.**

**Total**

# Potential Annual Economic Value in Montgomery County: \$26 to \$44 Million (2,200 acres)



## Potential Economic Value Montgomery County

**Open Space**

ACRES	
Total Open Space:	27,908.95
Total Constraints*:	21,973.88
Total Open Space Suitable for Sustainable Agriculture:	5,935.07

**If only 30% of these lands are utilized.**

Potential Economic Value in Montgomery County	VALUE	AMOUNT
	Low to High	
	\$21.4 Million	\$35.6 Million

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Utility Land**

ACRES	
Total Utility Lands:	3,987.73
Total Constraints*:	1,228.28
Total Utility Land Suitable for Sustainable Agriculture:	2,759.45

**If only 15% of these lands are utilized.**

Potential Economic Value in Montgomery County	VALUE	AMOUNT
	Low to High	
	\$5.0 Million	\$8.3 Million

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Total Potential Economic Value in Montgomery County**  
(Open Space Combined With Utility Land)

**\$26.4 Million to \$43.9 Million Annually.**

**Total**

**Legend**

Constraints*	Open Space (Excluding Federal and Preserved Farmland)
Utility Corridors	County
	Nonprofit
	State

\*Constraints are subtracted from total open space and consist of:

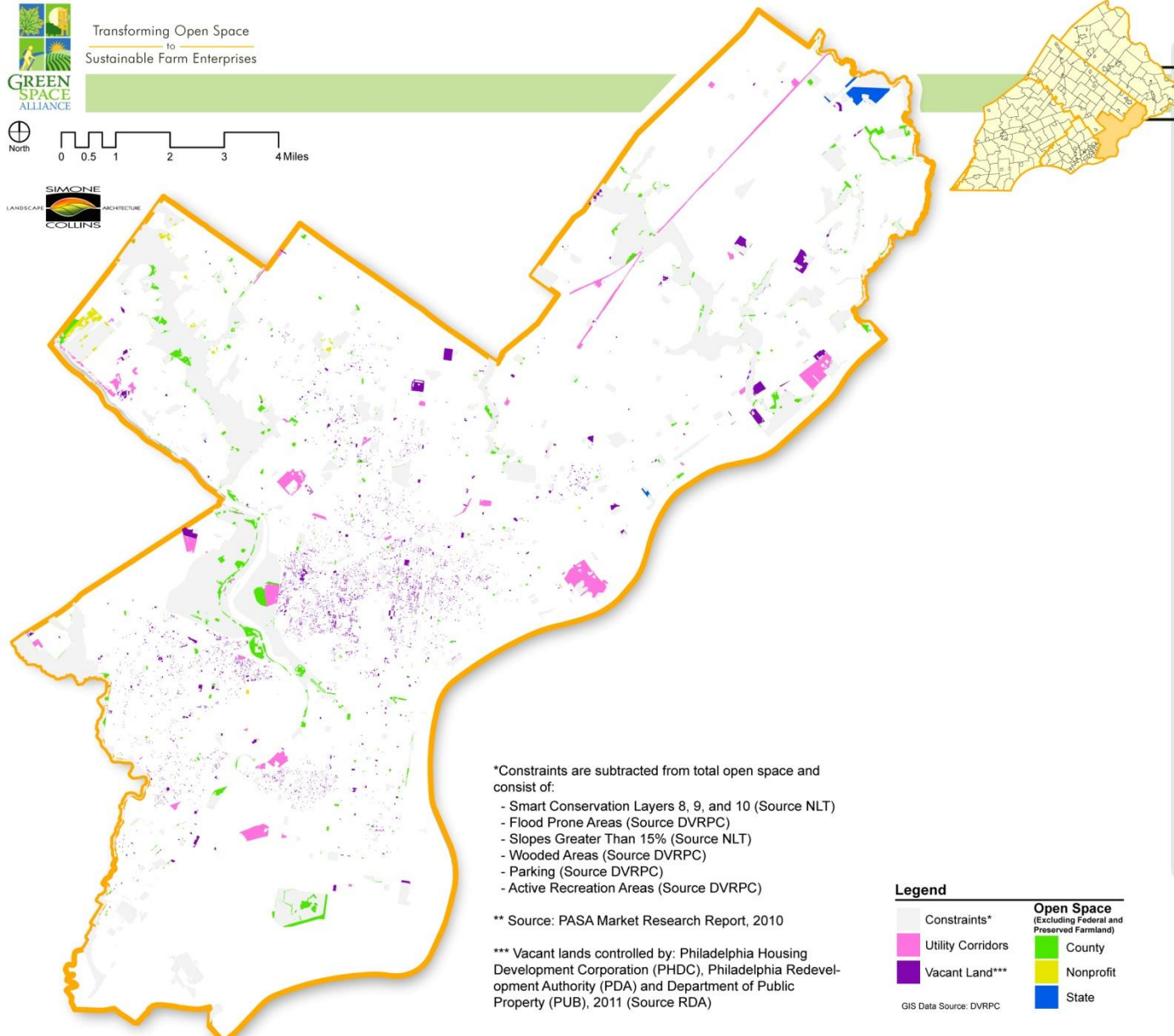
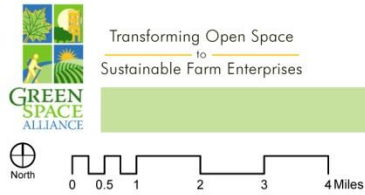
- Smart Conservation Layers 8, 9, and 10 (Source NLT)
- Flood Prone Areas (Source DVRPC)
- Slopes Greater Than 15% (Source NLT)
- Wooded Areas (Source DVRPC)
- Parking (Source DVRPC)
- Active Recreation Areas (Source DVRPC)

\*\* Source: PASA Market Research Report, 2010





# Potential Annual Economic Value in Philadelphia County: \$6 to \$11 Million (500 acres)



\*Constraints are subtracted from total open space and consist of:

- Smart Conservation Layers 8, 9, and 10 (Source NLT)
- Flood Prone Areas (Source DVRPC)
- Slopes Greater Than 15% (Source NLT)
- Wooded Areas (Source DVRPC)
- Parking (Source DVRPC)
- Active Recreation Areas (Source DVRPC)

\*\* Source: PASA Market Research Report, 2010

\*\*\* Vacant lands controlled by: Philadelphia Housing Development Corporation (PHDC), Philadelphia Redevelopment Authority (PDA) and Department of Public Property (PUB), 2011 (Source RDA)

### Legend

Constraints*	Open Space (Excluding Federal and Preserved Farmland)
Utility Corridors	County
Vacant Land***	Nonprofit
	State

GIS Data Source: DVRPC

## Potential Economic Value Philadelphia County

**Open Space**

ACRES	
Total Open Space:	<b>10,660.67</b>
Total Constraints*:	<b>9,536.93</b>
Total Open Space Suitable for Sustainable Agriculture:	<b>1,123.74</b>

**If only 30% of these lands are utilized.**

Potential Economic Value in Philadelphia County	VALUE	AMOUNT
	Low to High	<b>\$4.0 Million</b>
		<b>\$6.7 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Utility Land**

ACRES	
Total Utility Lands:	<b>1,113.86</b>
Total Constraints*:	<b>266.87</b>
Total Utility Land Suitable for Sustainable Agriculture:	<b>846.99</b>

**If only 15% of these lands are utilized.**

Potential Economic Value in Philadelphia County	VALUE	AMOUNT
	Low to High	<b>\$1.5 Million</b>
		<b>\$2.5 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

**Vacant Land**

ACRES	
Total Vacant Lands***:	<b>1,848.48</b>
Total Constraints*:	<b>1,324.29</b>
Total Vacant Land Suitable for Sustainable Agriculture:	<b>524.19</b>

**If only 15% of these lands are utilized.**

Potential Economic Value in Philadelphia County	VALUE	AMOUNT
	Low to High	<b>\$0.9 Million</b>
		<b>\$1.6 Million</b>

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

(\$12,000/Acre to \$20,000/Acre Annually)\*\*

<b>Total Potential Economic Value in Philadelphia County</b> (Open Space Combined With Utility and Vacant Land)
<b>\$6.4 Million to \$10.8 Million Annually.</b>

**Total**



## Major Findings:

- *Sustainable agricultural enterprises could generate \$250 million/year in crop value for the region.*
- *Sustainable agricultural enterprises on preserved land could encounter push back when taxpayer \$ was used for purchase. Municipalities are hesitant to allow sustainable farm enterprises due to a lack of understanding about these uses.*
- *Funding sources may pose restrictions on uses.*
- *Even without funding source restrictions, local zoning may restrict or inhibit sustainable farm operations. Conservation easements may prohibit as well.*
- *There is a general lack of awareness of the need for land to meet demand for locally produced food.*



## Major Recommendations:

- *Educate local officials on benefits of sustainable agriculture*
- *Incorporate concept of sustainable agriculture in SCORP and comprehensive plans*
- *Work with DCNR to re-examine their use policies*
- *Update zoning ordinances to permit in more zoning districts, with reasonable standards*
- *Ensure conservation easement language allows sustainable farm uses*
- *Access full report and brochure at [www.dvrpc.org/food](http://www.dvrpc.org/food) for details on addressing legal, regulatory and physical barriers*

