



Use-Value Program: Income and Rental Rate Approaches

**Virginia Association of Assessing Officers (VAAO)
Annual Educational Seminar
July 11, 2012
Charlottesville, VA**

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Objectives



- Who's new to Land Use Tax?
- What's new?
- Overview
- Current Status
 - TY2012 Map of Use-value Jurisdictions
- Income Approach
- Rental Rate Approach
- Questions



What's New?



- READ THE CARD – we need your input
- SLEAC Manual revision committee
 - Co-Chairs are K. Schmidt and S. Richardson
- Survey of Assessor and COR
 - Use of estimates and capitalized rental rates
 - Conservation Easements
 - Ag and Forest Districts
 - Eligibility for initial application and validation
- Creation of a bank of FAQ's



Virginia's Use-Value Taxation Program



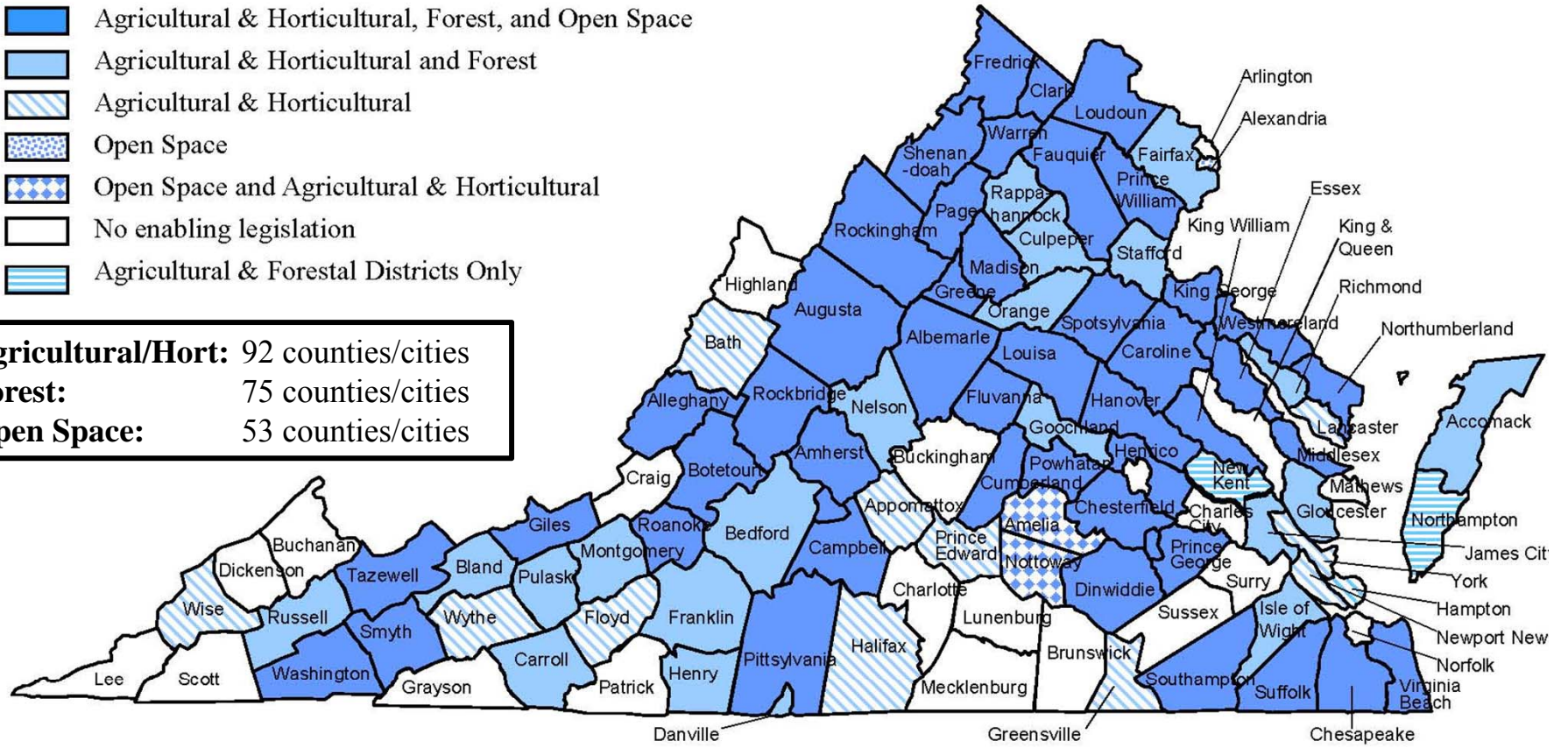
Organization

- State Land Evaluation and Advisory Council (SLEAC) provides annual use-value estimates for each jurisdiction in the program
 - State Tax Commissioner (Chair)
 - Commissioner of Agriculture
 - State Forester
 - Director of VA Department of Conservation and Recreation
 - Dean of Virginia Tech College of Agriculture and Life Sciences
- ***Responsibility for final value of assessment resides with the local assessing officer***

TY2012: Counties/Cities* with enabling legislation for use-value taxation
(Agricultural & Horticultural, Forest, and Open Space)

-  Agricultural & Horticultural, Forest, and Open Space
-  Agricultural & Horticultural and Forest
-  Agricultural & Horticultural
-  Open Space
-  Open Space and Agricultural & Horticultural
-  No enabling legislation
-  Agricultural & Forestal Districts Only

Agricultural/Hort:	92 counties/cities
Forest:	75 counties/cities
Open Space:	53 counties/cities



* Counties/Cities are identified from annual use-value reports and may differ from actual implementation. Contact government officials in each county/city for the current use-value implementation. Not all participating cities are identified on this map.



Two Approaches



- **Net income Capitalized (Income Approach)**
- **Rental rates Capitalized (Rental Rate Approach)**



Income Approach



- Use only published **secondary sources**

The Composite Farm

- The county's composite farm is a *typical farm* within the county
- Crop acreage from latest Census of Agriculture (2007)
- Only crops with 1 or more acres in the composite farm are considered. Calculations are:

$$\text{Acres of crop} \div \text{number of farms} \geq 1 \text{ acre}$$



Income Approach

Crops in Model



Traditional	Added for TY2009/2010	
Alfalfa hay Barley Corn Cotton Hay (grass) Potatoes Soybeans Wheat	Peanuts Tobacco	Pasture Cucumbers Pumpkins Snap Beans Sweet Corn Tomatoes Watermelons



(Number of Farms = 446)

Prince Edward County TY2012

(DY2010 Crop Budgets and DCP Payments)



	<u>Acres*</u>	<u>Composite Farm</u>	<u>Net Returns</u>
1. Corn	1,540	3	\$ 77.76 (\$7.87 Budgets + \$69.90 DCPs)
2. Alfalfa	326	1	\$ 21.67
3. Hay	14,477	32	\$ 0.00
4. Wheat	143	0	
5. Barley	144	0	
6. Soybeans	185	0	
7. Potatoes	2	0	
8. Cotton	---		
9. Pasture	19,793	44	\$ 0.00
10. Peanuts	---		
11. Tobacco	156	0	
12. Snap Beans	---		
13. Cucumbers	D		
14. Pumpkins	D		
15. Tomatoes	2	0	
16. Sweet Corn	3	0	
17. Watermelons	D		
Double-cropped	(-) 287	(-) 1	
Totals	36,484	79	\$3.48

* From 2007 Ag Census

D = Withheld to avoid disclosing data of individual farms



Prince Edward County TY2012 Crop Budgets (\$/acre)*: Olympic Averaging (7 years)



Alfalfa		<i>OlyAvg</i>
DY2010	-230.53	0.00 L
DY2009	-181.84	0.00
DY2008	-164.95	0.00
DY2007	33.43	33.43
DY2006	55.54	55.54
DY2005	52.79	52.79
DY2004	191.94	191.94 H
	<i>OlyAvg</i>	\$21.67

* Crop Budgets lag a given tax year by 2 years due to data reporting by NASS.

In an Olympic Average, the **highest** and **lowest** values are dropped prior to calculating an arithmetic mean; all negative values are set to zero.



Federal Direct and Counter-Cyclical Program Payments (DCPs)



- Currently, federal program payments are received for:
Corn Soybeans Cotton Wheat
- Federal payment for a crop is divided by the crop acreage, resulting in per acre payment

For example, in Prince Edward County TY2012: Corn DCPs

Ag Census2007	732 Corn (Grain) + 808 Silage = 1,540 acres
DY2010 Federal Payment	\$73,492
TY2010 Federal Payment	$\$73,492 / 1,540 \text{ acres} = \mathbf{\$47.72}$



Prince Edward County TY2012 Capitalization



$$\text{Use value} = \frac{\text{Net Return}}{\text{Capitalization Rate}}$$

Net Use Value: **\$3.48**

Capitalization Rates:

- a) *Interest rate component* 0.0682 (10 year straight AVG)
- b) *Property tax component* 0.0041 (10 year straight AVG)
- c) **Rate without risk** **0.0724** (a + b)
- d) *Risk component* 0.0036 (0.05 times c)
- e) **Rate with risk** **0.0760** (d + c)

Unadjusted Use Values:	<u>w/out risk</u>	<u>with risk</u>
	= \$3.48/0.0724	= \$3.48/0.0760
	= \$48.04	= \$45.75



Income/Rental Approach

Adjusting for Land Class



Class	Index	
I	1.5	Soils have few limitations restricting use.
II	1.35	Soils have moderate limitations that reduce choice of plants or require moderate conservation practices.
III	1	Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
IV	0.8	Soils have very severe limitations that restrict the choice of plants, require very careful management, or both.
V	0.6	Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.
VI	0.5	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.
VII	0.3	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.
VIII	0.1	Soils and land forms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, or water supply, or to aesthetic purposes.



Income Approach



Prince Edward County TY2012

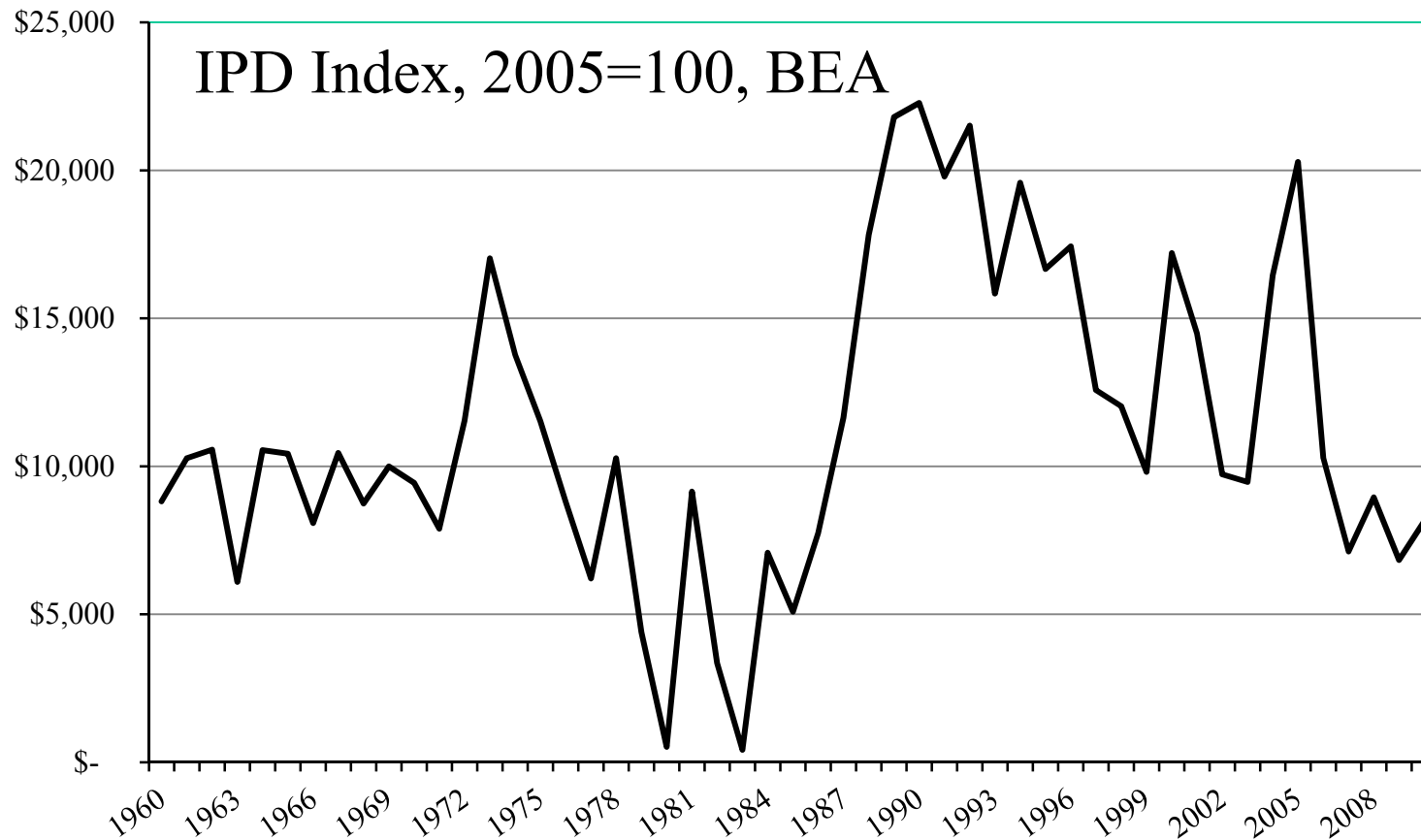
Table 1a: Estimated use-values of agricultural land by jurisdiction.

Estimates apply to tax-year 2012

		<i>Cropland</i>					<i>Pastureland</i>						
		I	II	III	IV	AVG I-IV	V	VI	VII	AVG V- VII	AVG I-VII	VIII	
Prince Edward	<i>W/Out Risk</i>	60	60	40	30	50	30	20	10	10	40	0	
	<i>W/Risk</i>	60	50	40	30	40	20	20	10	10	40	0	



Real Net Farm Income Virginia \$/farm



Data, Economic Research Service/USDA, years 1960-2010



Jurisdictional Profile Differences



East of I-95

West of I-95

Westmoreland TY2012

Number of farms = 171

	<i>Acres</i>	<i>CF</i>	<i>Net Return</i>
Corn	20,510	120	\$30.39
Hay	1,216	7	\$ 0.57
Wheat	9,123	53	\$65.02
Barley	2,308	13	\$12.91
Soybeans	17,482	102	\$24.84
Pasture	2, 122	12	\$20.97
DoubleCrp	(-)11,496	(-) 67	
Totals	41,949	243	\$41.22

Type III (w/o risk)

\$430

Wise TY2012

Number of farms = 178

	<i>Acres</i>	<i>CF</i>	<i>Net Return</i>
Alfalfa	197	1	\$38.97
Hay	2,429	14	\$ 0.00
Pasture	12, 586	71	\$ 0.00
DoubleCrp	(-) 0	(-) 0	
Totals	15,230	86	\$ 0.50

Type III (w/o risk)

\$10



Jurisdictional Profile Differences



Shenandoah Valley

Rockingham TY2012

Number of farms = 1,970

	<i>Acres</i>	<i>CF</i>	<i>Net Return</i>
Corn	36,520	19	\$58.07
Alfalfa	11,353	6	\$136.94
Hay	43,846	22	\$ 2.71
Barley	2,370	1	\$11.37
Soybeans	6,281	3	\$144.03
Pasture	89,621	45	\$19.44
DoubleCrp	(-)3,839	(-) 2	
Totals	187,339	94	\$34.53

Type III (w/o risk) **\$430**

Southside

Henry TY2012

Number of farms = 340

	<i>Acres</i>	<i>CF</i>	<i>Net Return</i>
Hay	9,207	27	\$ 0.00
Pasture	16,768	49	\$ 0.00
DoubleCrp	(-) 0	(-) 0	
Totals	26,133	76	\$ 0.00

Type III (w/o risk) **\$0**



Rental Rates TY2012



Table 1: Cropland and pastureland values based on NASS¹capitalized rental rates

Jurisdictions Counties	Capitalization Rate ²	----- Cropland -----		Irrigated cropland		----- Pastureland -----	
		Rental Rate \$/acre ¹	Value \$/acre ³	Rental Rate \$/acre ¹	Value \$/acre ³	Rental Rate \$/acre ¹	Value \$/acre ³
Accomack	0.07206	59.5	830	109	1510	35 ^{ep}	490
Albemarle	0.07474	31	410	--	--	18.5	250
Alleghany	0.07404	25 ^{wc}	340	--	--	19.5 ^{wp}	260
Amelia	0.07177	25	350	--	--	21	290
Amherst	0.07313	17	230	--	--	15	210
Appomattox	0.07322	18.5	250	--	--	12.5	170
Arlington	0.07602	32.5 ^{nc}	430	--	--	22.5 ^{np}	300
Augusta	0.07293	40.5	560	--	--	28	380
Bath	0.07204	21.5	300	--	--	19.5	270
Bedford	0.07345	20	270	--	--	14.5	200
Bland	0.07337	19 ^{swc}	260	--	--	17.5	240
Botetourt	0.07409	25	340	--	--	13.5	180
Brunswick	0.07171	33.5	470	--	--	20	280
Buchanan	0.07217	19 ^{swc}	260	--	--	9.4 ^{swp}	130
Buckingham	0.07225	19.5	270	--	--	16	220
Campbell	0.07286	19.5	270	--	--	14	190
Caroline	0.07382	48.5	660	--	--	29.5	400



Income and Rental Rate Approaches Compared TY2012



	Use-value Estimates	Rental Rates
	Cropland	Cropland
	Class III (w/o risk) (\$/acre)	(\$/acre)
Accomack	930	830
Albemarle	50	410
Alleghany	0	340
Amelia	210	350
Amherst	10	230
Appomattox	50	250
Augusta	150	560
Bath	40	300
Bedford	60	270
Bland	100	260
Botetourt	60	340
Campbell	30	270
Caroline	470	660
Carroll	80	260
Chesapeake	1010	870
Chesterfield	200	490



Virginia's Use-Value Taxation Program



Example: Cumberland County Farm

- Consider a farm in Cumberland County in TY2012 with 400 acres (150 ac cropland, 150 ac pastureland, and 100 ac timber land)
- Comprised of
 - 100 acres (Class I land),
 - 50 acres (Class III),
 - 150 acre (Class IV), and
 - 100 acres (Good forest)
 - **Assume that the Fair Market Value** of the land is **\$1,500/acre**
- Use-value assessment values are based on 2 approaches
 - Capitalized income (Ag, hort, and forest)
 - Capitalized rental rates (Ag)



Deferred Taxes

Cumberland Farm Example

	Fair Market Value	Income Approach	Rental Rate Approach
Total Values	\$600,000	\$79,000	\$129,500
Property Tax Rate	\$0.68/\$100		
Property Tax	\$4,080	\$537	\$880



Useful Reports

- *Use-Value Website* <http://usevalue.agecon.vt.edu/>
- The following reports are available on the website at:
<http://usevalue.agecon.vt.edu/publications.htm>
 - Why Use-Value Estimates Differ: Comparing Halifax and Pittsylvania Counties (2008)
 - Use-Value Taxation in Virginia: A Brief Discussion (2006)
 - Results of the 2003 Agricultural and Horticultural Use-Value Taxation Program Survey (2004)
 - Measuring the Impact of Use-Value Taxation for Northampton County, Virginia (2004)



Thanks!
&
Questions?

usevalue.agecon.vt.edu