



Development and Implementation of a Water Quality Bank and Trade Program in the Potomac River Basin, WV

Point Source Sector Briefing
May 14, 2008

*Project Funded by a Natural Resources Conservation Service
Conservation Innovation Grant*

WV Potomac Trading Program

An NRCS-funded project to establish water quality trading between point source and non-point source (PS-NPS and/or PS-PS) community.

Goals to:

1. reduce point and non-point source nutrient and sediment loadings to the Potomac River and Chesapeake Bay; and
2. allow increased & more sustainable economic activity in all affected sectors.

Why Water Quality Trading?

- More flexible and cost-effective means to meet regulations;
- Works within existing statutory & regulatory framework;
- Generates add'l environmental benefits:
 - reduced erosion - farmland preservation - habitat quality - GHG reductions – source water protection.

Nutrient Credit Trading

Trading Nutrient/Sediment Loads in WV Potomac basin:

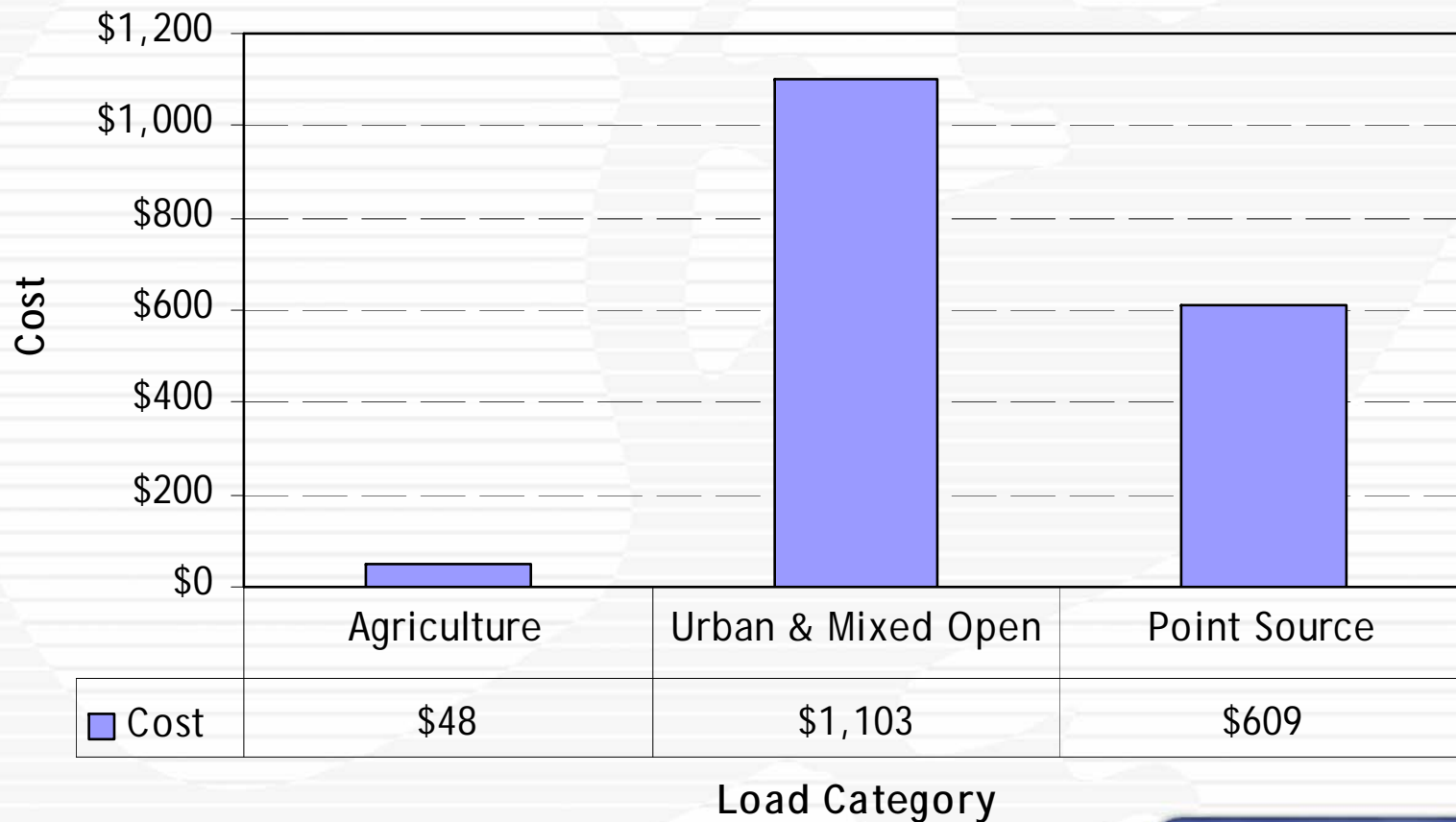
NPDES permitted facilities with **high costs** of pollution reduction **can purchase** pollution reductions (**credits**) from facilities with **lower costs** of reducing pollution.



RESULT: Water quality goals met at lower cost to wastewater facilities and to society.

Cost Effectiveness

Cost per Pound of Nitrogen Removed

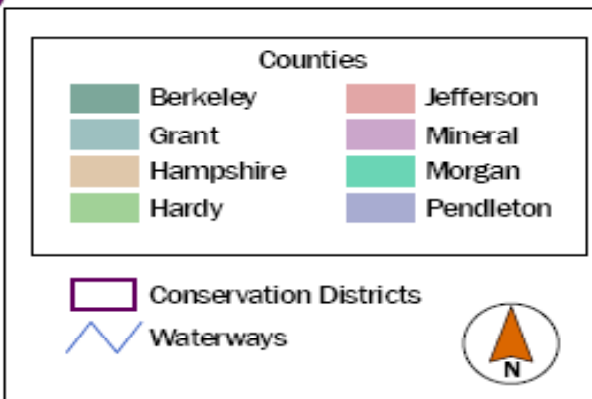
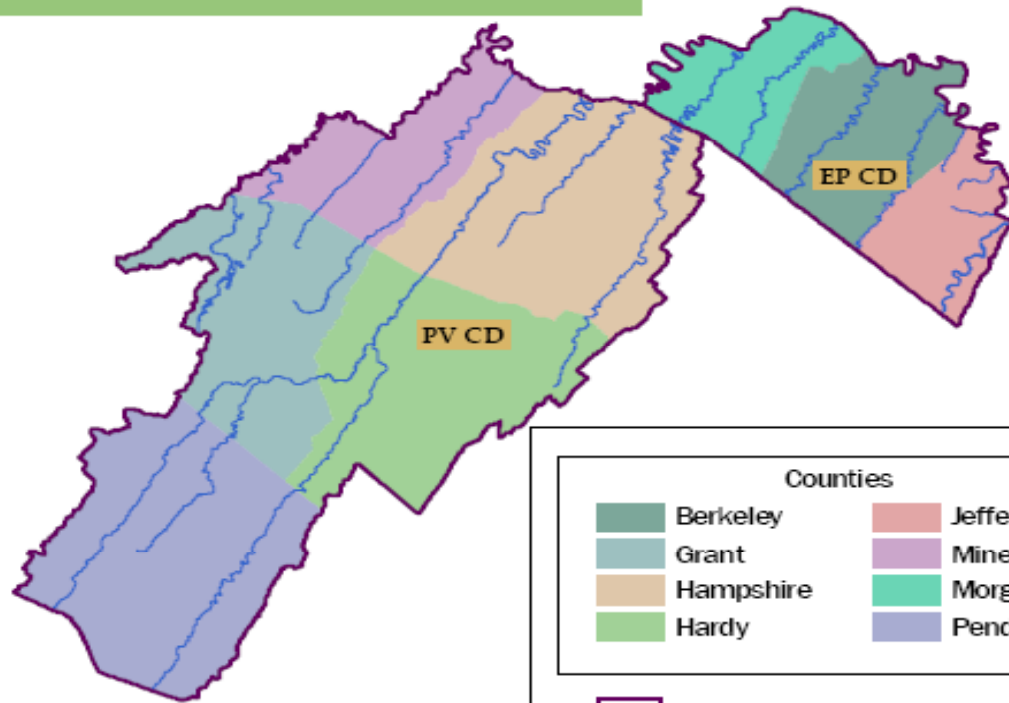


Program Context

- Chesapeake Bay Cap Load Allocations
 - WV Trib Strategy Implementation Commitment to reduce:
 - 33% N = 4.7 million lbs
 - 35% P = 370,000 lbs
 - 6% sediment = 320,000 tons
- New (*expensive*) requirement on point sources (Sec D offsets)
- Impending TMDL (2010)
- Impending nutrient water quality criteria
- Potential regulation of non-point sources

Trading Project Scale

**Counties and Conservation Districts
WV Potomac Basin**





Additional Nitrogen and Phosphorus Reductions Needed

Nitrogen		TN (LBS/YR)	TN (LBS/YR) s64prog06	TN (LBS/YR) 6/22/07	Reduction 85-06 (lbs)	% Reduction	Additional reduction needed (lbs)
		1985	2006	Tributary Strategy			
WV	Agriculture	3,967,488	2,764,040	1,521,284	1,203,448	30.3	1,242,757
WV	Point Source	419,470	538,414	390,666	-118,945	increased 28	147,748
WV	Urban	423,162	374,250	283,506	48,912	12	90,744
WV	Mixed Open	708,294	732,816	562,368	-24,522	increased 3.5	170,448
Phosphorus		TP (LBS/YR)	TP (LBS/YR) s64prog06	TP (LBS/YR) 6/22/07			
		1985	2006	Tributary Strategy			
WV	Agriculture	366,028	318,792	199,273	47,236	12.9	119,518
WV	Point Source	88,007	296,006	67,977	-207,999	increased 236	228,028
WV	Urban	32,372	25,416	19,459	5,957	18	5,957
WV	Mixed Open	52,439	58,456	56,102	-6,017	increased 11.5	2,354

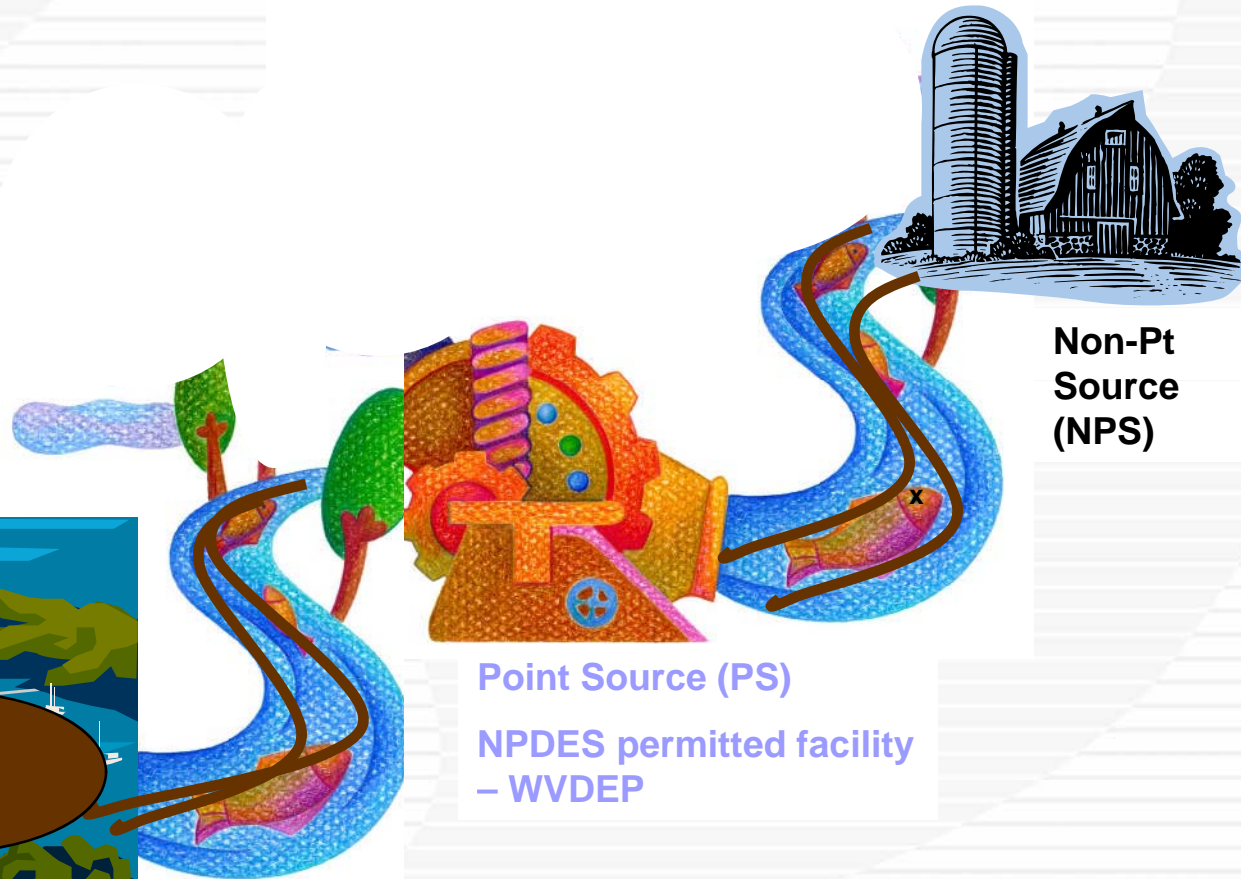


Implications for WV's wastewater facilities

- Significant and Non-significant facilities (> 50,000 gpd) must install technology to meet **5** mg/l TN, **.5** mg/l TP
- All new and expanding N & P loads must be **offset** 100%.
- Insignificant facilities are currently exempt
- Industrials will be treated case by case

How it works... 2008

Ches Bay

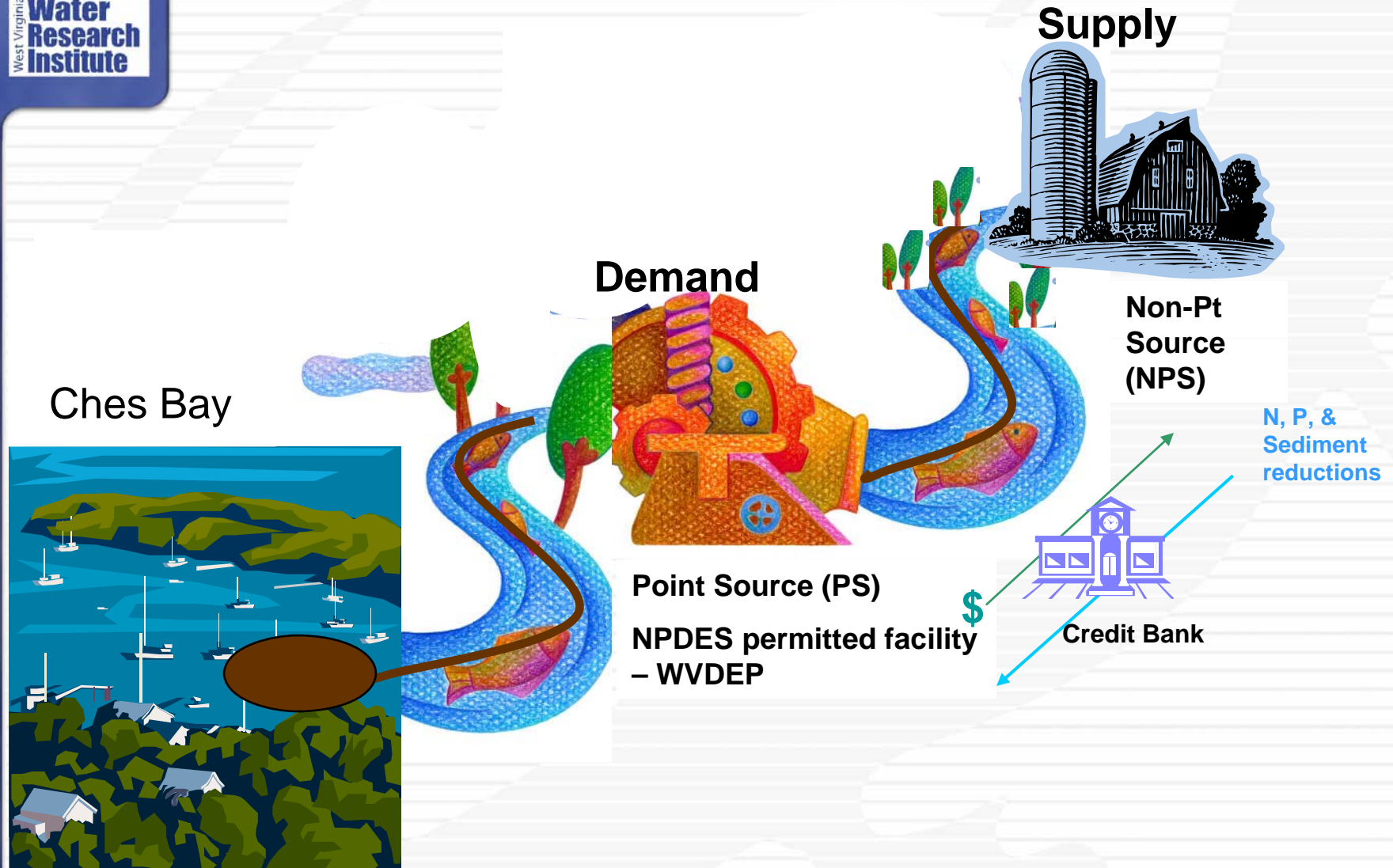


**Non-Pt
Source
(NPS)**

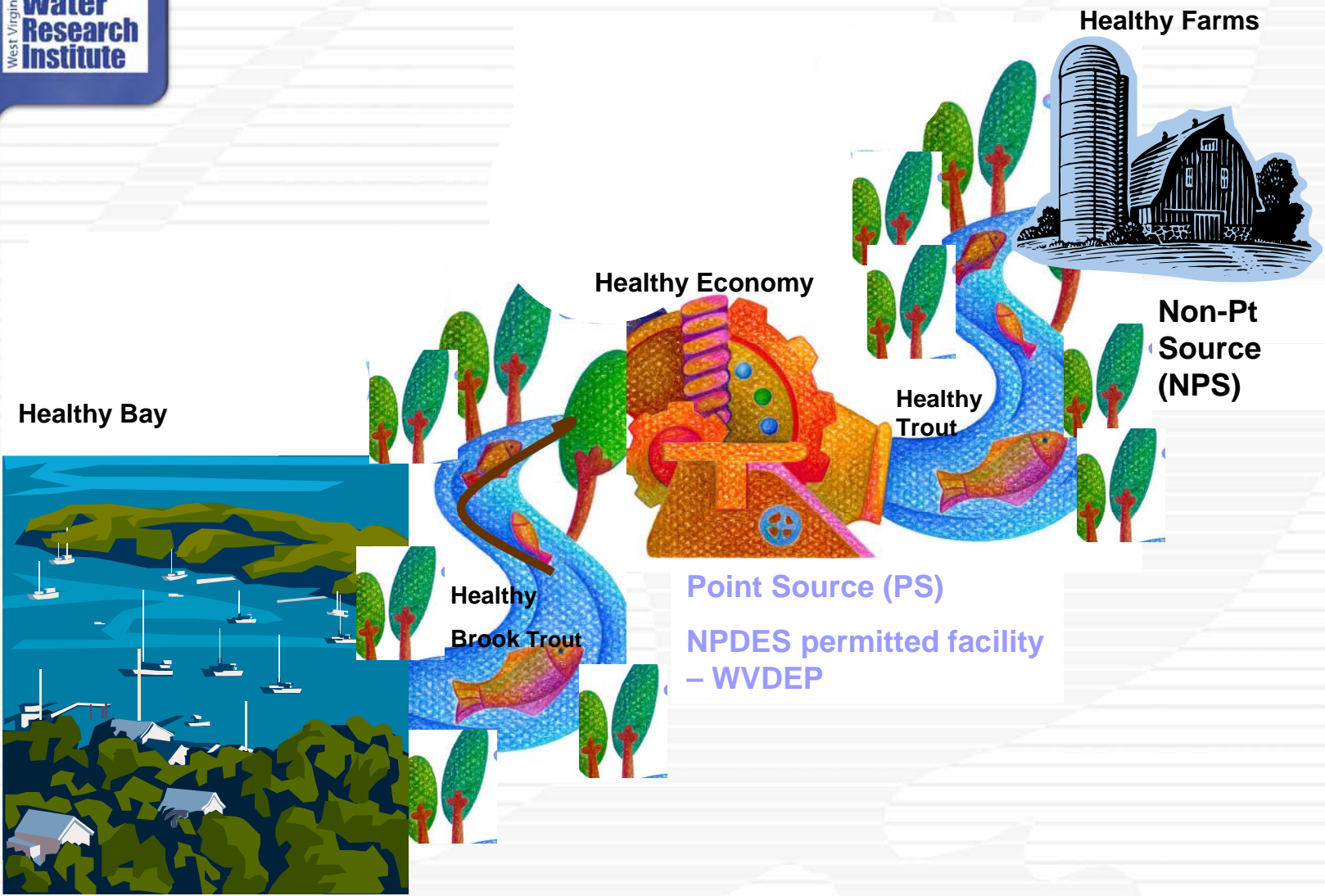
Point Source (PS)

**NPDES permitted facility
– WVDEP**

Trading program



2010, No TMDL



EPA Trading Policy

- Trading programs must be consistent with CWA
- Credits are generated only by reductions made above and beyond what is required by law
- No adverse localized impacts (hot spots)
- Net reduction or *at least* no net increase in loadings
- Public participation and transparency
- *Accountability, compliance, and enforcement* mechanisms for all reductions are essential

WQ Trading Programs Guiding WV

- 9 statewide programs, nearly 40 watershed programs
- Bay programs- PA and VA; activity in MD, DE
- USDA/EPA Partnership to facilitate WQ credit trading & a Bay pilot project

Lessons from other programs

- Program is essentially an enhanced BMP program
- Internalize program complexities
- Engage communications, policy and local government folks
- Communication as important as sound science
- Producer involvement (facilitate meetings, sell program and conduct inspections)
- No stakeholder has veto power
- Retain flexibility for adaption
- Participants' confidence (trust) in program is key

WV Trading Project Approach

- Integrate trading program into the existing funding, procedures, staffing and infrastructure of the WV BMP cost-share program;
- Provide high level state leadership with local implementation;
- Develop a stakeholder-driven credit market.

3 Major Tasks

Task 1. Develop accurate data and information to inform *NutrientNet* and stakeholder process;
(Standardized web-based credit calculator that lowers transaction costs and provides transparency)

Task 2. Convene an inclusive stakeholder process to inform program design and achieve buy-in;

Task 3. Develop and implement the trading rules and infrastructure for program management.

Project Status

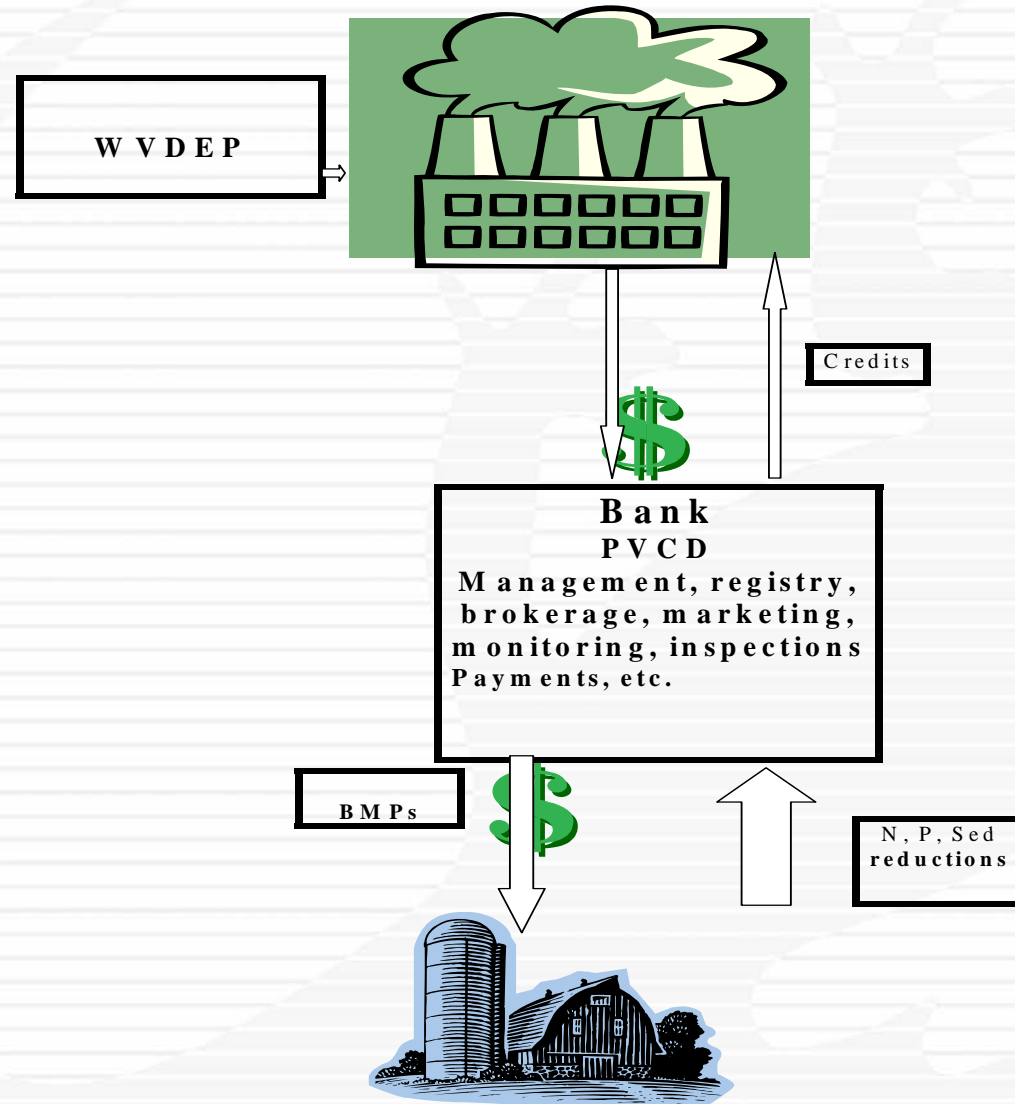
- NRCS grant awarded February 2007
- Stakeholder Steering Committee
- Engaged Ag Sector
- Developing *NutrientNet* for Potomac basin
- Developed draft guidance
- Continuing to solicit stakeholder input
- Designing program infrastructure and seeking funding

Program Infrastructure

Infrastructure, Operation & Management (CD/third party)

- ✓ Record keeping
- ✓ Certifications
- ✓ Agreements/MOUs/contracts
- ✓ Monitoring
- ✓ Track reductions
- ✓ Inspections (farmers inspect farmers)
- ✓ Issue RFPs, review proposals
- ✓ Maintain website
- ✓ Board of Trade (oversight)

Proposed Framework





Project Partners/Steering Committee

- USDA NRCS
- WV Department Of Agriculture
- WV Conservation Agency/Districts
- WV Farm Bureau
- Farm Service Agency
- WVU Extension
- WV Department of Environmental Protection
- World Resources Institute (Nutrient Net)
- Freshwater Institute/Conservation Fund (Point Source Innovation Working Group)
- Trout Unlimited
- Point source and Urban/Mixed Open



Thank You

Project website:

<http://wwri.nrcce.wvu.edu/programs/pwqb/index.cfm>

Details/Issues

- Appropriate baselines?
- Whole or partial credits for cost-share projects?
- What BMPs to include and efficiency rates?
- Trading ratios for managing uncertainty & attenuation?
- Liability for noncompliance?
- Enforcement/accountability?
- Credit pricing
- Insurance pool