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*6/17/2010 – Clarion University
Transportation Committee Presentation*

Thank you for the opportunity to be here and speak today. My name is Steve Bloser and I am the Assistant Director at the Center for Dirt and Gravel at Penn State University. I am here today, not on behalf of the University, but on behalf of perhaps the most efficient and successful publicly-funded transportation program in the State...that you have never heard of: the Dirt and Gravel Road Maintenance Program.

The Dirt and Gravel Road Maintenance Program was established by section 9106 of the Pennsylvania motor vehicle code in 1997. The purpose of the program is to implement and promote "Environmentally Sound Maintenance Practices" on publicly owned unpaved roads throughout the state. These Environmentally Sound Maintenance Practices are designed to accomplish two objectives: first, to reduce the amount of sediment pollution to Pennsylvania's Streams; and second, to reduce long-term road maintenance costs. In short, the purpose of the Program is to create a more environmentally and economically sustainable rural road system.

Each year since 1997, the Program has received \$5 Million in annual non-lapsing allocation. \$1 Million goes to the PA Bureau of Forestry for their Dirt and Gravel Road Program on the 3,000+ miles of road they own. The remaining \$4 Million goes towards municipal roads through the State Conservation Commission. I am going to speak to you largely about the \$4 Million municipal program today, because that is where most of my involvement is.

The Dirt and Gravel Road Program different: It is not a road program that deals with water quality. It is a water quality program that deals with roads. As such, the Program is not run by road experts, rather by erosion experts. The Program is housed under the State Conservation Commission at the PA Department of Agriculture, and is implemented at the County level by Pennsylvania's network of Soil and Water Conservation Districts. There are currently active Programs in 64 of Pennsylvania's 67 Counties. Public road-owning entities, mostly second class townships, can apply to their Conservation District for funding to address specific sections of road.

The Dirt and Gravel Road Program is different: One of the guiding principles of the program is LOCAL CONTROL. What local control means is that the Program puts more emphasis on decision-making at the local level, Counties and Municipalities. Why? Because Pennsylvania is a diverse state, and who knows the local geology, ecosystems, finances, and roads better than the people who live there? Not me, and probably not someone sitting in Harrisburg, no offense. The program relies heavily on

guidance, education, and a Quality Assurance / Quality Control effort to insure that local projects and procedures meet the intent of the Dirt and Gravel Road Program.

I would like to take a minute to talk to you about the actual projects that the Dirt and Gravel Road Program puts on the ground: how they happen, what they cost, and what is actually done. There have been nearly 2,000 projects completed over the past decade in 65 Counties, so an "average project" is difficult to describe, but I will give it a try:

What is the typical project length and cost? Project lengths vary from more than a mile to less than 100 feet, based on the length of road impacting the stream. The "average completed project", based on the last 13 years of data, would be about 2,500 feet long and cost approximately \$16,500. Note that that is a 13 year average cost. Costs are increasing and the average cost in 2009 was \$22,000 per site.

How are projects identified and chosen? The Program has established an inventory of over 17,000 locations where public unpaved roads are affecting water quality, called worksites. Municipalities apply to the Conservation District for funding to address individual worksites. The actual project work is done either by the municipality, or a private contractor, under the supervision of the Conservation District.

So what is the Actual Work on the ground? One of the most important things we try to accomplish on Dirt and Gravel Road Projects is "drainage disconnection". What I mean by this is that we try to reverse the traditional "urban stormwater" mentality of collecting as much water as we can in ditches, and getting it to the stream as quickly as possible. Instead, we try to disperse water to encourage infiltration and reduce runoff to streams. To do this, we have many practices we employ. One of the simplest is the crosspipe or culvert. Adding pipes under the road helps to divide road drainage into more manageable volumes. The program has paid for the installation of over 6,200 crosspipes to date. But pipes are just the beginning. Another practice we employ is importing fill material such as shale to fill a road that has become sunken over time to eliminate roadside ditches altogether. One practice used to reduce erosion is the use of a more durable surface aggregate. This specialized aggregate has been proven to reduce sediment runoff from the road surface by over 90%. I wish I had more time to better illustrate the projects put into place by the Program, but we have an entire two-day training full of practices.

One quick note, the Program is about creating a sustainable UNPAVED road system. It does not pay for paving roads. The program does not have the funding to pay for the paving, and in most cases, the townships would not have the funding to pay the future maintenance costs when the pavement starts to break up in a few years.

The Dirt and Gravel Road Program is different. It is efficient. Speaking for the \$4,000,000 allocated to Conservation Districts, over \$3,000,000, or 75% of the total allocation is used to pay DIRECTLY for on-the-ground projects in the form of materials, equipment and labor. 75% is good, but it gets even better when you consider in-kind contributions. In-kind contributions are materials, equipment, and labor that the municipality contributes, but receives no reimbursement for. The Program has averaged 37 cents of in-kind contributions from participants for every dollar of Program money spent, even though there is NO IN KIND REQUIREMENT. When you put 37% in-kind contributions together with 75% efficient spending, you get this amazing figure: The Dirt and Gravel Road Maintenance Program receives \$4 Million dollars per year, and puts \$4.1 Million dollar per year of ON THE GROUND in the form of materials, equipment, and labor. With in-kind contributions, the Program is 103% efficient in putting money on the ground over the past 13 years.

So why am I here? I am here because the Dirt and Gravel Road Program is in danger of being marginalized as the value of its annual \$5 Million dollar allocation continues to erode. The Program's annual \$5 Million allocation began in 1997, but only has the buying power of \$3.7 Million in today's economy, and a projected \$2.5 Million by the end of this decade.

The Program has a lot more work to do. It has addressed about 11% of the 17,000 identified pollution sites over the past 13 years. At the current rate of funding and considering inflation, the Program will NEVER have enough money to address the current site inventory. Not to mention having the capacity to re-address previously funded sites as they age.

So I am here to ask you to consider additional funding for the Dirt and Gravel Road Maintenance Program. An increase of Program funding of \$5 Million to a total of \$10 Million would mean that all of the currently identified worksites could be completed by 2036. An increase of Program funding of \$10 Million to a total of \$15 Million would mean that all of the currently identified worksites could be completed by 2025. Again, neither of these figures accounts for re-addressing old sites, but at least it puts the Program ahead of the inflation curve.

While I am talking about funding needs, I would be remiss if I did not mention the impact that the Marcellus Shale drilling is having on our rural infrastructure. Drilling equipment, along with 3-5 Million Gallons of water per well, is being trucked onto sites over municipal roads that were never designed for heavy hauling. The Program is currently working on strategies for dealing with these impacts.

I realize that compared to many of the other requests for funding that you may hear, and in respect to any total transportation funding package, ours little Program is small potatoes. Hopefully I have illustrated how the Program has taken is \$5 Million allocation

and put it to the best possible use. After all, what does \$5 Million really buy these days, half of a bridge? A mile of concrete highway?

I would like to leave you with a list of the entities who benefit from the Dirt and Gravel Road Maintenance Program.:

The Program benefits Conservation Districts: The Program makes available just over \$500,000 in administrative and educational funding to Conservation Districts each year. It also improves the relationship between the Conservation District and the Municipalities.

The Program benefits Rural Municipalities: In addition to on-the-ground projects, municipal officials gain knowledge of practices that will reduce environmental concerns and maintenance cost for their roads. While municipalities are the main player, other entities such as the PA Game Commission, PA Fish and Boat Commission, and PENNDOT are also active in the Program.

The Program Benefits Road Users: The rural road users, both public and private, gain a more sustainable rural road network.

The Program Benefits local businesses: Many local businesses throughout the state benefit from these projects including quarries, excavating companies, equipment operators, and suppliers of materials such as pipe.

Lastly, The Program benefits Pennsylvania's Streams: Ultimately, this program is about making long-term improvements to water quality: Reducing sediment pollution; Encouraging groundwater infiltration; Reducing flood flow to streams. This benefits all of the citizens of the Commonwealth.

As a final note, I would like to say: don't take my word for it. Call your local County Conservation Districts. Call a few rural municipalities in your region. Ask them about the Dirt and Gravel Road Maintenance Program and how it is working for them.

Thank you for your time, and thank you to the PA Association of Conservation Districts for inviting me. I would like to mention that I have some brief literature with me that summarizes the Program and many of the points I have mentioned today. I would also be glad stick around to answer any questions you may have about the Program.

Pennsylvania's Dirt and Gravel Road Maintenance Program



Steve Bloser
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www.dirtandgravelroads.org

June 17, 2010

PURPOSE

Reduce sediment pollution and maintenance costs associated with public unpaved roads.



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Reduce sediment pollution and maintenance costs associated with public unpaved roads.



PROGRAM FUNDING

\$5,000,000 non lapsing annual allocation

\$1,000,000

PA Bureau of Forestry

3,000+ Miles of unpaved road

\$4,000,000

PA Municipalities

17,000+ Miles of unpaved road

PROGRAM STRUCTURE

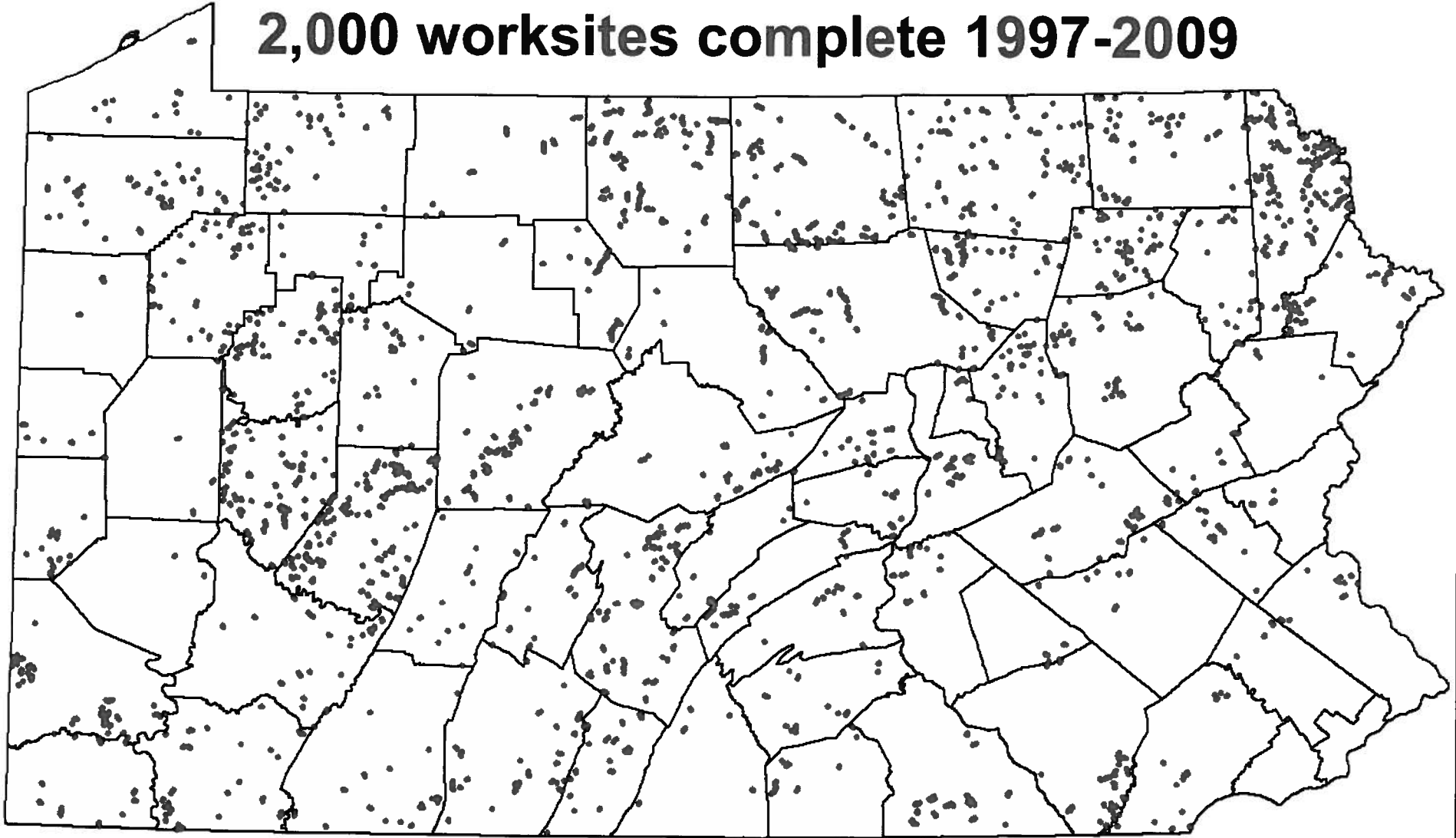
STATE: State Conservation Commission
- Oversees statewide program

COUNTY: Soil and Water Conservation Districts
- Runs Program within each county.

LOCAL: Municipalities
- Applies to District for funding
- Does work, or contracts work out.

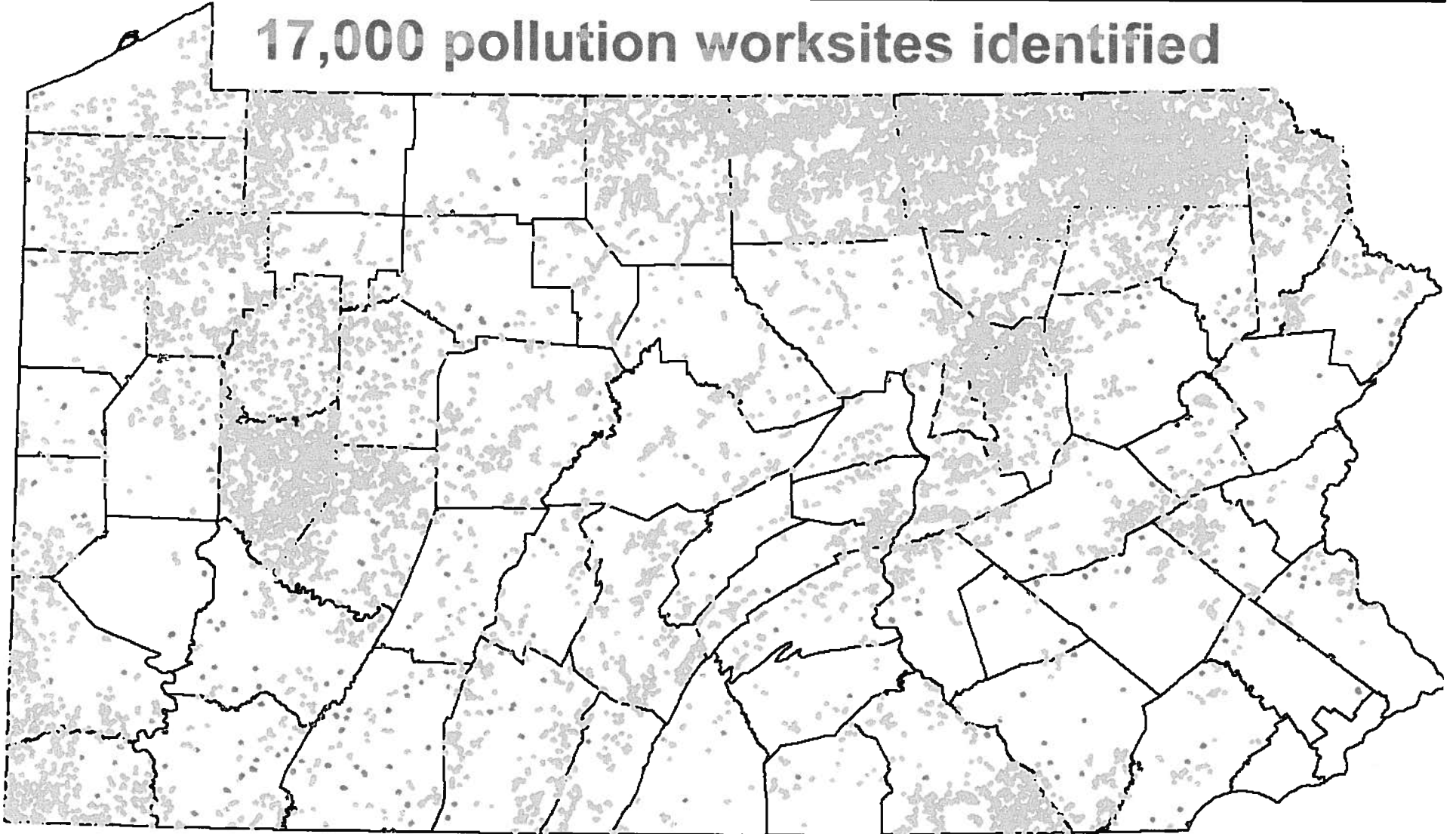
COMPLETED PROJECTS

2,000 worksites complete 1997-2009



ALL IDENTIFIED WORKSITES

17,000 pollution worksites identified



SAMPLE PROJECTS

Crosspipe / Culvert Installation



SAMPLE PROJECTS

Road Filled to eliminate ditches

BEFORE



AFTER



SAMPLE PROJECTS



PROGRAM EFFICENCY

\$4 MILLION

Annual Allocation

-\$480,000

Statewide admin / education (12%)

-\$530,000

County admin / education (13%)

\$3 MILLION

Materials, Equipment, and labor

for on the ground projects (75%)

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Annual Allocation

-\$480,000

Statewide admin / education (12%)

-\$530,000

County admin / education (13%)

\$3 MILLION

Materials, Equipment, and labor

for on the ground projects (75%)

+\$1,110,000

Average Annual In-kind (\$0.37 per

\$1)

\$4.1 MILLION

Annual on the ground

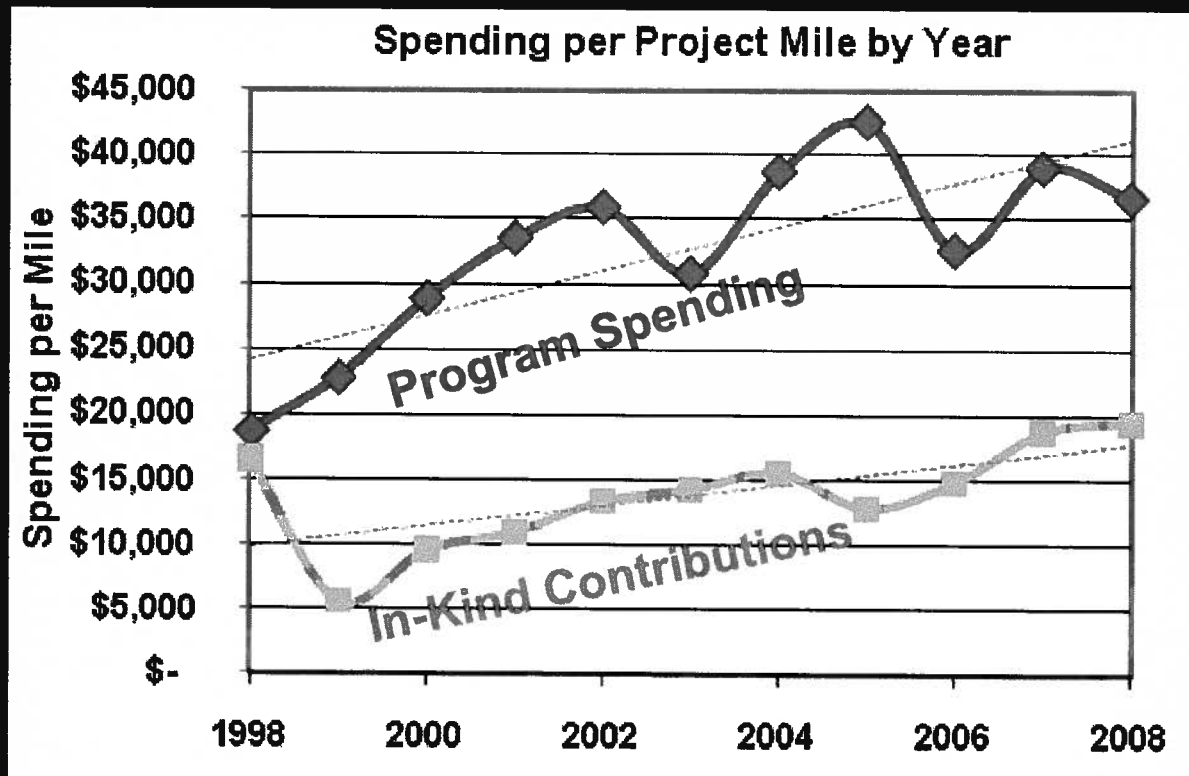
spending on

materials, equipment, and labor for

projects. (103%)

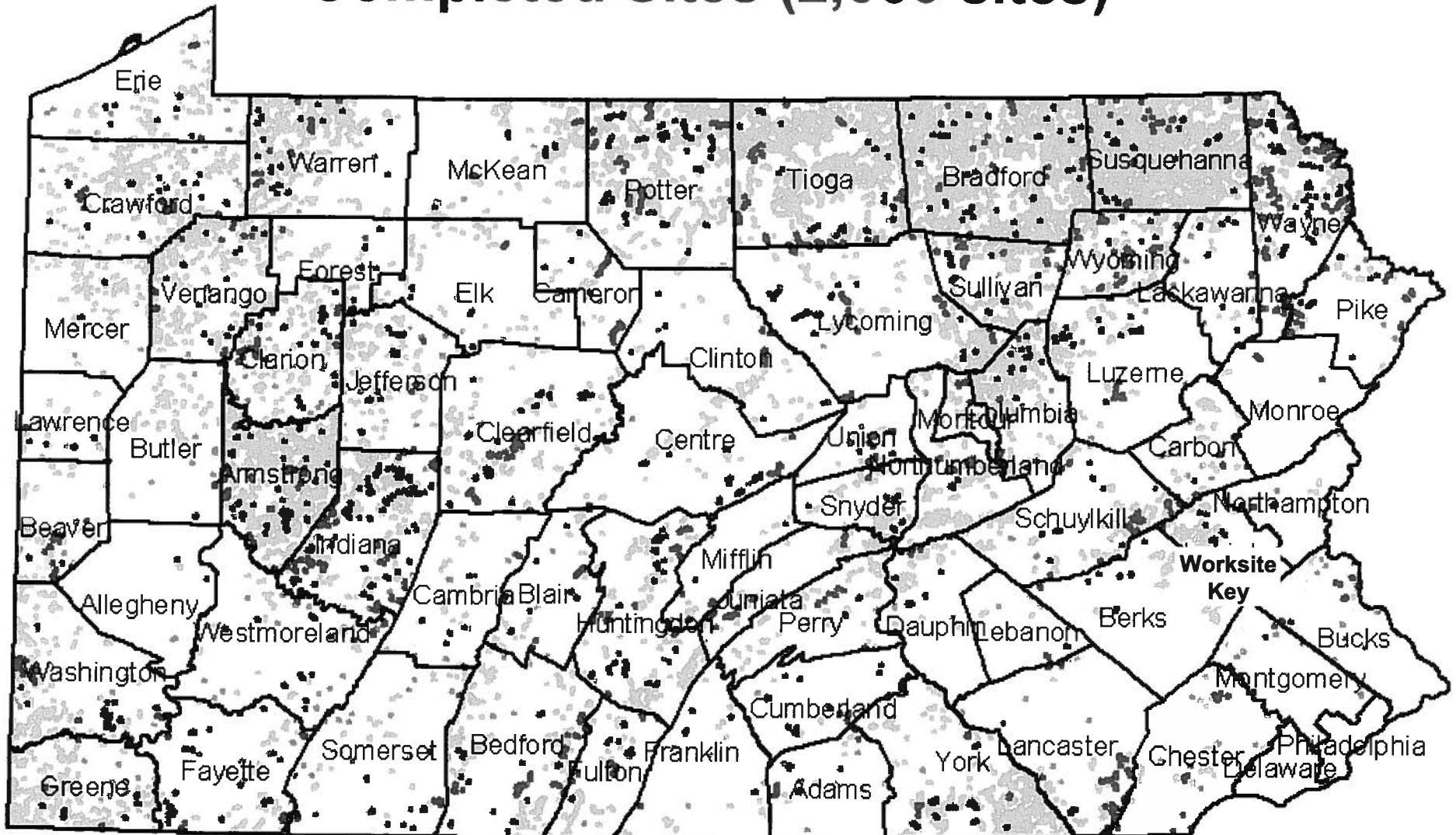
INFLATION and RISING COSTS

\$5 Million in 1997
is equivalent to
\$3.7 Million in 2009
and
\$2.5 Million in 2020



IDENTIFIED FUNDING NEED

Identified Pollution Sites (17,000 sites)
Completed Sites (2,000 sites)



IDENTIFIED FUNDING NEED

\$5 MILLION

(current level)

All sites will never be addresses

\$10 MILLION

Current sites addressed by 2036

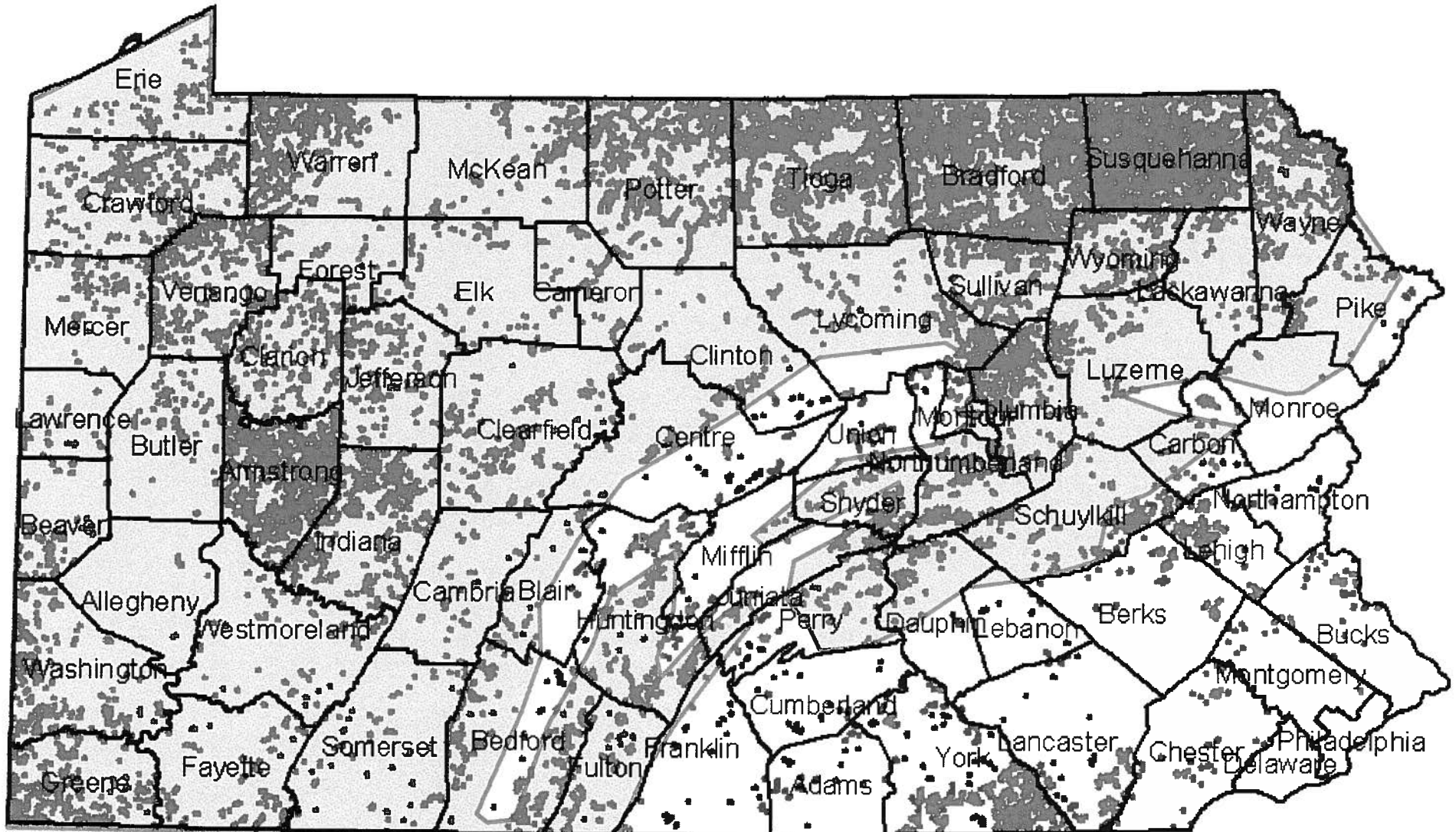
\$15 MILLION

Current sites addressed by 2025

Note that this does not account for re-addressing funded sites as they age.

MARCELLUS SHALE

Marcellus Shale Shaded Blue
Public Unpaved Road in Red (17,000 miles)



Pennsylvania's Dirt and Gravel Road Maintenance Program

Benefits

- **Conservation Districts**
- **Rural Municipalities**
- **Road Users**
- **Local Businesses**
- **PA Streams and Public**



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