An aerial photograph of an oil and gas drilling site, overlaid with a semi-transparent blue filter. A tall, lattice-structured derrick stands prominently in the center-right. The site is cluttered with various pieces of equipment, including trailers, tanks, and smaller structures. The background shows a wooded area and rolling hills under a clear sky.

Pennsylvania Oil and Gas Violation, Inspection, and Enforcement Data on FracTracker.org

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Graduate School of Public Health

University of Pittsburgh



FracTracker provides you with a place to learn about and share your shale gas drilling experiences. It is managed by the Center for Healthy Environments and Communities at the University of Pittsburgh Graduate School of Public Health.



Center for Healthy Environments
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Data → Knowledge

Data



Information



Presentation



Knowledge

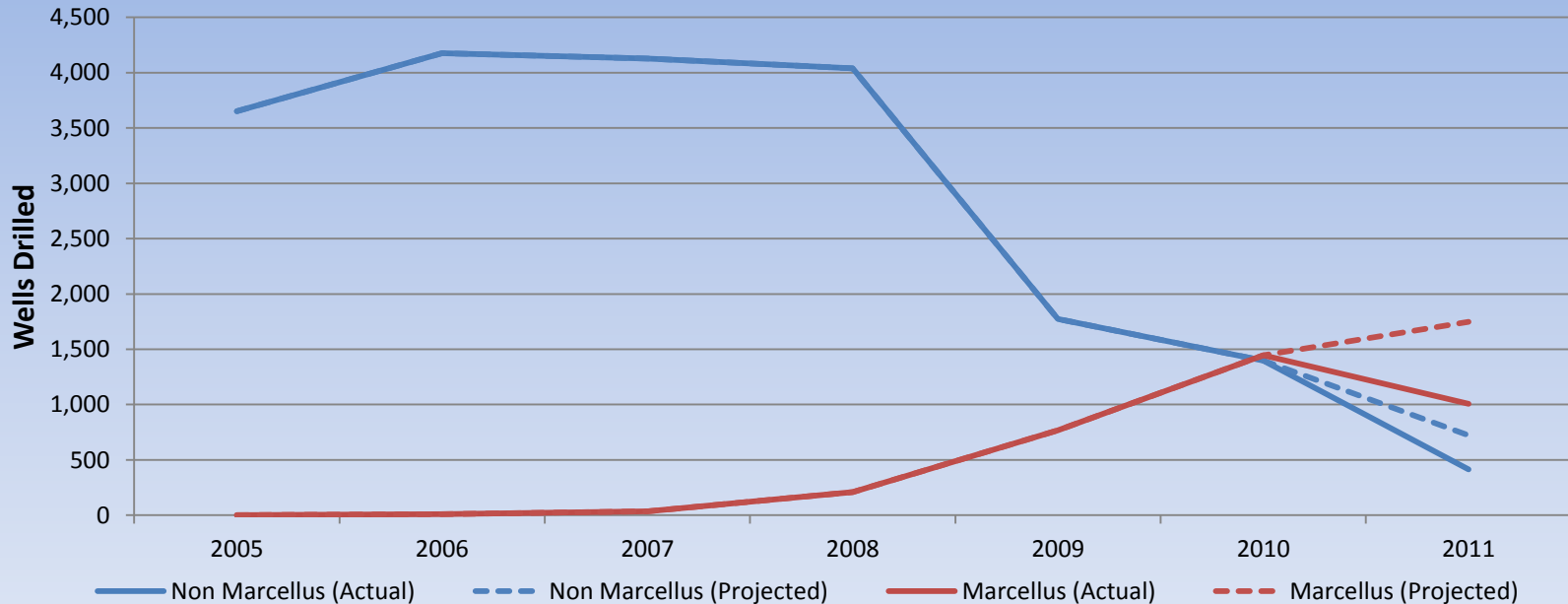


EpicGraphic.com

Graphic from <http://epicgraphic.com/data-cake/>

Drilling Summary

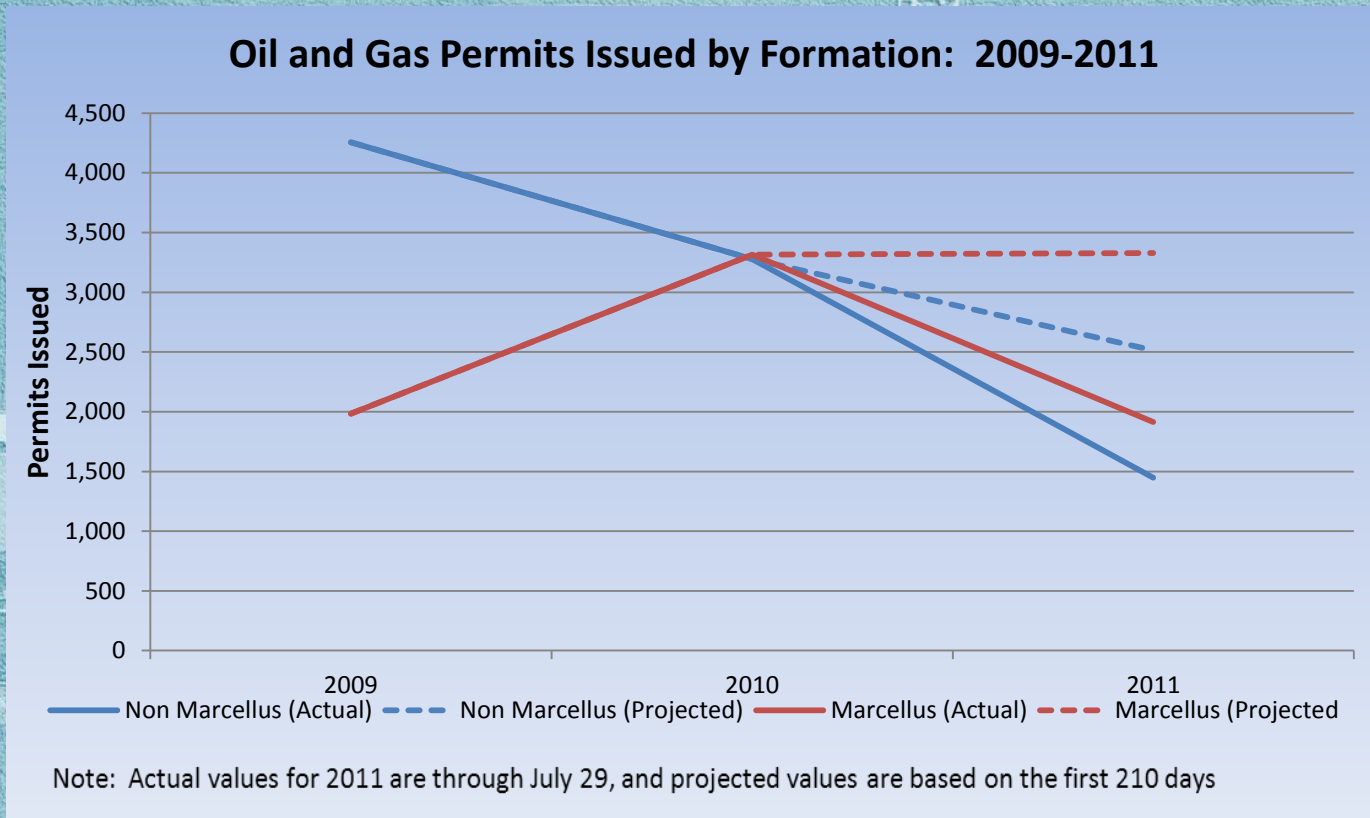
New Drilled Wells in PA by Formation: 2005-2011



Note: Actual values for 2011 are through July 29, and projected values are based on the first 210 days

In 2008, Marcellus Shale wells made up 5 percent of all new drilled wells in Pennsylvania. So far this year, that figure is 71 percent.

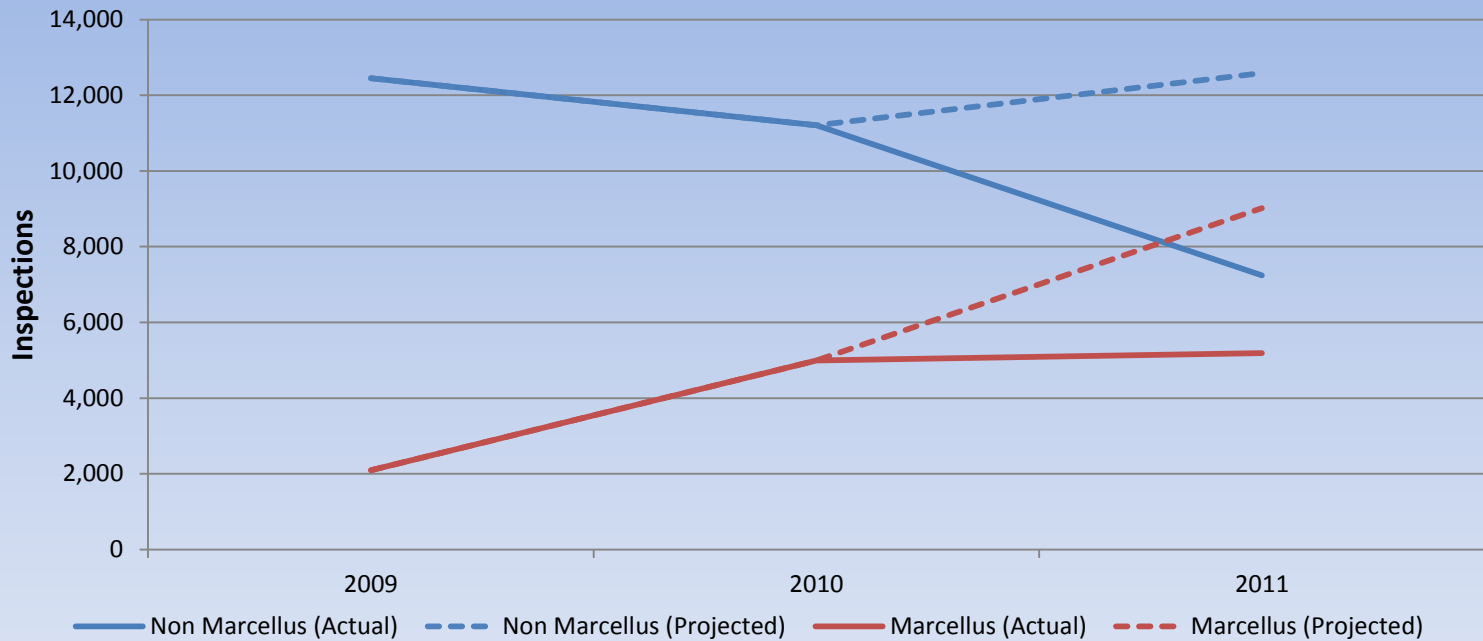
Permit Summary



While permits issued for non Marcellus Shale wells continue to decline, the number of permits for Marcellus Shale wells are projected to hold steady. About half of the more than 7,000 Marcellus Shale permits have not yet been drilled.

Inspection Summary

DEP Inspection Summary by Formation: 2009-2011

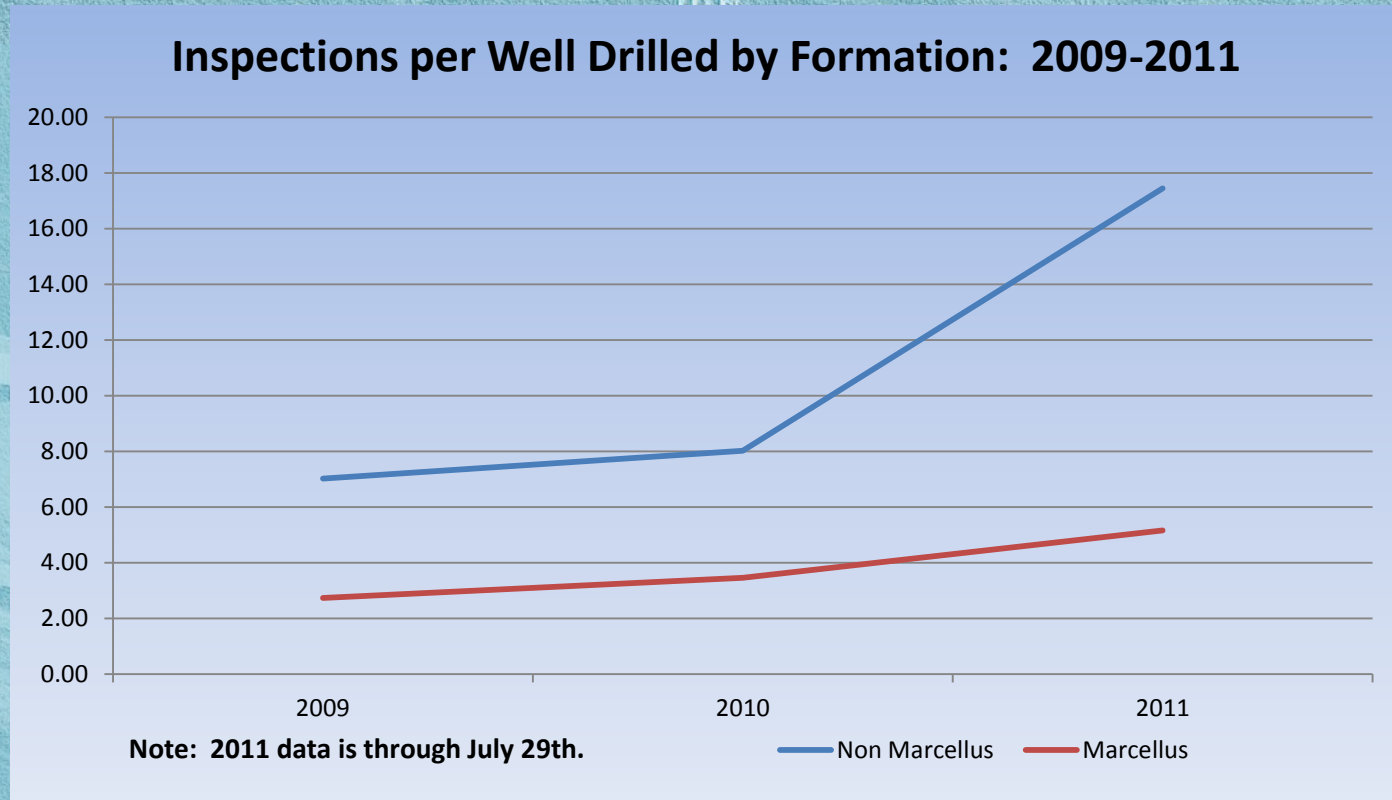


Note: Actual values for 2011 are through July 29, and projected values are based on the first 210 days

While the DEP is making more Marcellus Shale inspections every year, the majority are still for wells in other formations.

Inspections per Well (IpW)

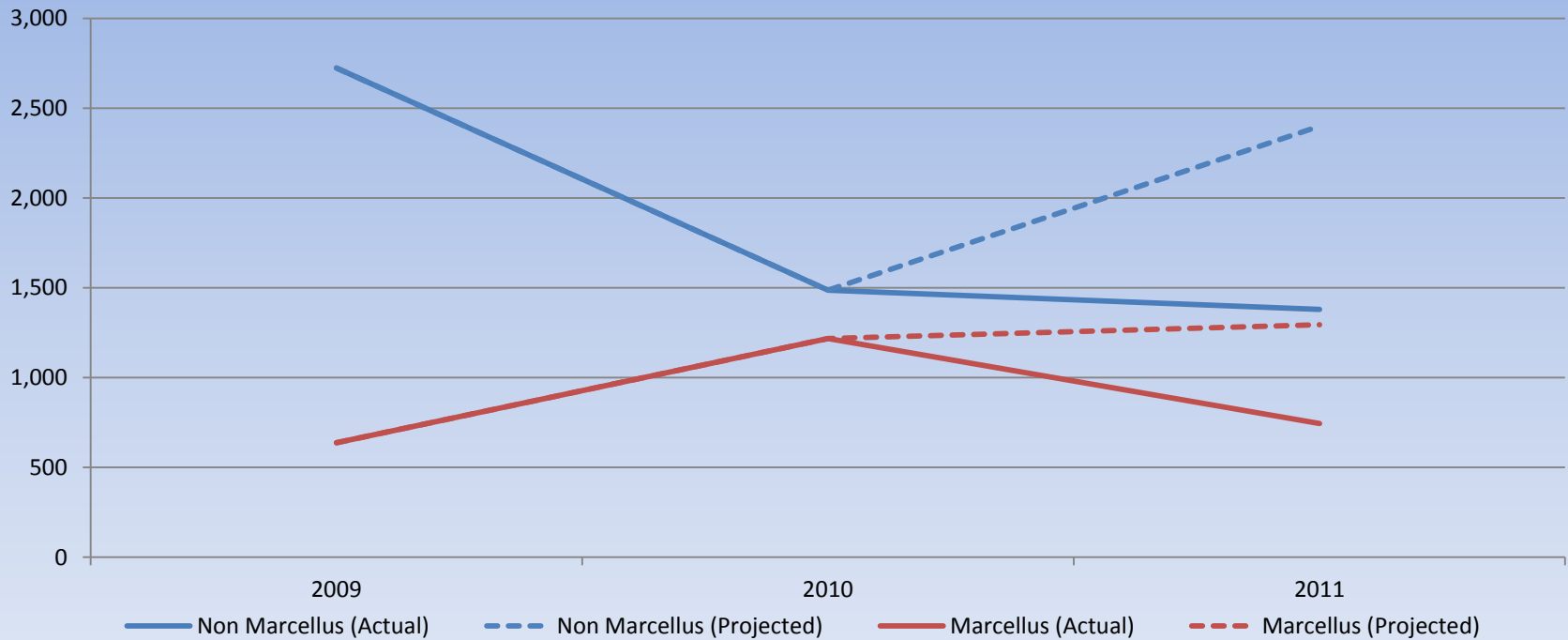
- Compares inspections to wells drilled in calendar year, not aggregate



- Inspections could be for older wells
- There are almost 3.4 times as many inspections for non MS wells in 2011

Violations Summary

DEP Violations by Formation

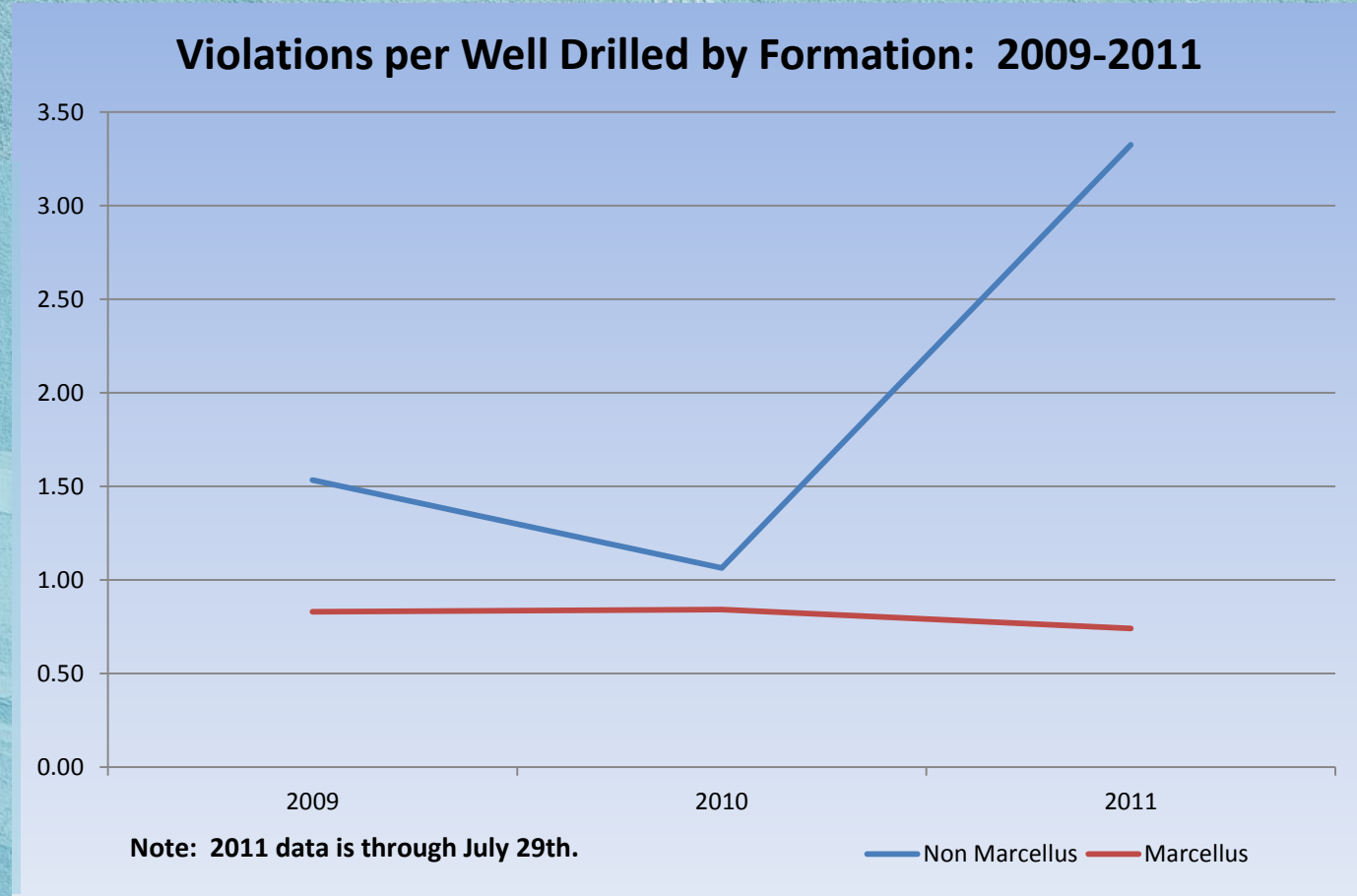


Note: Actual values for 2011 are through July 29, and projected values are based on the first 210 days

Through July 29, Marcellus Shale wells accounted for only 35 percent of all DEP oil and gas violations.

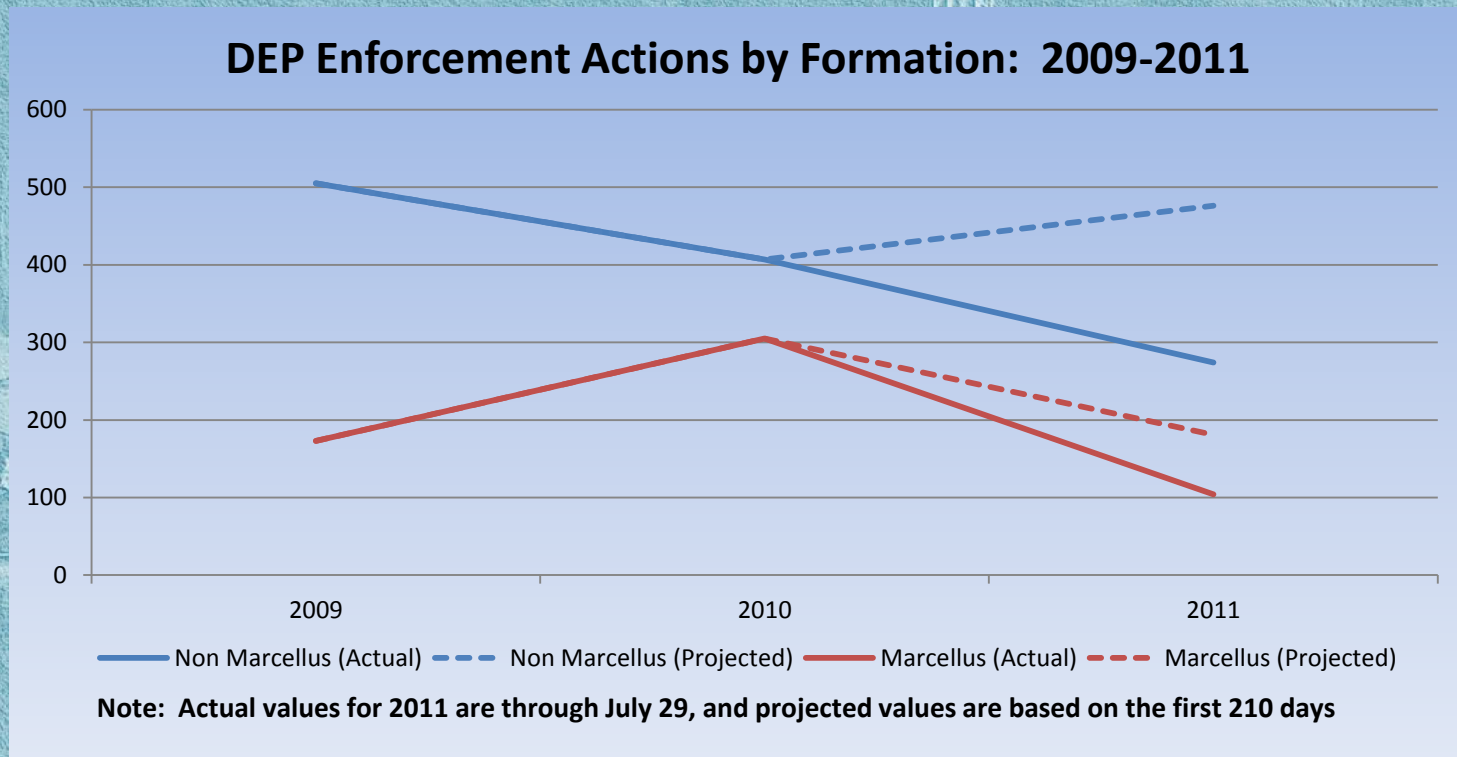
Violations per Well (VpW)

- VpW compares violations to wells drilled in calendar year, not aggregate



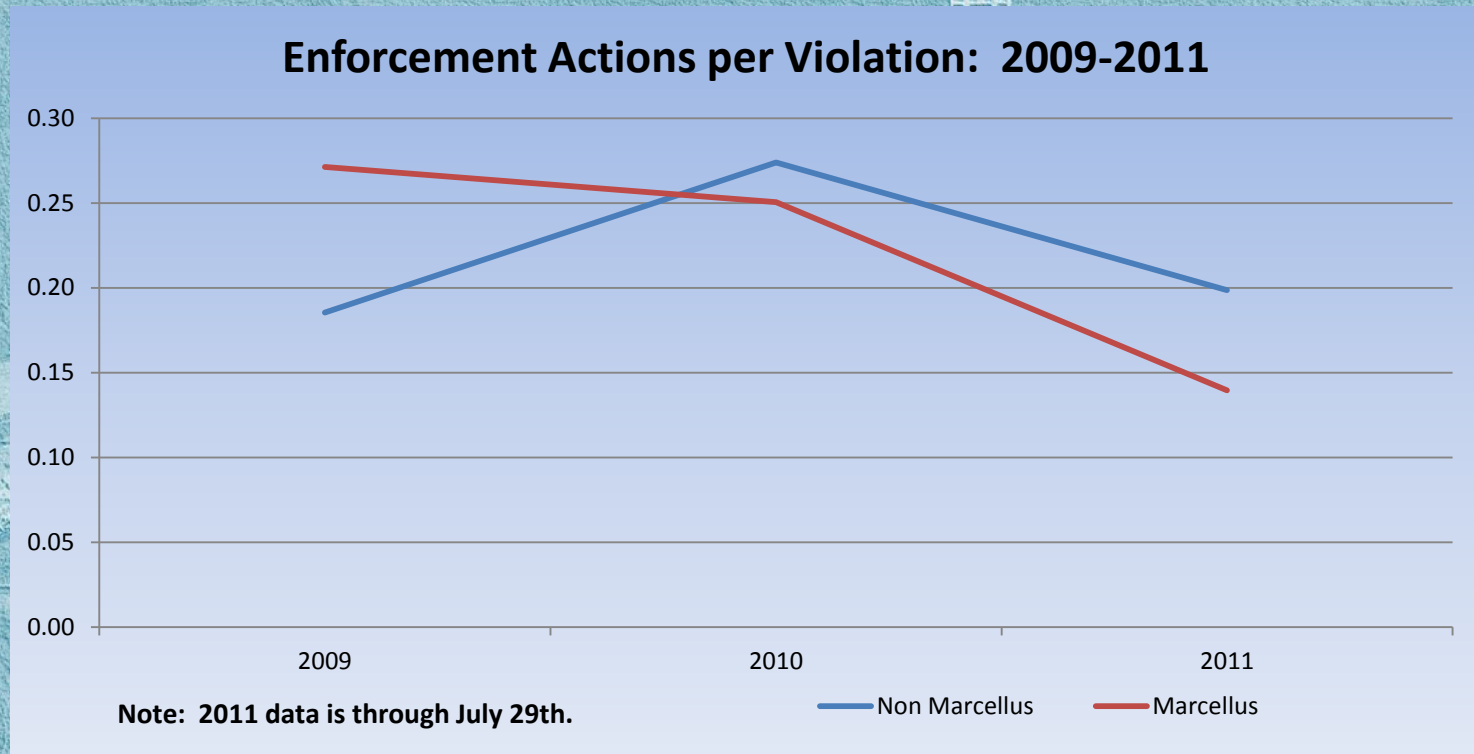
- Violations could be issued for older wells
- There are almost 4.5 times as many VpW for non MS wells in 2011

Enforcement Actions Summary



- MS Enforcement Actions down in 2011
- Non MS Enforcement Actions up in 2011

Enforcements per Violation (EpV)



Non Marcellus violations are more likely to lead to DEP enforcement actions

What are the Consequences?

DEP Enforcements: 1-1-2011 to 6-30-2011

Enforcement Description	Number
Administrative Order	2
Consent Assessment of Civil Penalty	16
Consent Order and Agreement	1
Notice of Violation	275
Total	294

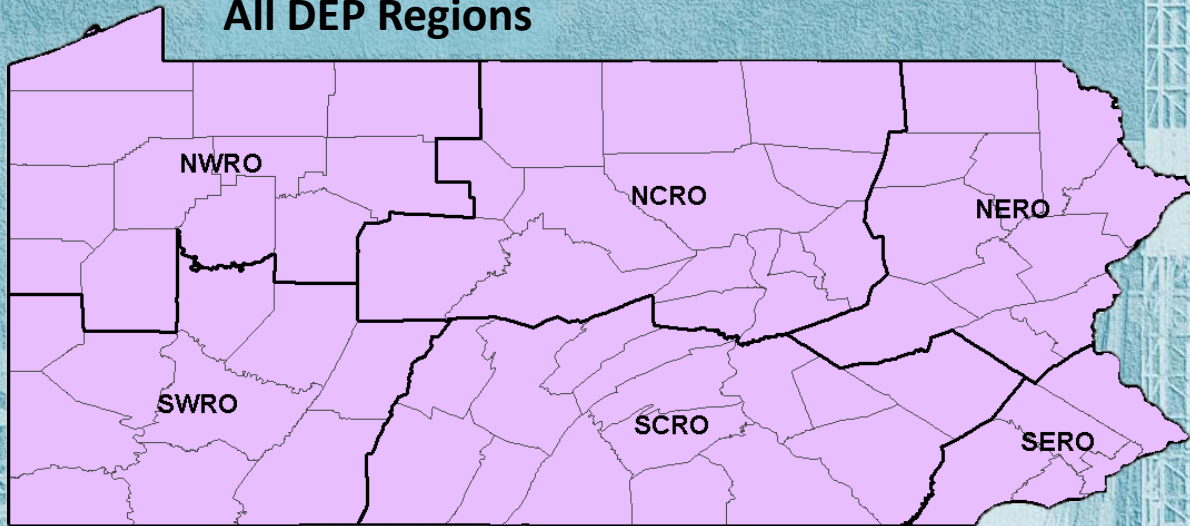
2010 Fines by Enforcement Description

Enforcement Description	Fines Issued
501 Conference/Enforcement Conference	
Administrative Order	
Compliance Order	
Consent Assessment of Civil Penalty	\$1,083,154.72
Consent Order and Agreement	\$2,117,019.09
Field Notice of Violation	
Notice of Violation	\$8,346.15
Grand Total	\$3,208,519.96

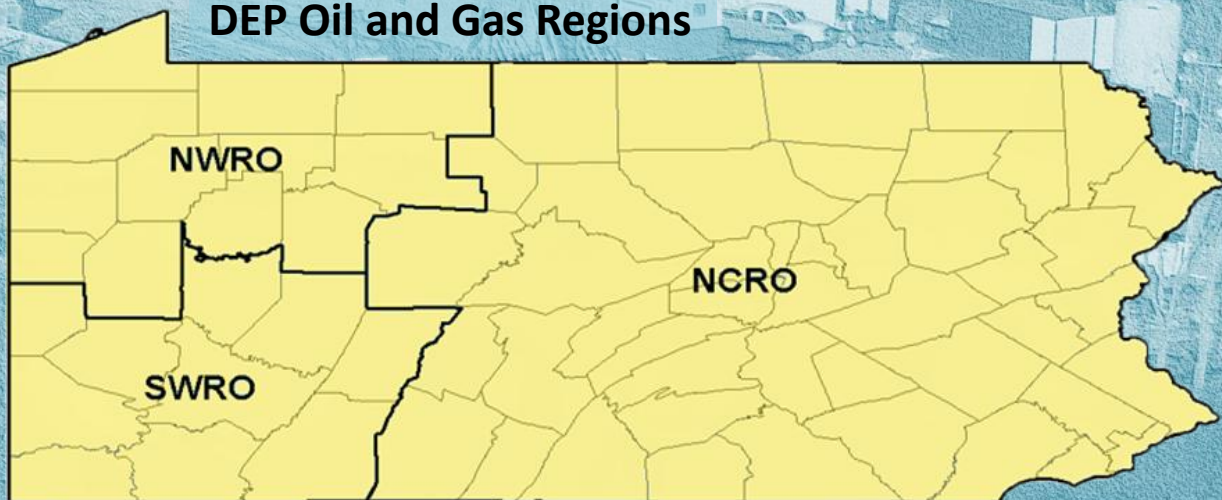
- Descriptions not very specific
- 16 fines issued from 1-1-11 to 6-30-11?
- 2010 had fines in other categories
- Fines data not available for 2011
- \$13,456,552.48 in fines for 2010? Or maybe \$3,208,519.96

DEP Regions

All DEP Regions



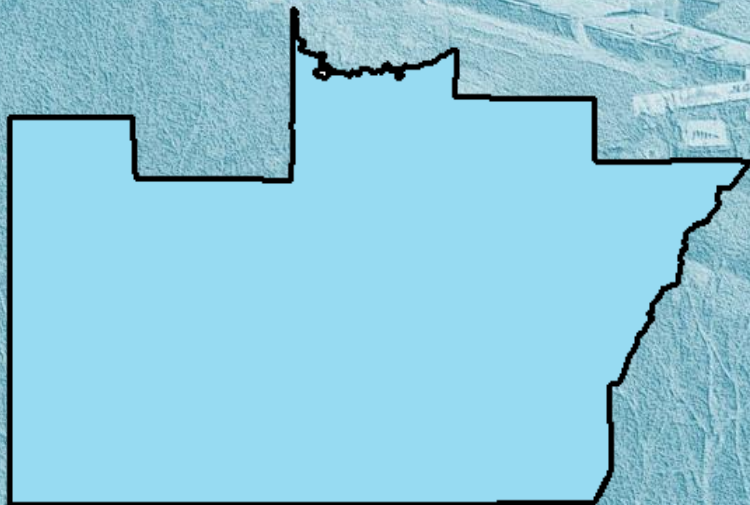
DEP Oil and Gas Regions



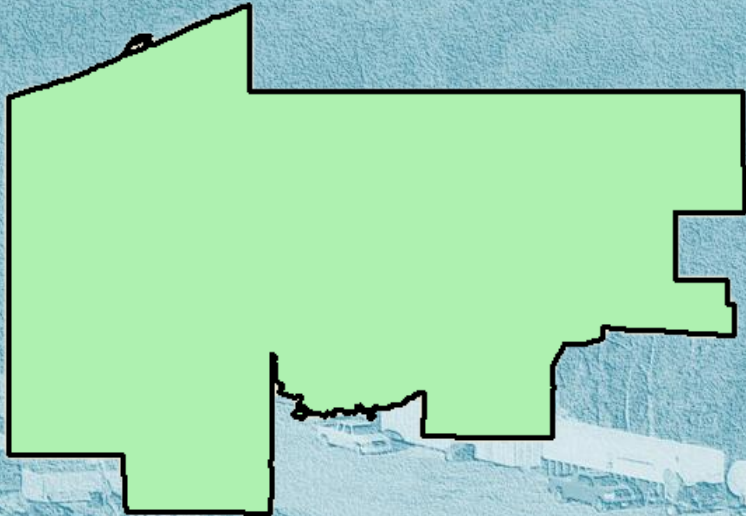
2010 Southwest Region Overview

- Most activity is non Marcellus Shale
- DEP actions (Inspections, Violations, and Enforcements) can be for wells drilled before 2010

2010 Totals: SWRO	Non Marcellus	Marcellus
Drilled Wells	401	327
Permits Issued	1,032	691
Inspections	4,188	1,963
Violations	185	106
Enforcements	123	78
Violations per Well	0.46	0.32
Inspections per Well	10.44	6.00
Enforcements per Violation	0.66	0.74



2010 Northwest Region Overview

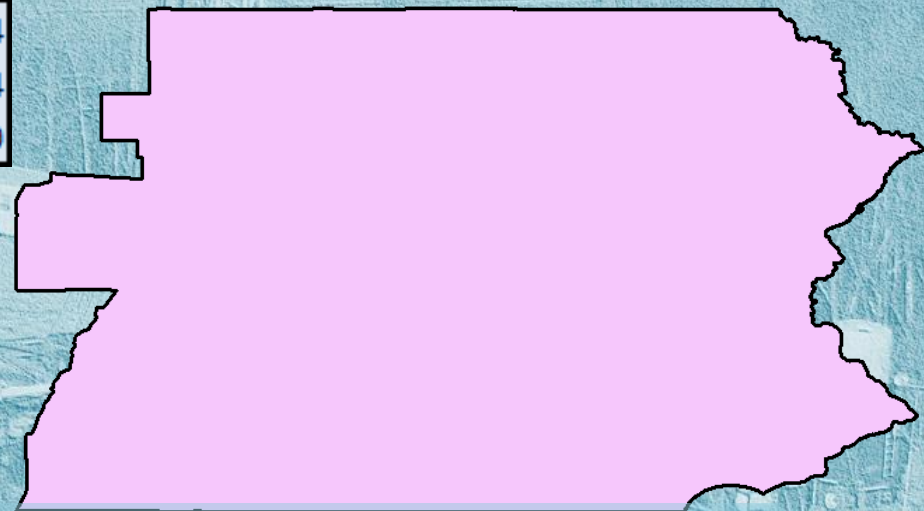


2010 Totals: NWRO	Non Marcellus	Marcellus
Drilled Wells	954	74
Permits Issued	2,117	229
Inspections	6,110	477
Violations	892	23
Enforcements	197	15
Violations per Well	0.94	0.31
Inspections per Well	6.40	6.45
Enforcements per Violation	0.22	0.65

- Activity overwhelmingly non Marcellus Shale
- Non MS VpW is 3 times the Marcellus figure, may be skewed by abandoned wells

2010 North Central Region Overview

2010 Totals: NCRO	Non Marcellus	Marcellus
Drilled Wells	42	1,045
Permits Issued	129	2,394
Inspections	911	2,550
Violations	409	1,089
Enforcements	87	212
Violations per Well	9.74	1.04
Inspections per Well	21.69	2.44
Enforcements per Violation	0.21	0.19



- Activity overwhelmingly Marcellus Shale
- VpW and IpW out of balance, may be due to small sample size

Regional Comparison

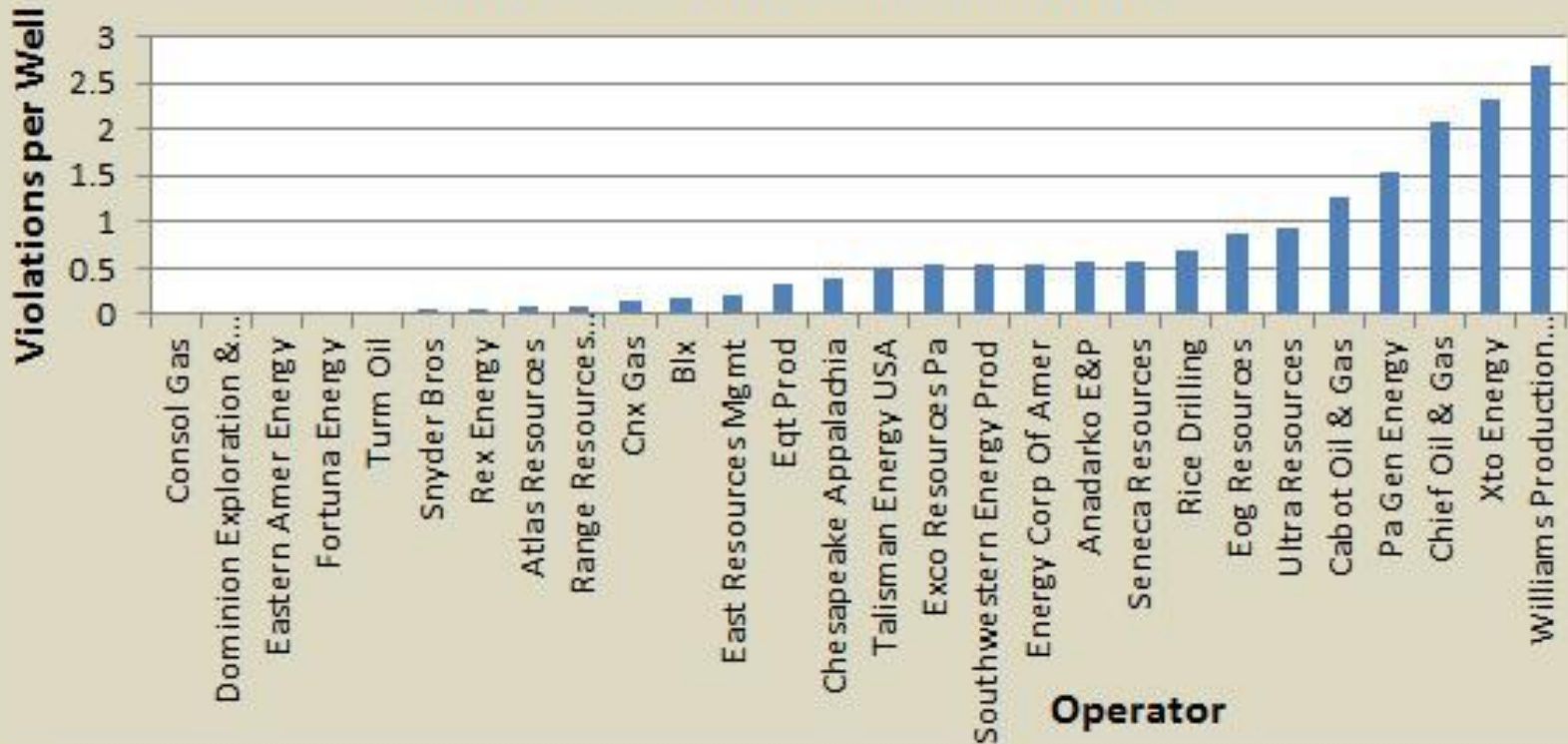


2010 Marcellus Shale Totals	SWRO	NWRO	NCRO
Drilled Wells	327	74	1,045
Permits Issued	691	229	2,394
Inspections	1,963	477	2,550
Violations	106	23	1,089
Enforcements	78	15	212
Violations per Well	0.32	0.31	1.04
Inspections per Well	6.00	6.45	2.44
Enforcements per Violation	0.74	0.65	0.19

- NCRO has heaviest MS activity
- NCRO has 3 times more VpW than other regions, despite less than half IpW
- SWRO and NWRO have more than 3 times EpV, but what does that really mean?

VpW By Operator

2010 Violations per Total Wells by Operator
10 or More Total Marcellus Shale Wells



- 0.5 Violations per Well should be an attainable goal
- Difference in VpW a matter of corporate culture?

Final Thoughts

- Sincere kudos to DEP for releasing violations data, but clean it up, please!
- Large differences between DEP Regions for VpW, IpW, and EpV
- Enforcement Actions are so vague they're practically meaningless
- Would like to see 2011 data on fines