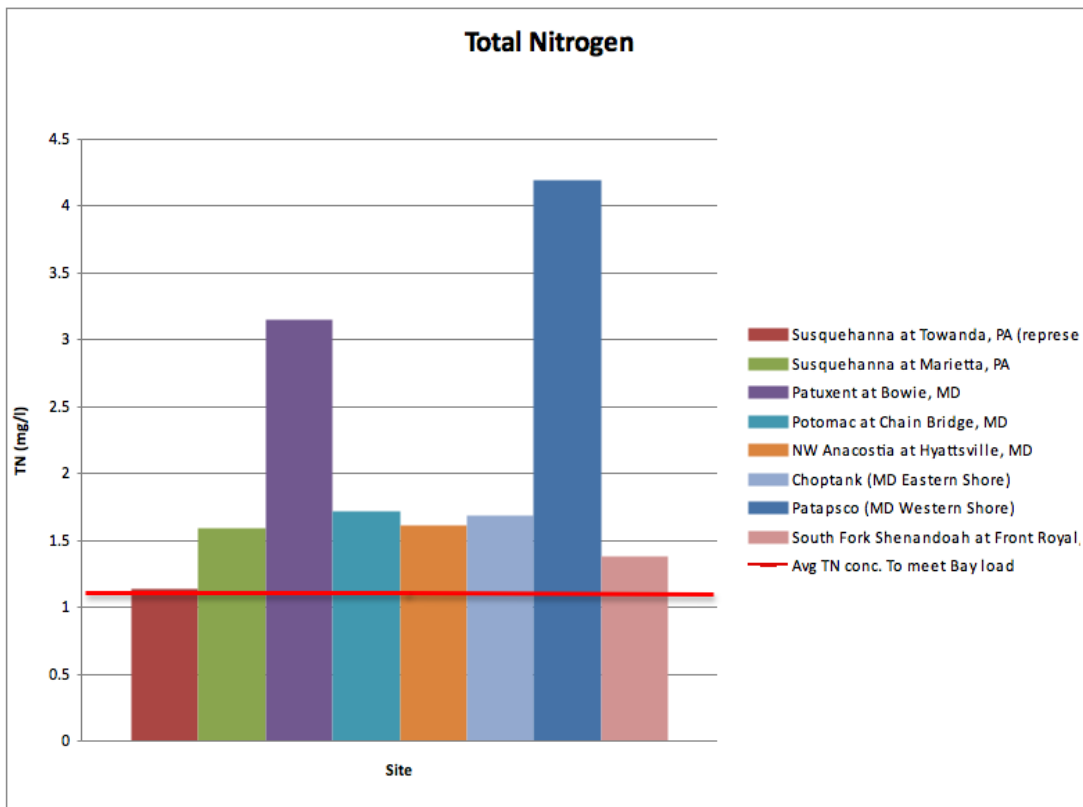


Challenges of Nutrient Reduction in the Upper Susquehanna River Basin

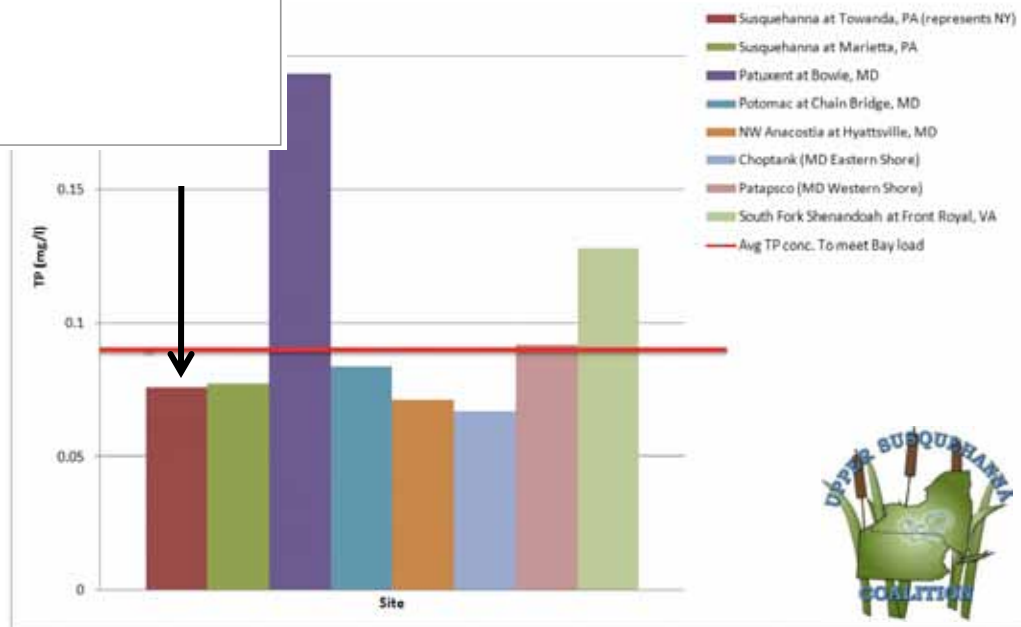
Aaron Ristow
Agricultural Coordinator
Upper Susquehanna Coalition



NY'S WATER IS CLEAN:



Phosphorus Concentrations to Clean Up the Bay (mg/L)



NY Waters
Already Meet
Bay Specifications
for High Quality
Aquatic Life
Required by the TMDL



UNCERTAINTIES

- Climate
- Flooding
- Farm economics / costs
- Milk price
- Political (590 Standard)
- Property Tax Cap
- TSP rules
- Marcellus Shale
- Funding to support BMPs
- Uncertainty of TMDL



MOVING TARGET

- Challenge to understand model
- Bay Program constantly changing the game
- Model changes can be tremendously fast
- BMPs change, efficiencies and definitions change
- NRCS / CBP / CAFO all have standards and regulations that are constantly changing and never in harmony



MANY ASSUMPTIONS

Number of cows in the watershed

Weight of each cow

Manure excreted by each cow

20% of manure automatically loss to streams

Concentrations of nutrients in manure

Amount of manure spread per acre

Amount taken up by crops

Amount of N that makes it to edge of stream

Amount loss as it is delivered to Bay



Difference in Ag NUTRIENT LOAD

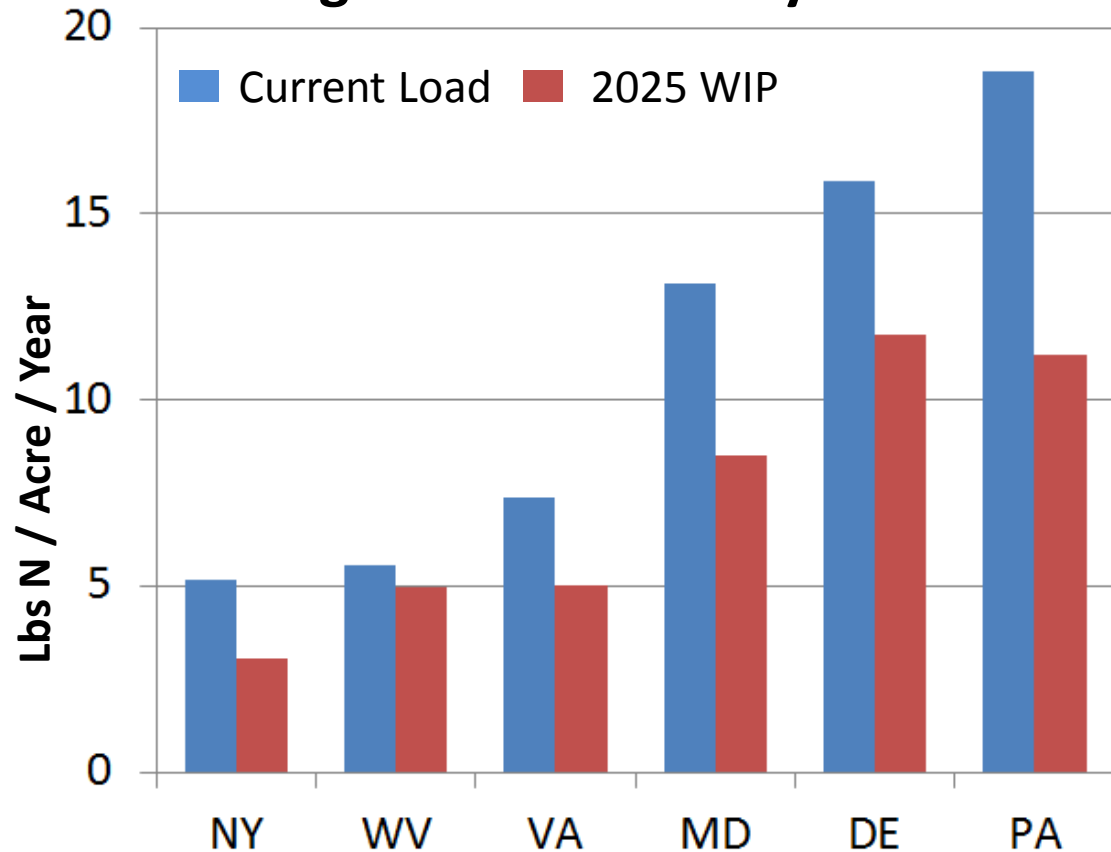
**The higher the bar
the dirtier you are**

Ag is largest source for nutrient loading and it is already clean compared to others

Very expensive and difficult to reduce 40% when low already

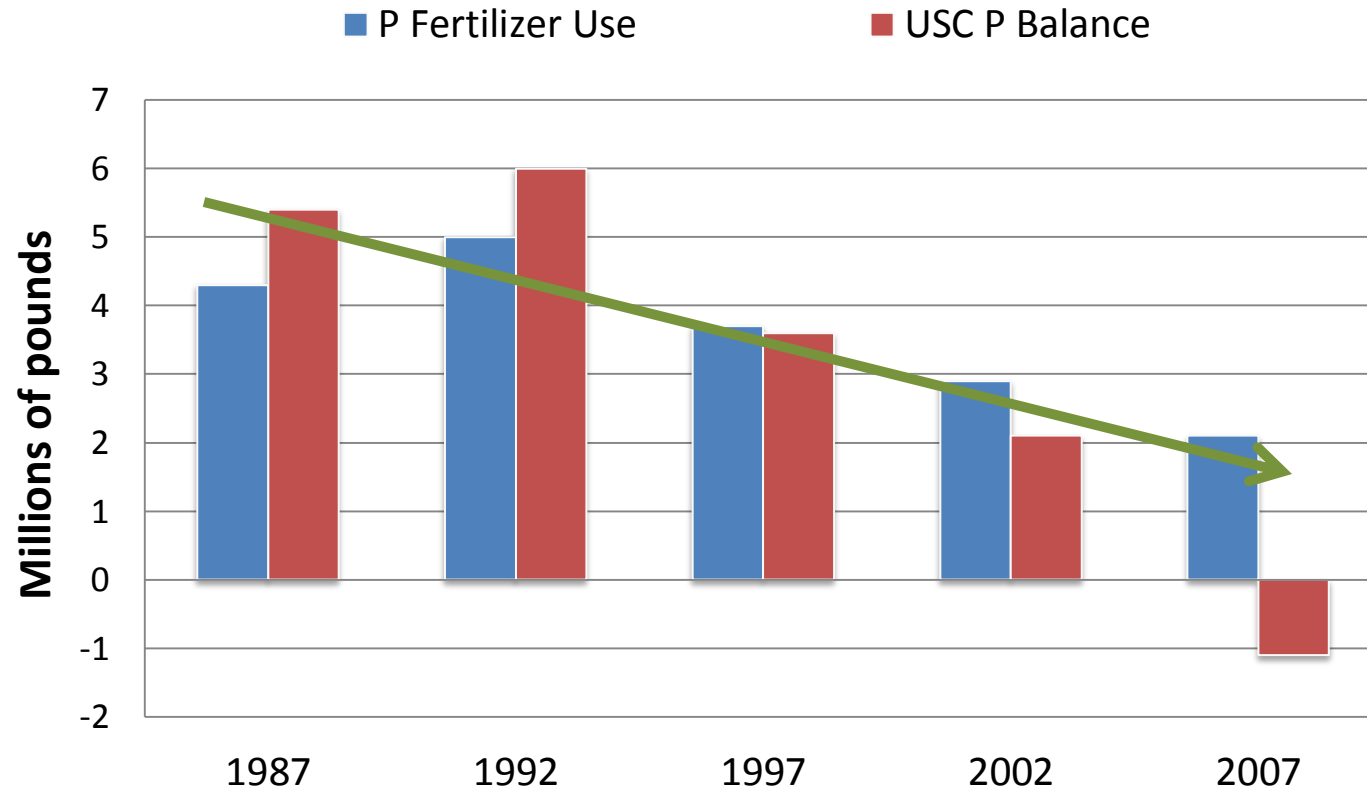
Across the board reductions at the same rate does not maximize success

Ag Sector N Load By State



v5.3.2 June 2011 Draft WIP Run

AG RELATED P USE IN USC BASIN



- NY reducing feed and fertilizer use in their portion of watershed
- **P inputs from manure and fertilizer are significantly less than P removal by crops**
- Reducing P use any further could have critical sustainability implications for ag
- Planning for or regulating this region requires thoughtful consideration

IMPACTS ON NY AGRICULTURE:



Suggested EPA Backstops:

Farms of any size will be regulated as CAFOs

Farms of any size will have CNMPs

Large farms will be required to use
Precision Feed Management

IMPACTS ON NY AGRICULTURE (CONTINUED):

Farms of any size will be required to have manure storage

Farms of any size will be prohibited to spread manure during the winter

All manure applied to crop fields will need to be injected

All farms will be required to have ammonia emission controls on their facilities

Add about 800 regulated farms

NUTRIENT REDUCTION CHALLENGES

NY water is already cleaner than other jurisdictions

Uncertainty of the future

Moving target of the model

Negative N and P balance in NY

Threat of consequences of backstops

We are all in this together

