Natural Resources Conservation Service
One Credit Union Place, Suite 340
Harrisburg, PA 17110-2993

April 30, 2013

State Technical Committee
AGENDA

12:30 – Welcome …….. Denise Coleman, NRCS

12:45 - CRP/CREP Update …….. Chrystal Fetzer, FSA

1:00 – 2013 Farm Bill Update …….. Barry Frantz, NRCS

1:15 – Pennsylvania CIG …….. Noel Soto, NRCS

1:30 – Establishing Priority Areas in FY 2014 …….. Denise Coleman, NRCS

2:00 – Guest Speaker: Pennsylvania Bio Consortium …..…….... Tom Richard, Penn State

2:30 – Subcommittee Reports…….. ……..……..…Barry Frantz, NRCS

- Air Quality Task Force
- Bioenergy
- Feed
- Forestry
- Wildlife and Fisheries
- Nutrients
- Organic
- Specialty
- Grazing (GLCI)

3:00 – 2014 Priorities ……..…….. Open Discussion

3:25 – Closing ……..…… Denise Coleman, NRCS

PA State Technical Committee Meeting – April 30, 2013

Denise Coleman, NRCS, opened the meeting and introduced Chrystal Fetzer to bring us up to date on CRP/CREP.

Chrystal Fetzer, FSA, in addition to discussing those items appearing on her notes (See attachment #1), she indicated that NRCS has sent out over 500 Post Cards to remind producers that their current contracts are due to expire. We are keeping their replies on hand for when we can proceed with applications again. Also the names of those who stop in to our offices requesting information on CRP/CREP. Denise indicated that the money has been allocated, but must be released by OMB first. There was a question concerning the progress of the Delaware River Basin CREP Proposal. Denise said that there was a recent meeting held for the Contractors to defend the environmental assessment. The next step is to hammer out the language on the agreement.

Barry Frantz, NRCS: Barry discussed/review his notes (See attachment #2) during which he added the following remarks concerning 2013 progress:

a. **He did not have much to comment about concerning AMA, just that the allocation is very low.**
b. **He noted that initially CBWI was not re-authorized, however it was re-authorized as part of the Farm Bill Extension resolution. Uses of the money will be to Stream Corridor Management. At the end of last year, we had 18 applications on hand after our last sign-up and we hope to spend about one half million (on a 50/50 basis) on Stream Fencing and Stream Bank Erosion control.**
c. **CSP: Money has been authorized under the new resolution which will enable us to do new sign-ups. We have about 200 applications from last year, but have to wait for word from National as to when we can publically announce sign-ups.**
d. **EQIP: Amount we have to spend will be similar to what we had last year, with a large portion going to livestock operations (barnyard clean-up, manure storage), see attachment #3 for more details.**
e. **WHIP: We received a large allocation this year which will be spent mainly on Golden-winged Warbler projects mostly out in SW Pennsylvania. Last year was a record year and we will probably double that this year.**

f. He was asked what the allocation would be and he replied that it would be less this year. Denise added that we expect to have a 5 to 6 million dollar hit from last year.
g. He indicated that WRP monies were reauthorized.

Barry spoke about the projections for 2014: (See attachment 2)

a. He discussed application signup dates, 2014 Fund Pools, Conservation Practices and Screening and Rankings, all of which are noted in Attachment 2 and 3.

Denise and Marcie Dunn, NRCS, Discussed the Establishment of Priority Areas in FY 2014: (See Attachment 4)

a. Maps were distributed that showed different data sets and areas that can be used as priority areas for FY 2014 funding. Of the five maps distributed, the first showing high and medium priority areas using USG SPARROW model data, the second DEP AG impaired streams, 319 AG Watersheds, DEP Nitrate violations and the final map showing all data sets on one map. The maps were outcomes of a smaller group to focus on prioritizing watersheds which was formed at the January State Technical Committee Meeting.
b. There was further discussion as why funding need to be given only in priority areas and why the areas were not across the state of just mostly in the southeastern and central portion of the state. Barry Frantz noted funding is given across the state, but when it comes down to funding in the county, one person will rank higher if they are in the priority area over one who is not. Funding is based on ranking questions within a field team. It was agreed to that the high and medium areas were good if some of the 319 AG Watershed could be added if they were next to an already high or medium priority area. It was also agreed that the areas where brook trout have been greatly reduced, would be a "bonus" area in the ranking.
c. There was a suggestion that the priority group formed in January and that met a few weeks prior to this meeting would meet again and continue the discussion. For now, the map will be updated to show what had been suggested.

Tom Richard, PSU, Pennsylvania Bio Consortium, our guest speaker, gave a slide presentation on Northeast Woody/Warm-season Biomass Consortium. (See attachment 5) Tom is a professor of Agricultural Engineering, Director of Penn State Institute for Energy and the Environment and an Executive Director of the new Consortium. The purpose of the consortium is to develop perennial

crops and a possible new role for those crops in order to deliver a sustainable Bio Engineering future for the Northeast Region.

Subcommittee Reports:

a. Forestry: Rachel Reyna reported on the continuing work on partnership with NRCS. Announced a Forestry meeting at McVeytown on June 7, 2013. Also that Tracey Poulter is now the Agri-Forestry Coordinator.

b. Wildlife and Fisheries: Michael Pruss reported that NRCS and Pheasants Forever have partnered in establishing several new positions to work on CREP re-enrollment (when authorized again). People are now working in Adams, Franklin, Somerset, Columbia and Snyder Counties. He noted that sever issues are being delt with concerning Indiana Bats and their intersection with projects involving the Golden Winged Warbler. There are formal processes going on, one of which is the Habitat Conservation Plan to figure out ways of tree harvesting that would be beneficial to all species. He indicated that this would be at least a two year process.

c. Nutrient Management: Dean Collamer reported on the Nutrient Management Meeting held on January 22, 2013, a copy of which is attached as Attachment 6.

d. Specialty Crops: Although a report was not given, Dan Dostie (NRCS) introduced Kelly Gill, is a Pollinator Habitat Restoration Specialist, Mid-Atlantic Region, through a partnership with The Xerces Society for Invertebrate Conservation and New Jersey Natural Resources Conservation Service (NRCS). The Society provides technical support and training to NRCS, other conservation agencies, and farmers on the topics of pollinator conservation and native plant restoration. A Pennsylvania native, Kelly completed coursework towards a Master's Degree in Entomology at Iowa State University. There, she conducted small plot and farm scale research on the development of best practices for conserving beneficial insects in Iowa's agricultural landscape.

Denise Coleman, NRCS, made mention of the brochure, Strategic Plan for 2013 – 2015 which is attached as Attachment #7.

USDA Announces 45th Genera! Sign-Up for the Conservation Reserve Program

Agriculture Secretary Tom Vilsack today announced that the U.S. Department of Agriculture (USDA) will conduct a four-week general sign-up for the Conservation Reserve Program (CRP), beginning **May 20 and ending on June 14.** CRP has a 27-year legacy of protecting the nation's natural resources through voluntary participation, while providing significant economic and environmental benefits to rural communities across the United States.

Currently, about 27 million acres are enrolled in CRP. Producers that are accepted in the sign-up can receive cost-share assistance to plant long-term, resource-conserving covers and receive an annual rental payment for the length of the contract (10-15 years).

Contracts on 3.3 million acres of CRP are set to expire on Sept. 30, 2013. Producers with expiring contracts or producers with environmentally sensitive land are encouraged to evaluate their options under CRP.

PA has over 13,000 acres set to expire September 30, 2013. FSA and NRCs are working on a joint effort to mail postcards out to those with expiring contracts.

No update yet on when Continuous CRP and CREP can begin enrollment. Until that time, FSA will keep a list of names of interested parties and NRCS and FSA will work jointly to contact them when authorization is received.

Delaware River Basin CREP Public meeting was held on April 23, 2013. The contractor A.D. Marble presented their Environmental Assessment for public review and comments.

NRCS Farm Bill Conservation Programs – Update on 2013 Progress – April 30 2013

Agricultural Management Assistance AMA

168,000 initial allocation

Projecting 4-5 irrigation contracts in Adams-York counties

Chesapeake Bay Watershed Initiative CBWI,

$3 million initial allocation; now $8.4 million , 20% obligated

Restored Stream Corridor Management fund pool

Using most for field team livestock projects

Conservation Stewardship Program CSP

Anticipating a 2013 enrollment

No decision on last day to apply for 2013 consideration

Environmental Quality Incentives Program EQIP

Now at $21.4 million , 31% obligated

National Water Quality Initiative

756,878 initial allocation; $1,122,000 current projected contract amount

Forestry progress: $900,000 allocated for practices; $150,000 allocated for plans, 75 current contracts

Wildlife Habitat Incentives Program WHIP

$1.7 million initial allocation, 31% obligated

Currently 16 contracts for golden winged warbler; $526,000

NRCS Farm Bill Conservation Programs – 2014 Projections – April 30 2013

Application Signup Dates

2013 national policy: third Friday of the month; states determine months not to extend beyond May

FY 2014 Projected Dates

October 18 2013

December 20 2013

February 21 2014

April 18 2014

May 16 2014

2014 Fund Pools

See list of 2013 and proposed 2014 Pools

Conservation Practices

See list of 2013 eligible practices

New application in 2013: Reverse Osmosis for maple syrup production: primary practice is Combustion System Improvement 372; also Farmstead Energy Improvement 374

Possible addition for 2014: Waste Gasification 735

Consider dropping for 2014: Aquatic Organism Passage 396 (dam removal scenarios). Reason: these projects take extensive up front planning and permitting work, and usually supplemental funding is required for a project to be viable.

Screening and Rankings

Anticipate similar national state and local questions in 2014

Continue state screening tool for low priority for applicants behind schedule on existing contract, or cancelled/terminated contract in last three years.

Some teams considering a High Priority screening for projects very close to surface water, active gullies, etc.

Pennsylvania 2013 Practices Eligible for AMA CBWI EQIP or WHIP

Practice Code	Practice Name	Practice Code	Practice Name
102	Comprehensive Nutrient Management Plan - Written	521A	Pond Sealing or Lining, Flexible Membrane
104	Nutrient Management Plan - Written	521B	Pond Sealing or Lining, Soil Dispersant
106	Forest Management Plan - Written	521C	Pond Sealing or Lining, Bentonite Sealant
110	Grazing Management Plan - Written	521D	Pond Sealing or Lining, Compacted Clay Treatment
114	Integrated Pest Management Plan - Written	527	Karst Sinkhole Treatment
118	Irrigation Water Management Plan - Written	528	Prescribed Grazing
122	Agricultural Energy Management Plan, Headquarters - Written	533	Pumping Plant
124	Agricultural Energy Management Plan, Landscape - Written	554	Drainage Water Management
126	Comprehensive Air Quality Management Plan - Written	558	Roof Runoff Structure
130	Drainage Water Management Plan - Written	560	Access Road
138	Conservation Plan Supporting Organic Transition - Written	561	Heavy Use Area Protection
142	Fish and Wildlife Habitat Plan - Written	570	Stormwater Runoff Control
146	Pollinator Habitat Plan - Written	574	Spring Development
154	IPM Herbicide Resistance Weed Conservation Plan - Written	575	Animal Trail or Walkway
309	Agrichemical Handling Facility	578	Stream Crossing
313	Waste Storage Facility	580	Streambank and Shoreline Protection
314	Brush Management	585	Stripcropping
315	Herbaceous Weed Control	587	Structure for Water Control
316	Animal Mortality Facility	590	Nutrient Management
317	Composting Facility	591	Amendments for the Treatment of Agricultural Waste
324	Deep Tillage	592	Feed Management
327	Conservation Cover	595	Integrated Pest Management (IPM)
328	Conservation Crop Rotation	600	Terrace
329	Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed	606	Subsurface Drain
330	Contour Farming	612	Tree/Shrub Establishment
331	Contour Orchard and Other Perennial Crops	614	Watering Facility
332	Contour Buffer Strips	620	Underground Outlet
338	Prescribed Burning	629	Waste Treatment
340	Cover Crop	632	Solid/Liquid Waste Separation Facility
342	Critical Area Planting	634	Waste Transfer
350	Sediment Basin	635	Vegetated Treatment Area
351	Water Well Decommissioning	638	Water and Sediment Control Basin
355	Well Water Testing	642	Water Well
360	Waste Facility Closure	643	Restoration and Management of Rare and Declining Habitats
362	Diversion	644	Wetland Wildlife Habitat Management
366	Anaerobic Digester	645	Upland Wildlife Habitat Management
367	Roofs and Covers	646	Shallow Water Development and Management
372	Combustion System Improvement	647	Early Successional Habitat Development/Management
374	FARMSTEAD ENERGY IMPROVEMENT	655	Forest Trails and Landings
378	Pond	656	Constructed Wetland
380	Windbreak/Shelterbelt Establishment	657	Wetland Restoration
382	Fence	658	Wetland Creation
386	Field Border	659	Wetland Enhancement
390	Riparian Herbaceous Cover	666	Forest Stand Improvement
391	Riparian Forest Buffer	798	Seasonal High Tunnel for Crops
393	Filter Strip		
394	Firebreak		
395	Stream Habitat Improvement and Management		
396	Aquatic Organism Passage		
410	Grade Stabilization Structure		
412	Grassed Waterway		
422	Hedgerow Planting		
430	Irrigation Pipeline		
436	Irrigation Reservoir		
441	Irrigation System, Microirrigation		
442	Irrigation System, Sprinkler		
449	Irrigation Water Management		
468	Lined Waterway or Outlet		
472	Access Control		
484	Mulching		
490	Tree/Shrub Site Preparation		
500	Obstruction Removal		
512	Forage and Biomass Planting		
516	Livestock Pipeline		

2013 AMA CBWI CSP EQIP WHIP Fund Codes
Projected 2014 Status

Program		2013 Fund Code	Projected to be offered for 2014?	comments
Agricultural Management Assistance	AMA			AMA was included in 2012 House and Senate Farm Bill proposals
Agricultural Management Assistance		Cropland - Irrigation	yes	move from Adams-York to another area. AMA is only current option for funding new irrigation systems.
Chesapeake Bay Watershed Initiative	CBWI		no	CBWI authorization expires Sept 30 2013
		AFO/CAFO Livestock	no	shift to EQIP funding in 2014
		Beginning Farmer	no	
		Stream Corridor Management	no	consider funding under EQIP in 2014
		NM/CNMP Plan Development	no	
		Feed Management	no	
		CCPI - Healthy Dairies, Healthy Streams	no	
Conservation Stewardship Program	CSP		yes	CSP was included in 2012 House and Senate Farm Bill proposals
		Agricultural Land (Cropland and Pasture)	yes	
		NonIndustrial Private Forest Land	yes	
Environmental Quality Incentives Program	EQIP		yes	EQIP was included in 2012 House and Senate Farm Bill proposals with little change
Environmental Quality Incentives Program	EQIP	FY13 Air Quality National	yes	included in 2008 Farm Bill-EQIP requirements
		FY13 Certified Organic	yes	included in 2008 Farm Bill-EQIP requirements
		FY13 Organic Transition	yes	included in 2008 Farm Bill-EQIP requirements
		FY13 On-Farm Energy	yes	NRCS national initiative
		FY13 Seasonal High Tunnels	yes	NRCS national initiative
		Advanced Technology	?	dependent on funding levels, level of interest, alternative funding options
		AFO/CAFO Livestock	yes	Field Team Allocations
		AFO/CAFO Grazing	yes	Field Team Allocations
		Cropland	yes	Field Team Allocations
		Forest Management Plan Development	yes	
		Forestry	yes	
		Feed Management	yes	
		Beginning Farmer	yes	included in 2008 Farm Bill-EQIP requirements
		Socially Disadvantaged Farmer	yes	included in 2008 Farm Bill-EQIP requirements

2013 AMA CBWI CSP EQIP WHIP Fund Codes
Projected 2014 Status

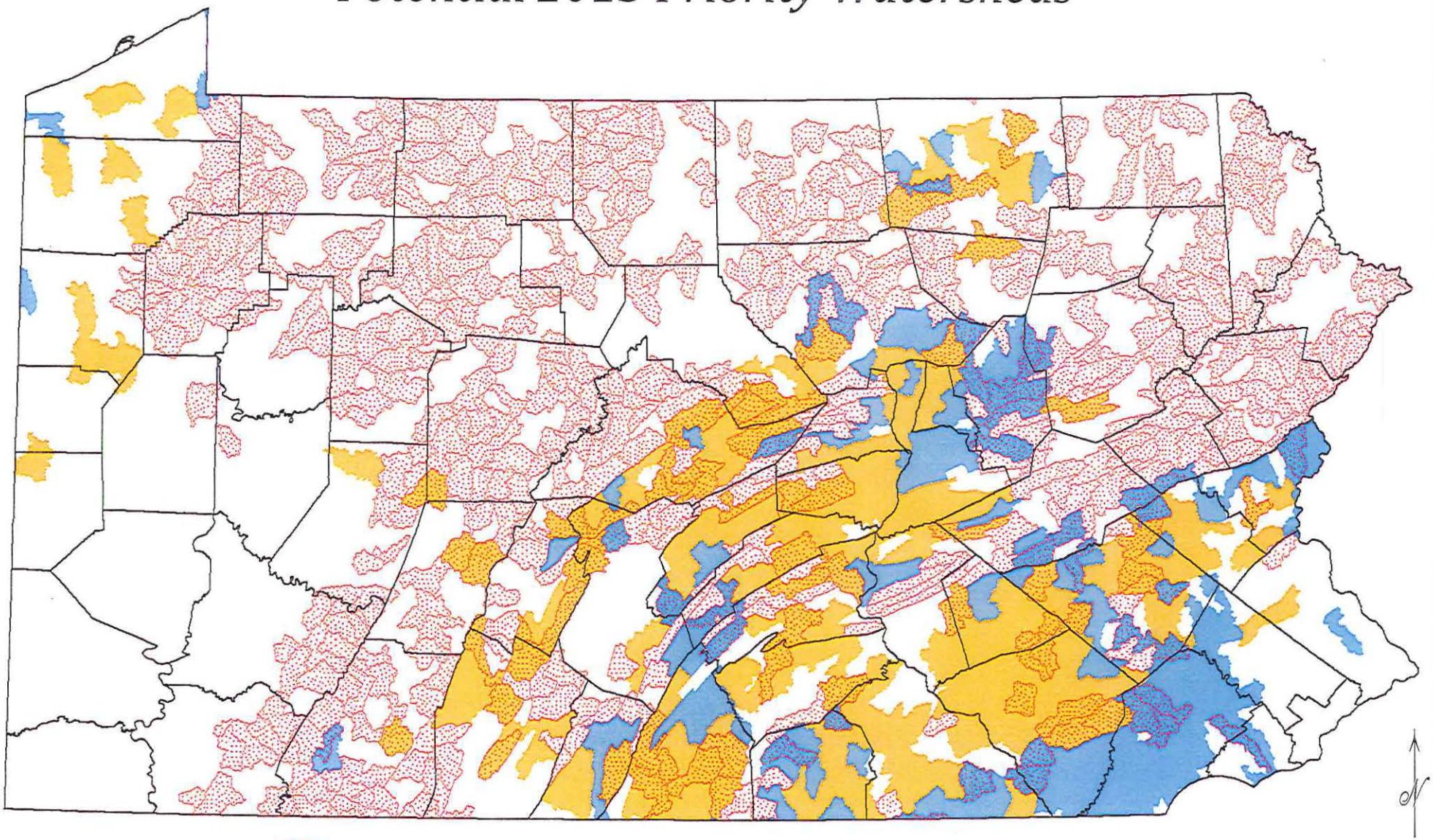
Program		2013 Fund Code	Projected to be offered for 2014?	comments
Environmental Quality Incentives Program		NM/CNMP Plan Development	yes	
		Conservation Activity Plan Development	yes	
		Healthy Dairies, Healthy Streams	no	
		Wildlife Habitat	?	dependent on funding levels, outcome of 2013 Farm Bill development
		NWQI - Upper Kishacoquillas Creek	yes	
		NWQI - Upper Maiden Creek	yes	
		NWQI - Sacony Creek	yes	
		NWQI - Conservation Activity Plan	no	may fund under general WQI fund codes
		GHG-CIG	?	NRCS national initiative (in support of Greenhouse Gas CIG projects)
		FY13 CIG State Component	yes	
EQIP Great Lakes Restoration Initiative	EQIP GLRI	GLRI - General	no	GLRI was proposed to be phased out in 2012 House and Senate Farm Bill proposals
Wildlife Habitat Incentive Program	WHIP		no	WHIP was proposed to be phased out in 2012 House and Senate Farm Bill proposals (merged into EQIP?)
Wildlife Habitat Incentive Program	WHIP	Bog Turtle Initiative	no	may be funded by EQIP if WHIP is merged into EQIP
		Golden-Winged Warbler Initiative	no	may be funded by EQIP if WHIP is merged into EQIP

ATTACHMENT 4

Maps were disturbed which showed different datasets and areas that can be used as priority areas for fiscal year 2014 funding. Five maps were disturbed -one showing high and medium priority areas using UGSG SPARROW model data, second DEP ag impaired streams, 319 ag watersheds, DEP Nitrate violations, and the final map showed all datasets on one map. The maps were outcomes of a smaller group to focus on prioritizing watersheds which was formed at the January State Technical Committee meeting.

There was further discussion as why funding need to be given only in priority areas and why the areas where not across the state instead of just mostly in the southeastern and central portion of the state. Barry Frantz noted funding is given across the state but when it comes down to funding in the county one person will rank higher if they are in the priority area over one who is not. Funding is based on ranking questions within a field team. It was agreed to that the high and medium areas were good if some of the 319 ag watershed could be added if they were next to an already high or medium priority area. It was also agree to that the areas where brook trout have been greatly reduced would be a "bonus" area in the ranking. There was a suggestion that the priority group formed in January and that met a few weeks prior to this meeting would meet again and continue the discussion. For now the map will be updated to show what had
been suggested.

Potential 2013 Priority Watersheds



Brook Trout Greatly Reduced

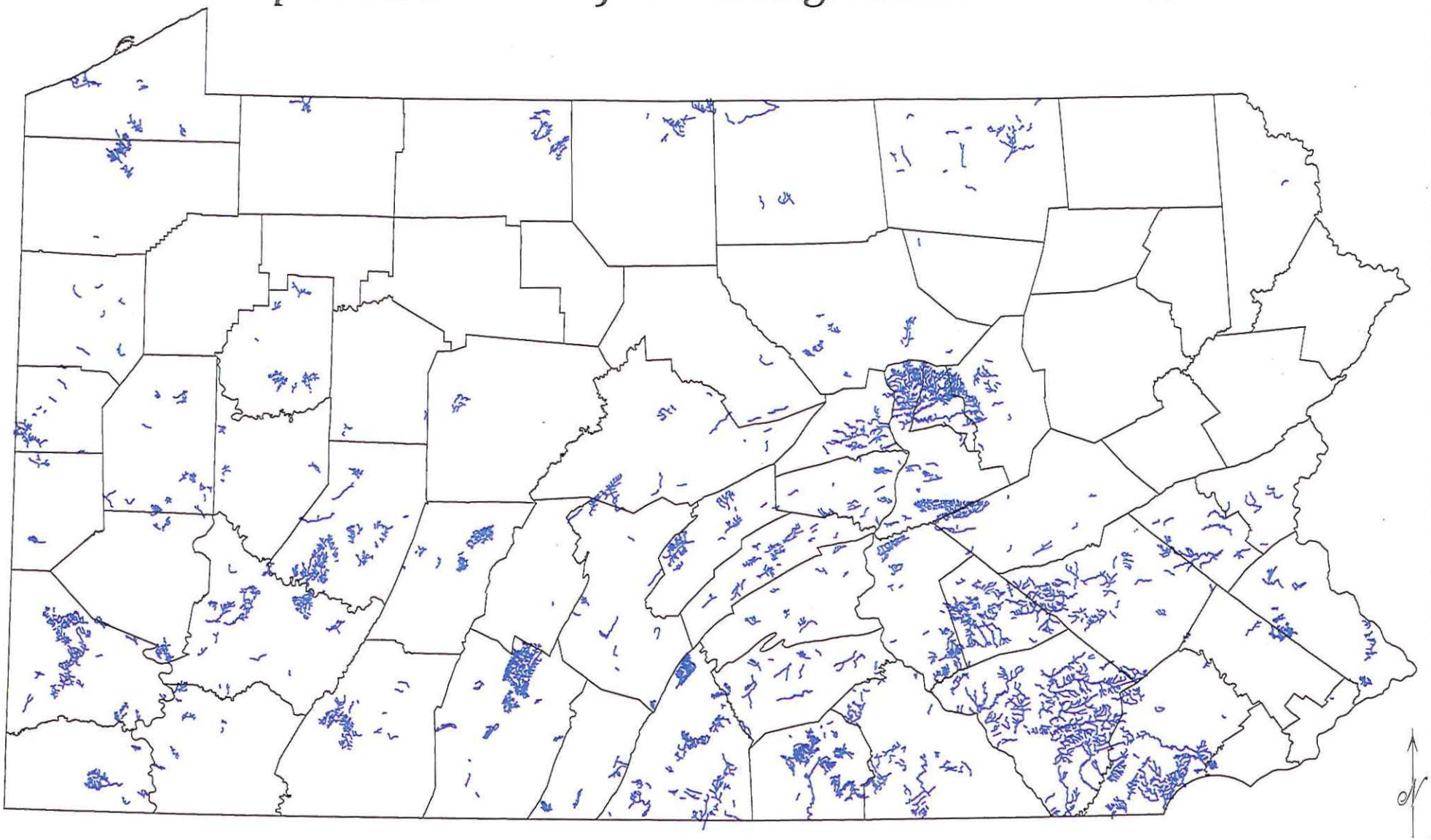
High Nitrogen or High Phosphorus and more than 10,000 acres of High Leaching and High Runoff Soil

High Nitrogen or High Phosphorus (Medium Priority)

NRCS
Natural Resources Conservation Service

Source:U.S. Geological Survey, 2012. SPARROW Model Yield Estimates of Nitrogen and Phosphorus from Agricultural Lands Assigned to the National Watershed Boundary 12 Digit Hydrologic Units. Eastern Brook Trout Joint Venture

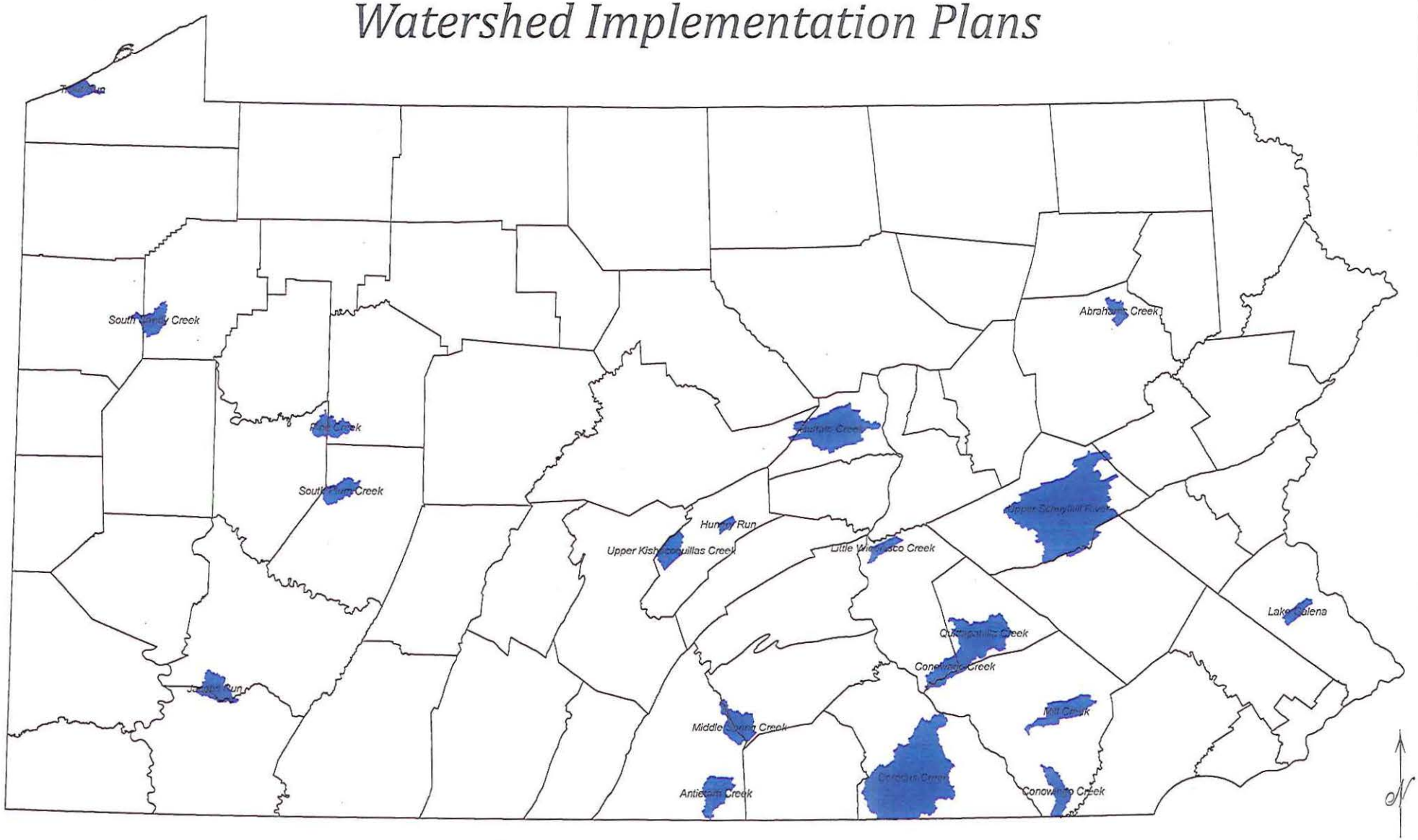
Impaired Streams from an Agricultural Source



NRCS
Natural Resources Conservation Service

Source: Department of Environmental Protection,
2013 Integrated NonAttaining Streams List

2013 EPA Section 319 Agricultural Watershed Implementation Plans

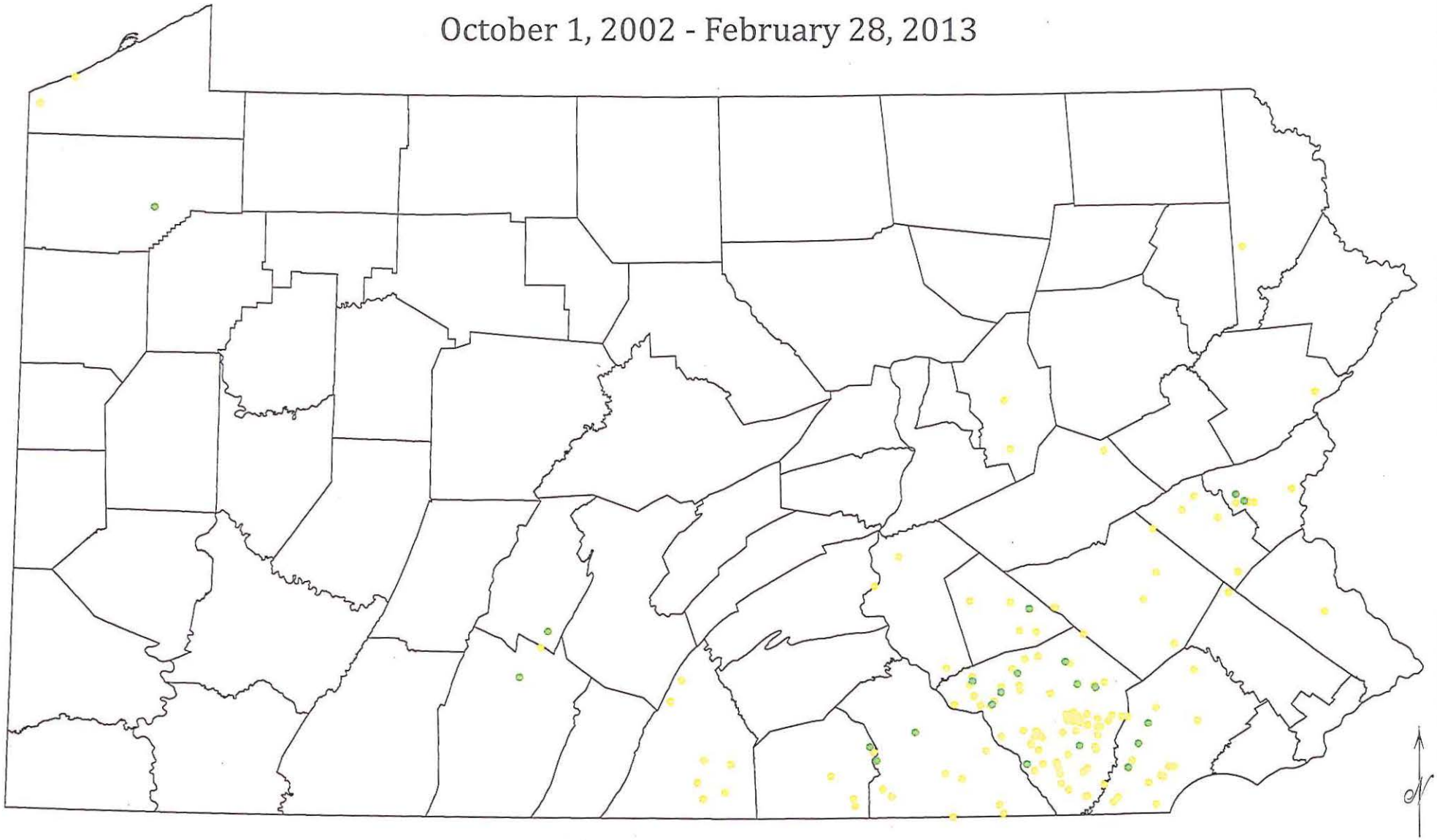


NRCS
Natural Resources Conservation Service

Source: Department of Environmental Protection

Nitrate Violations

October 1, 2002 - February 28, 2013



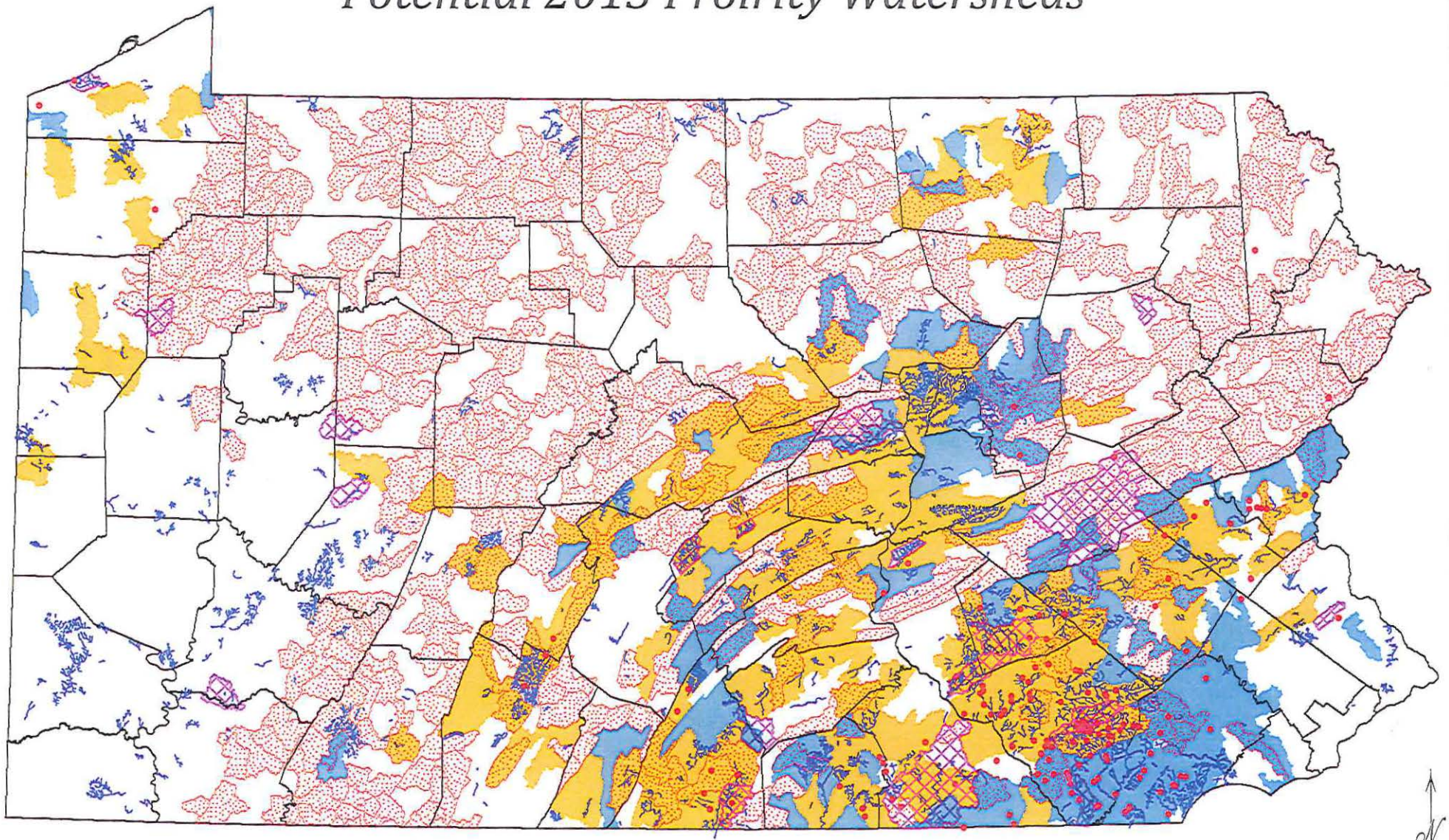
Community Water Systems - Nitrate Violations

Non Community Water Systems - Nitrate Violations

NRCS
Natural Resources Conservation Service

Source: Department of Environmental Protection,
Nitrate Violations = NO3 concentration > 10.0 mg/l),
Violation data are from October 1, 2002 - February 28, 2013

Potential 2013 Proirity Watersheds



- Community and Non Community Nitrate Violations
- Ag Impaired Streams
- Brook Trout Greatly Reduced
- 319 Ag Watersheds
- High Nitrogen or High Phosphorus and more than 10,000 acres of High Leaching and High Runoff (High Priority)
- High Nitrogen or High Phosphorus (Medium Priority)

NRCS
Natural Resources Conservation Service

Source: USGS SPARROW Model, Eastern Brook Trout Joint Venture, PA Department of Environmental Protection

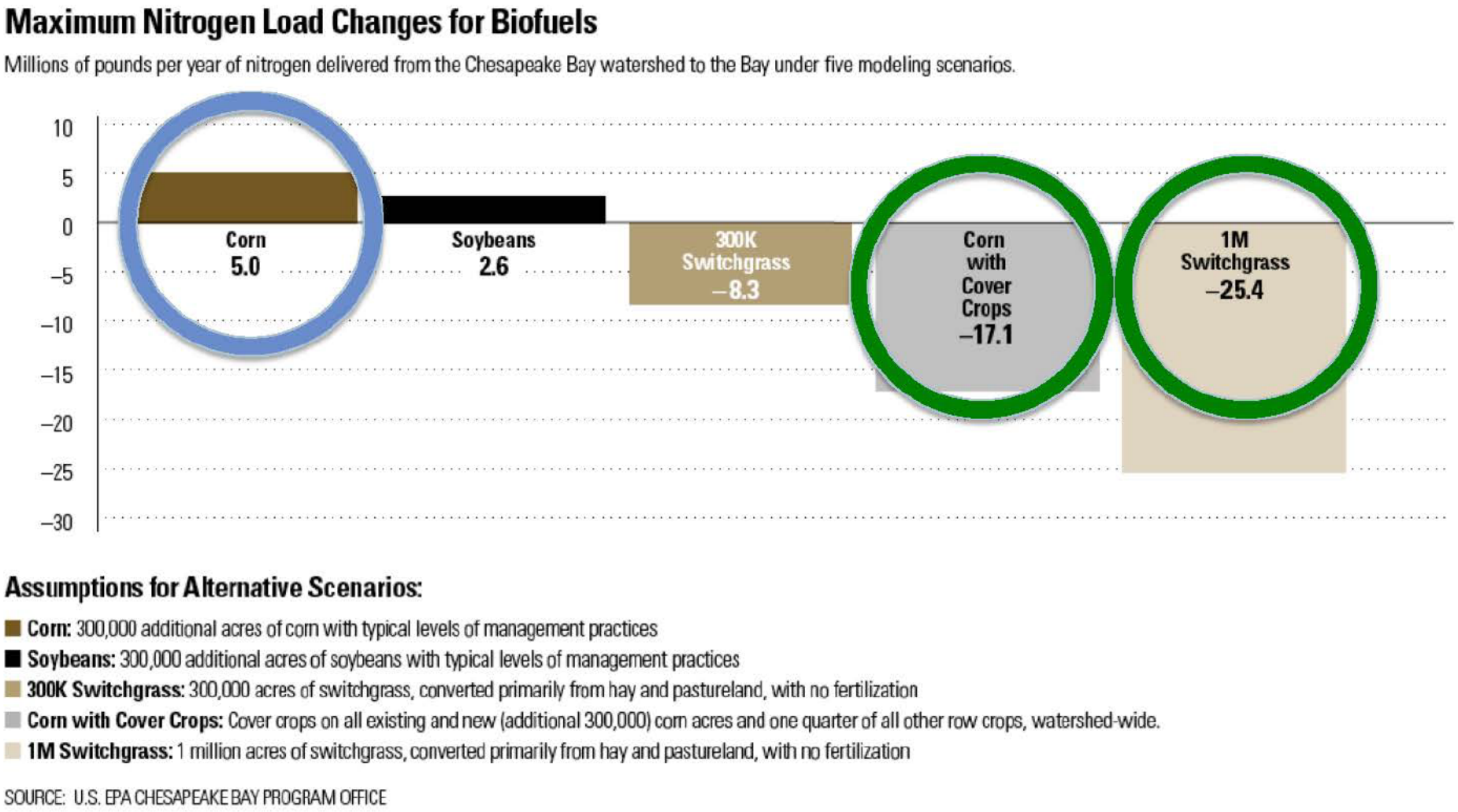
NEWBio

Northeast Woody/Warm-season Biomass Consortium

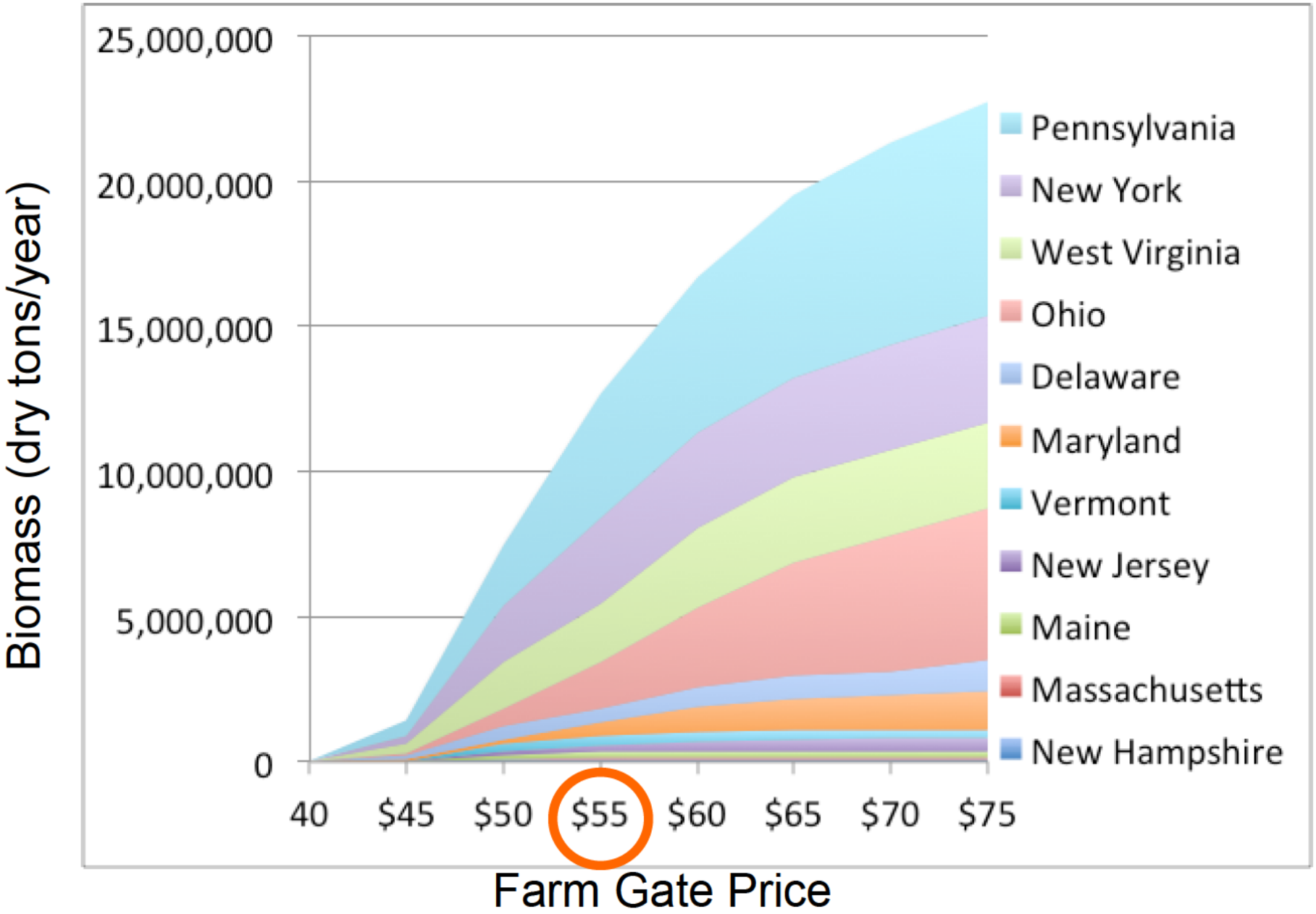
Tom Richard
Penn State University

PENNSTATE 1855 · Cornell University · Delaware State University · Drexel University · ESF · INL Idaho National Laboratory · Oak Ridge National Laboratory · The Ohio State University · Rutgers The State University of New Jersey · The University of Vermont Extension · West Virginia University

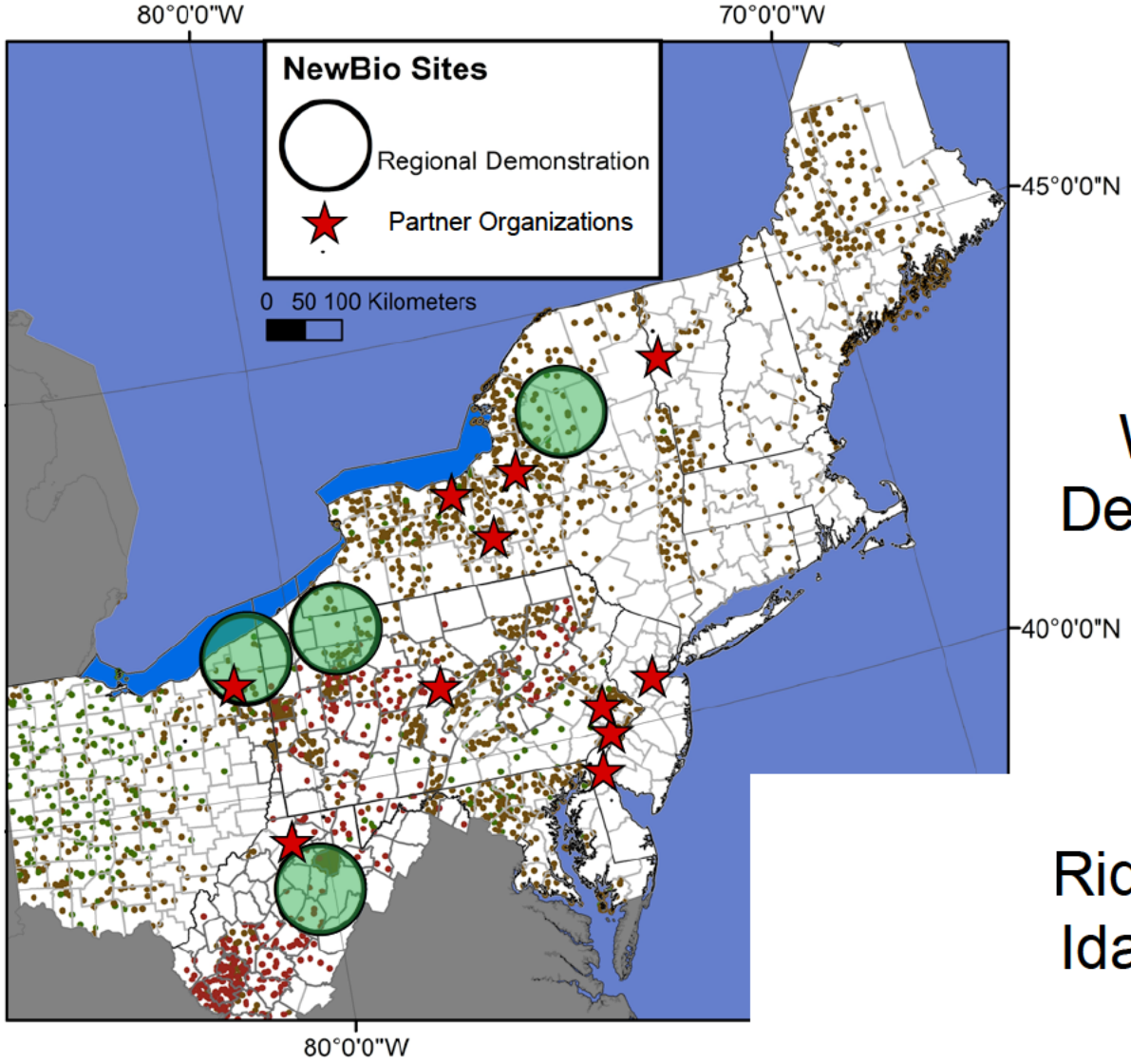
Biofuels and sustainability: Blessing or Bane?



Northeast Perennial Grass and Woody Crop Supply



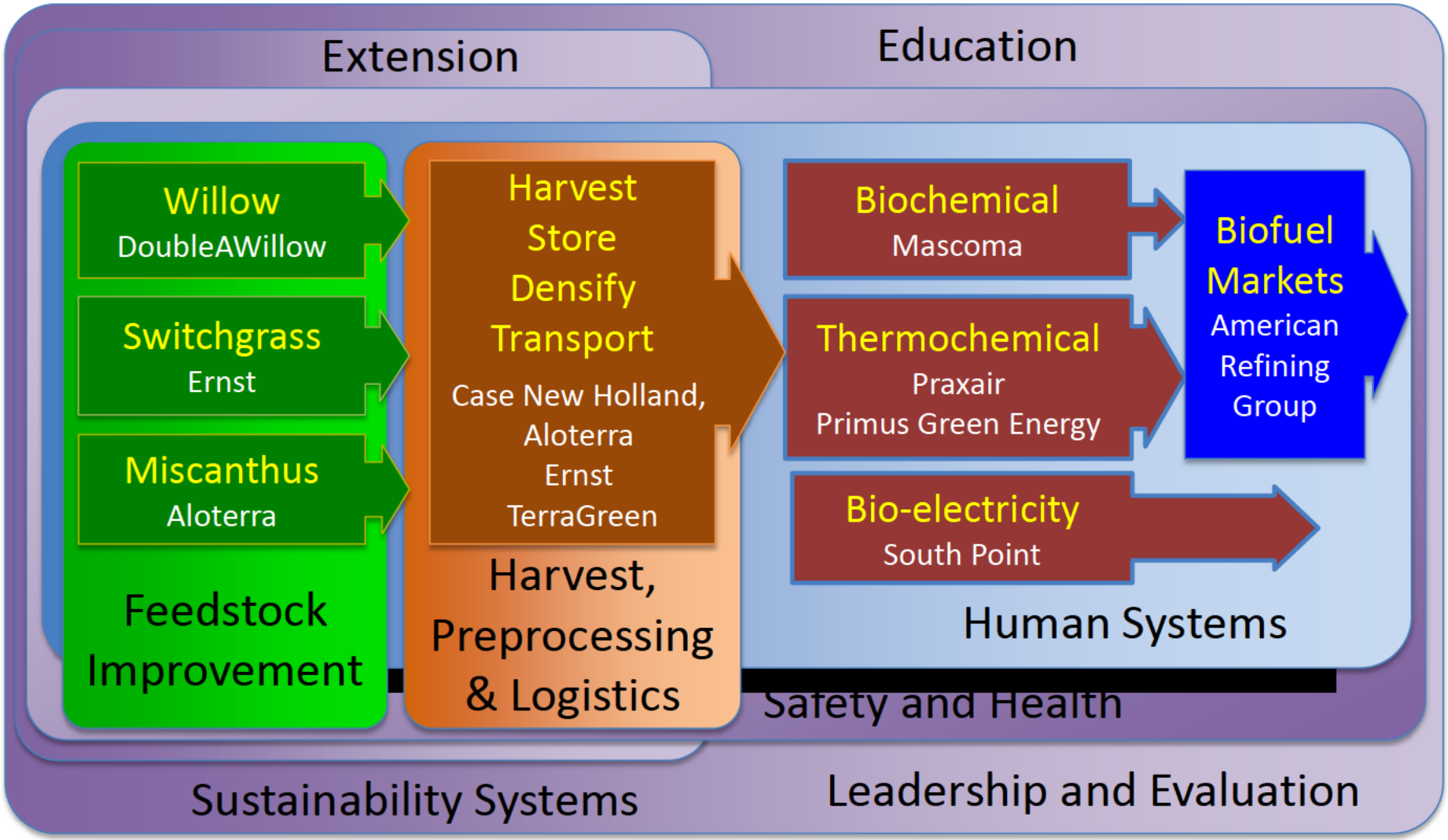
University and Federal Partners



Penn State University
Cornell University
SUNY ESF
West Virginia University
Delaware State University
Ohio State University
Rutgers University
Drexel University
USDA ARS ERRC
Ridge National Laboratory
Idaho National Laboratory

NEWBio:

Northeast Woody/Warm-season Biomass Consortium



Willow Biomass Production Cycle

Site preparation

Planting

First-year growth
Winter coppice

Regrowth after coppice

Three years old after coppice

One year old after coppice

Willow Biomass Production Cycle

Three years old after coppice

Winter harvest

At least 7 harvests

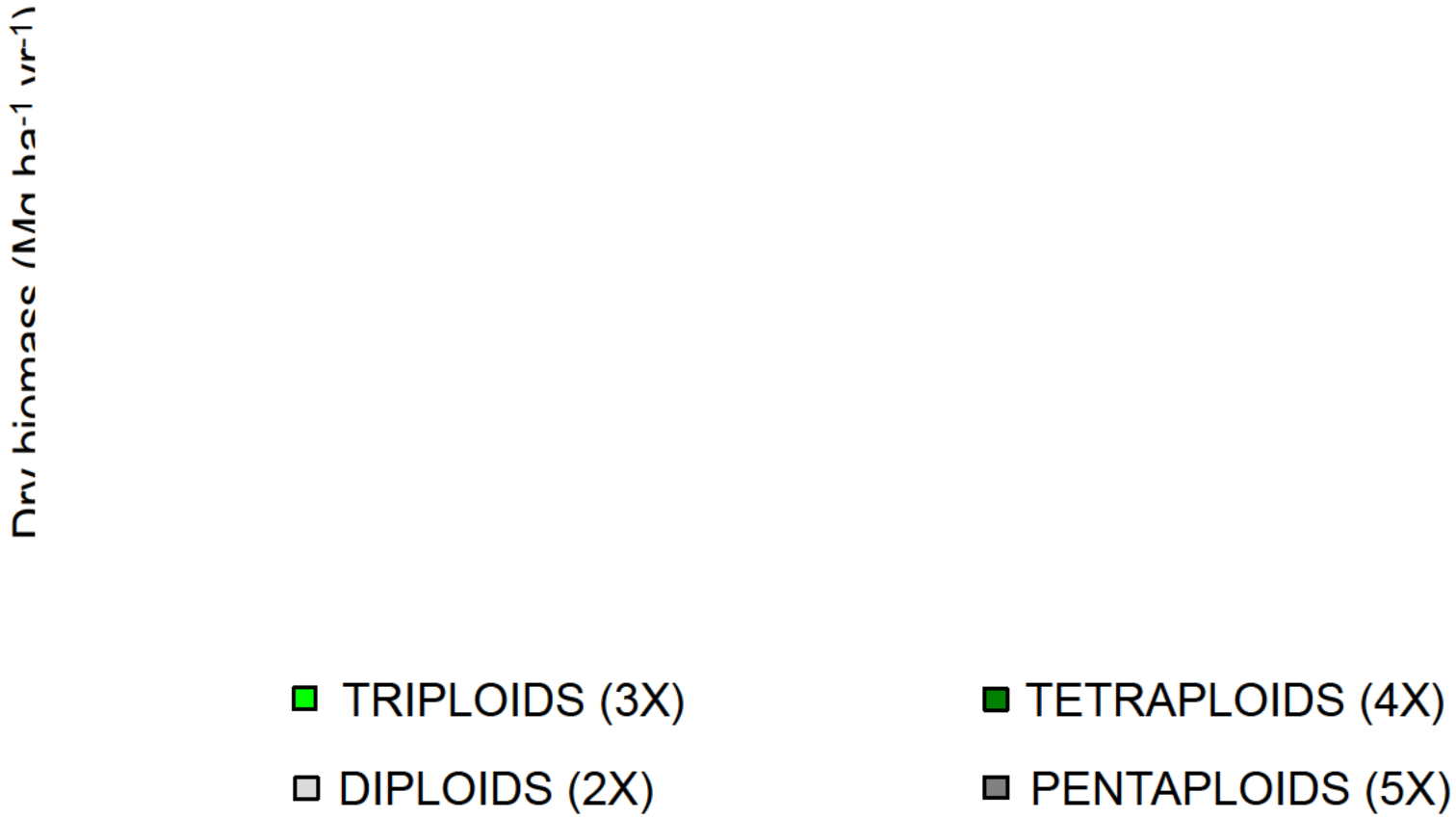
One year old after coppice

Fertilizer: ~100 lbs N per acre after every harvest (every 3 years)

Regrowth after coppice

2008 Genetic Selection Trial - Geneva, NY

- 24-plant plots, 3 replicates, 76 clones



Double A Willow

Diversity Group	Species	Variety
1	*Salix x dasyclados*	SV1
2	*S. sachalinensis*	SX61
3	*S. caprea hybrid*	S365
4	*S. eriocephala*	S25
5	*S. miyabeana*	SX64
		SX67
6	*S. purpurea*	Fish Creek
		Onondaga
		Allegany
7	*S. sachalinensis x S. miyabeana*	Sherburne
		Canastota
8	*S. viminalis x S. miyabeana*	Tully Champion
		Fabius
		Owasco
		Otisco
9	*S. purpurea x S. miyabeana*	Oneida
		Millbrook

http://www.doubleawillow.com

Multiple Harvesting Strategies

Cut and chip (New Holland) or baling (Biobaler)

Switchgrass

Feedstock Development

- Developing high yielding biofuel cultivars for the Northeast and Mid-Atlantic US
- Identify superior germplasm adapted to the temperate region of the US
- Increase biomass & biofuel yield
- Modified/lower lignin content
- Improve tolerance to drought, disease, and lodging
- Improve germination and establishment
- High yields on marginal land

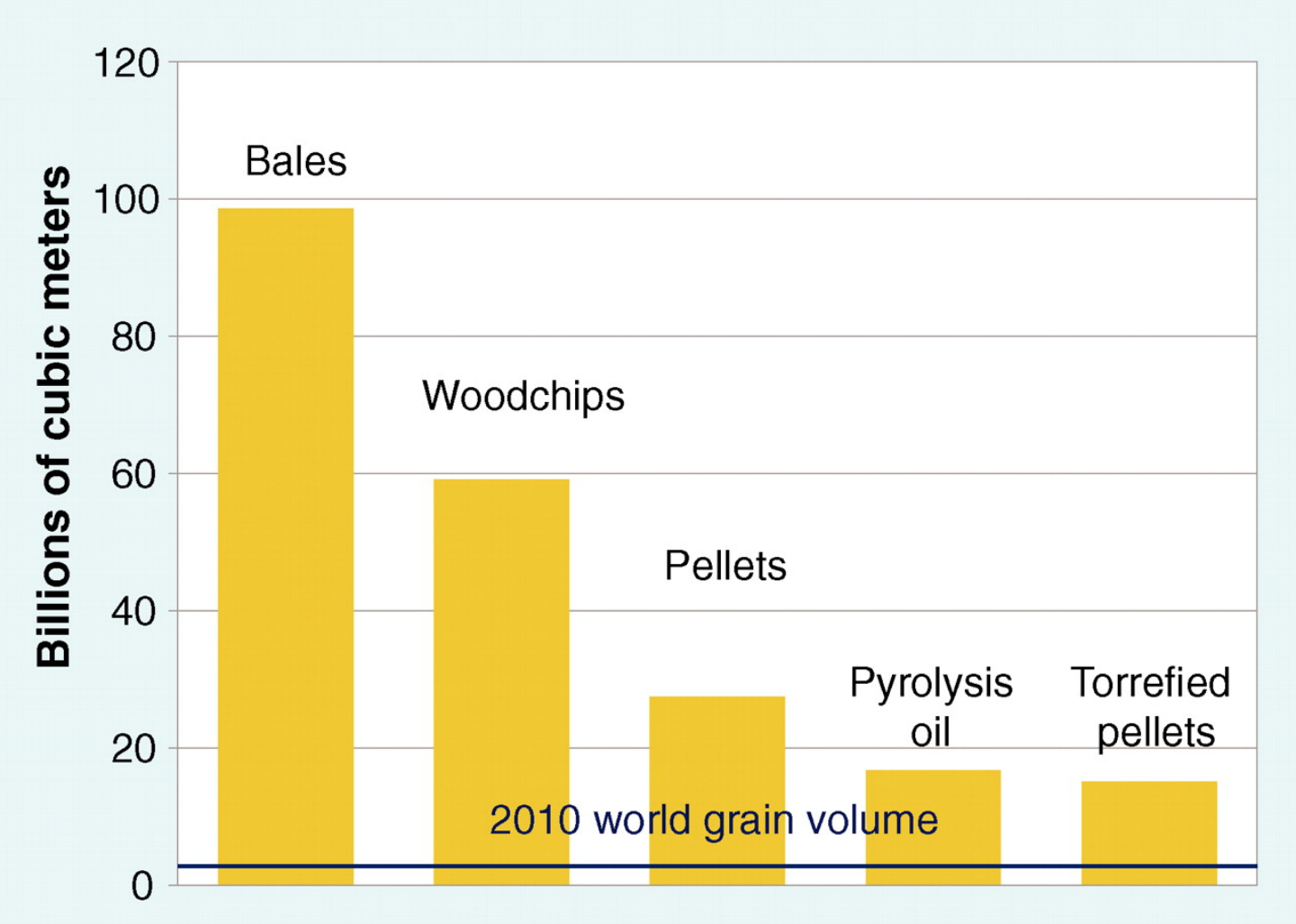
Switchgrass

ERNST
Conservation Seeds

Miscanthus x giganteus

ALOTERRA
ENERGY

Biomass Logistics – A Massive Challenge!



Global biomass volumes required to achieve a 50% reduction in greenhouse gas emissions by 2050.

T L Richard Science 2010;329:793-796
Published by AAAS

Commodity Supply Chains

Farm gate

Handling & Transportation

Plant gate

Biomass Production → Harvest & Collection → Off-site storage & pre-processing → Long-haul transport to plant → Handling & Queuing → Conversion Plant

-Cutting & hauling

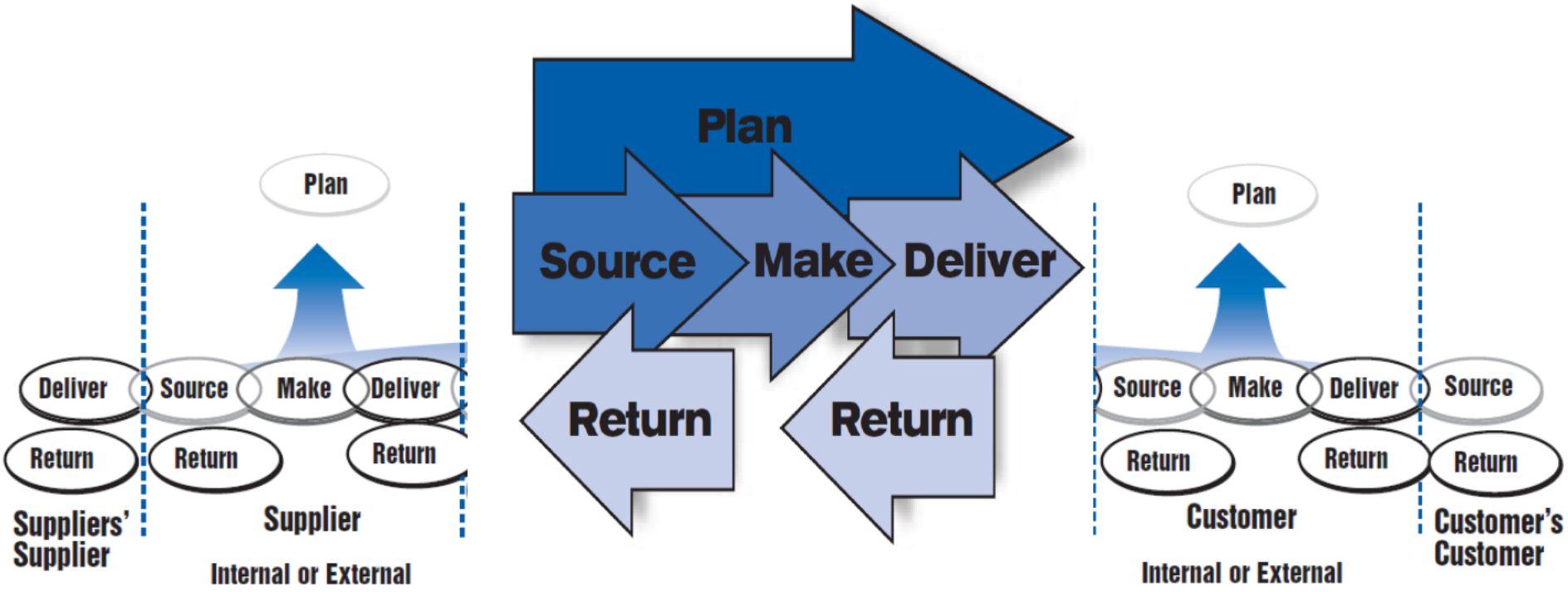
-Densification (baling, bundling or chipping)

-Grinding and formatting for increased density

-Fractionation, tissue separation, drying, or blending for improved feedstock quality

-Loads directly to transport vehicle

Supply Chain Business Functions



Suppliers of construction waste, woody biomass, and agricultural biomass

Biomass Conversion Facility

Downstream Operators

NEWBio Sustainability Framework

Guiding Principles of NEWBio:

(1) *Biofuels and bioproducts must be sustainable in all dimensions: social, economic and environmental*

(2) *Metrics must include market and non-market social and environmental services*

Specifically, we will assess:

(1) the fuels life-cycle GHG emissions,
(2) Impacts on soil and water quality,
(3) impacts on landscape biodiversity,
(4) emissions and impact of non-GHG air pollutants,
(5) land use and land-use change related to energy feedstock production.
(6) Individual and community attitudes and impacts
(7) Local and regional economic impact

NEWBio Sustainability Framework

Interdisciplinary collaboration for bridging scales

Address system's emerging properties

(4.4) Multi-Criteria System Assessment — *Regional scenarios*

LCA, market and non-market ecosystem services, landscape scale biodiversity, assess tradeoff among ecosystem services and profit

(4.3) Regional feedstock supply and Environmental Assessment — *Regional scenarios*

County level, use models to determine bioenergy crops effect on soil (erosion, carbon), air quality, and water quality, and landscape biodiversity)

(4.2) Modular scenario definition — *Components of regional scenarios*

Soil (mineland, marginal soils), weather, bioenergy crop (Willow, Switchgrass, Miscanthus), cover crop, fertilizer, other practices

(4.1) Knowledge gaps — *Disciplinarily questions*

Carbon balance, nitrogen cycling in willow, Switchgrass and miscanthus, adaptation to soils with limitations (many),

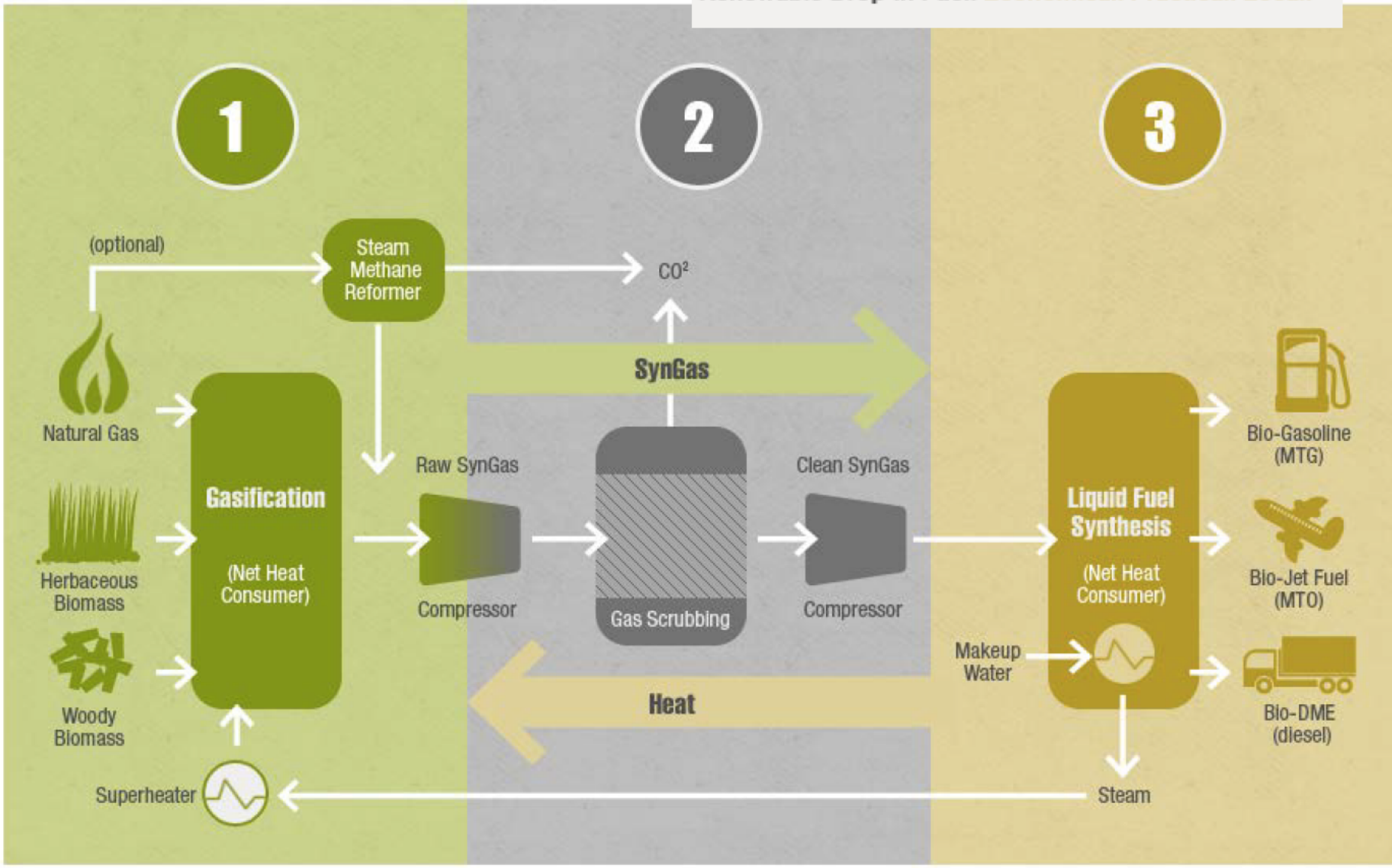
Conversion Partner: MASCOMA

Corporate headquarters in Lebonon, New Hampshire
Operating Pilot Plant in Rome, NY
First Commercial Plant permitted for Kinross, MI
Second Commercial Plant…in the Northeast?

Conversion Partner:

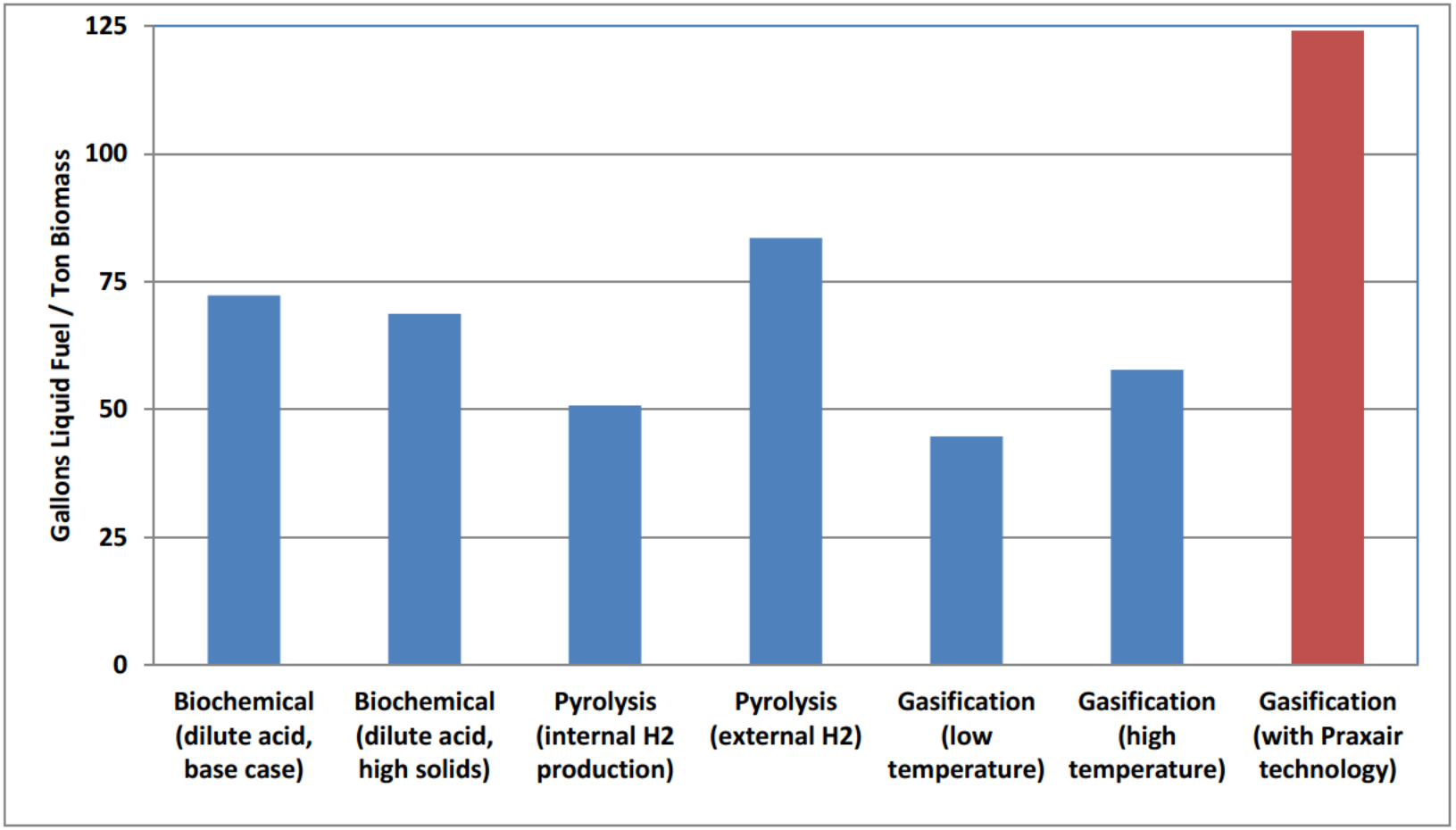
PRIMUS GREEN ENERGY

Renewable Drop-In Fuel. Economical. Practical. Local.



PRAXAIR

Making our planet more productive



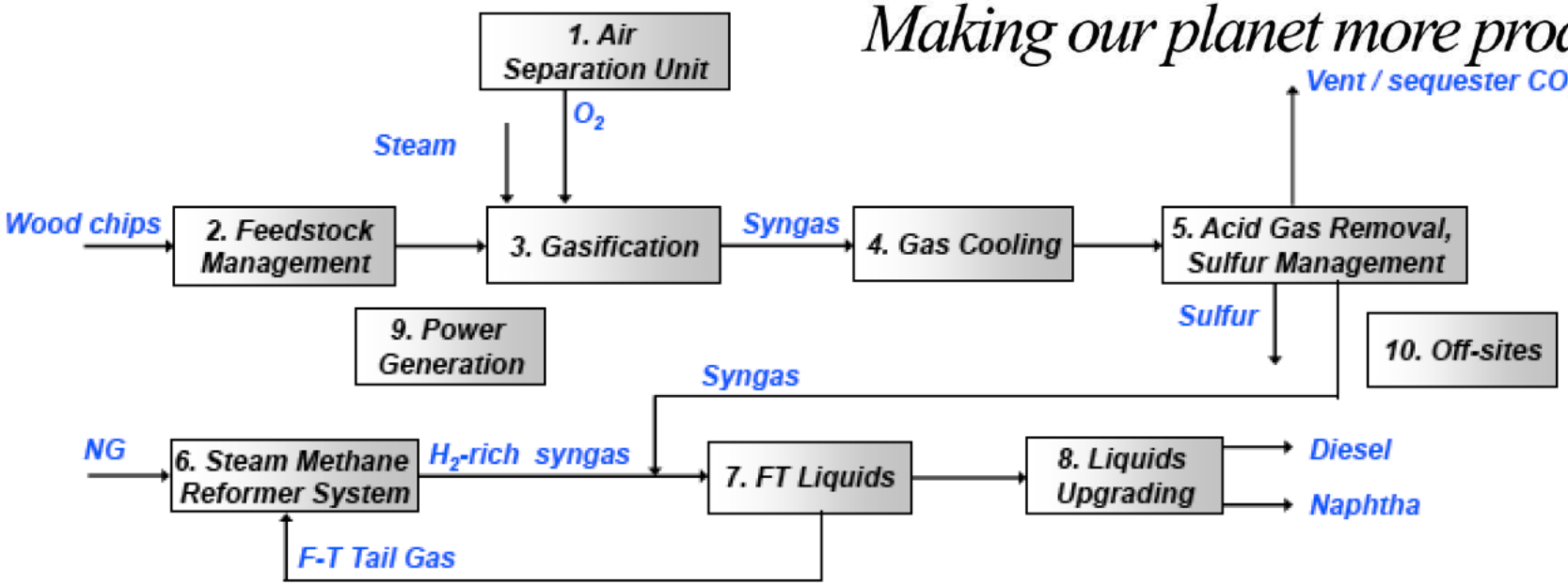
**Adapted from "Techno-economic comparison of biomass-to-transportation fuels via pyrolysis, gasification and biochemical pathways", Anex RP et al., Fuel (2010)*

Praxair technology significantly increases yield of gasification pathway

Conversion Partner:

PRAXAIR

Making our planet more productive



Description	Prior Year			Year 1		Year 2		Year 3		Year 4		Year 5
	H-2	H-1	0	H 1	H 2	H 3	H 4	H 5	H 6	H 7	H 8	H 9 On
Feasibility Study (Complete)												
Project GO decision												
Preliminary Engineering												
NEPA and Permitting												
Detailed Design												
Procurement												
Construction												
Comissioning and Start-Up												
Shake-Down Operation												
Full-Scale Production												

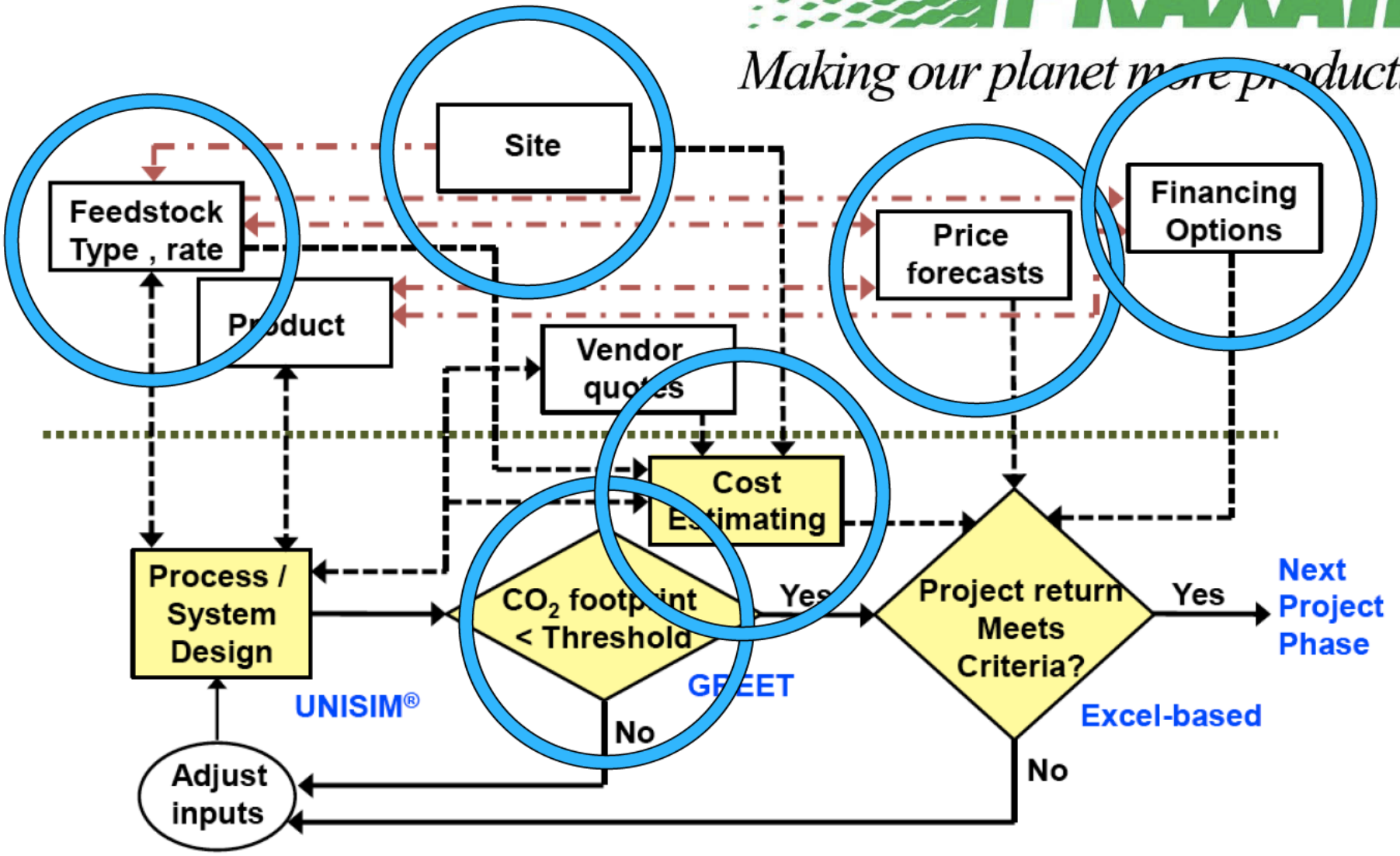
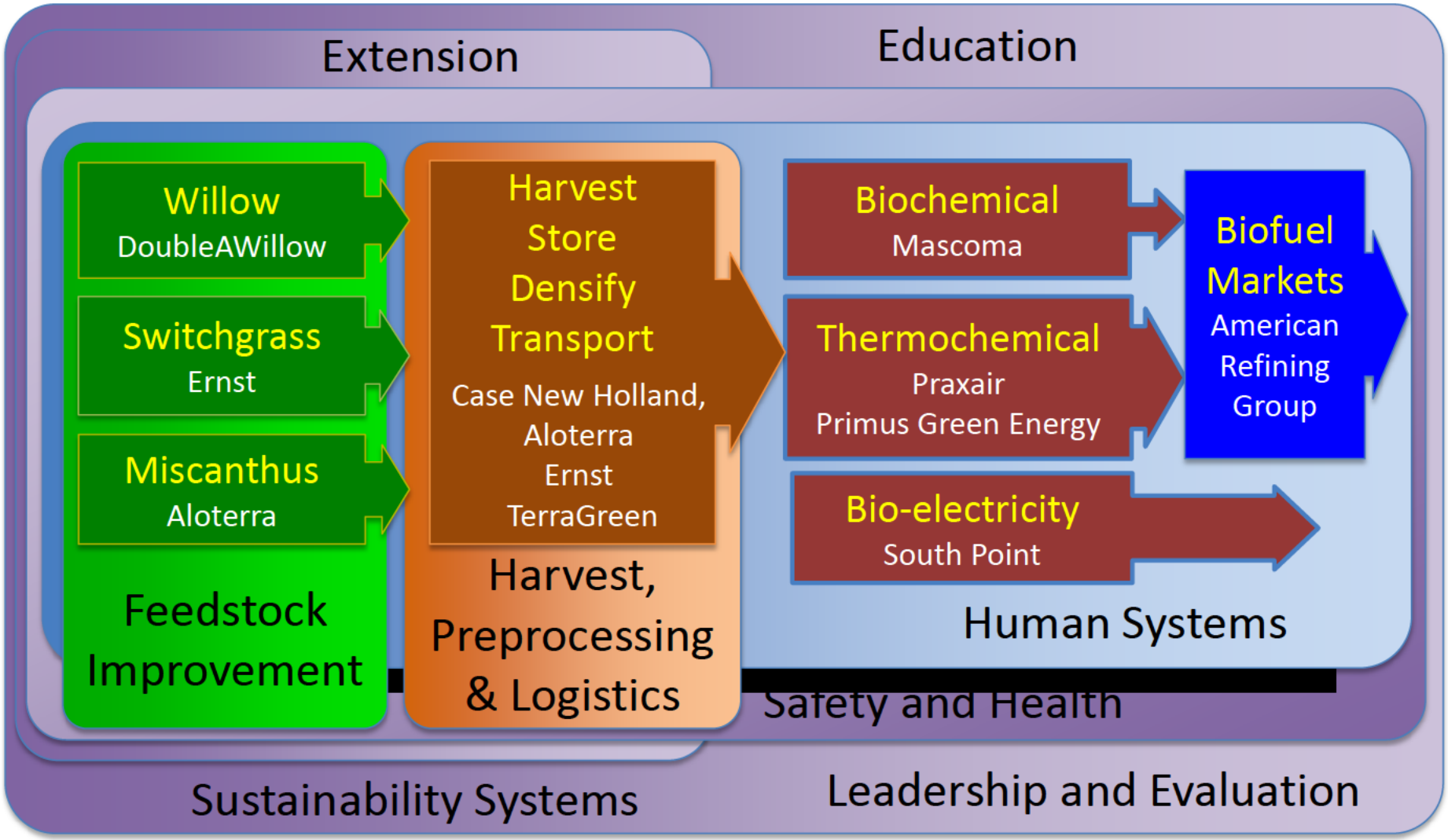


Figure 8: Graphical Representation of Modeling Approach taken in the Biofuels Project Feasibility Study

NEWBio:

Northeast Woody/Warm-season Biomass Consortium



USDA NIFA

NEWBio

Northeast Woody/Warm-season Biomass Consortium

PENNSTATE 1855

Cornell University

DelawareState University

Drexel UNIVERSITY

ESF

INL Idaho National Laboratory

OAK RIDGE National Laboratory

THE OHIO STATE UNIVERSITY

RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

The UNIVERSITY of VERMONT EXTENSION

WestVirginiaUniversity.

Meeting Minutes
Nutrient Management Subcommittee of the USDA NRCS State Technical Committee
January 22, 2013 9:30 am – noon
FSA Conference Room, USDA state office, Harrisburg

Attending: Dean Collamer, chair, Bill Neilson, Bill Angstadt, Don Fiesta, Greg Hostetter, Jennifer Grimes-Shuler, Frank Schneider, Johan Berger, Mark Goodson

Meeting was called to order at 9:37 am. Collamer and Goodson took meeting notes.

Frank Schneider, SCC Nutrient Management Program Director, was welcomed to the subcommittee.

Minutes of the August 30, 2013 subcommittee meeting were distributed, reviewed, correct and approved. Greg Hostetter moved to approve, seconded by Bill Angstadt, approved by unanimous vote.

Goodson reported that NRCS in Pennsylvania had completed its revision of the conservation practice standard for Nutrient Management (code 590) in early January when it was placed in the PA Field Office Technical Guide (PA Tech Guide). Highlights of the revised standard were discussed. The subcommittee is very interested in details about ongoing PA P-Index revision work and desires a technical presentation at a future meeting (perhaps the next subcommittee meeting) describing P Index revision work.

Angstadt provided information about an EPA/White House/OMB push to include pathogen (bacteria) monitoring in 319-funded projects that collaborate with USDA NRCS National Water Quality Initiative (NQWI) work using EQIP funding. Subcommittee should pay attention to this development.

Collamer reported his discussion with Doug Beegle on new Penn State nitrogen leaching management guidance. Beegle is developing a fact sheet and decision matrix tool with Katie Clark. Development and internal review of these materials will continue through about the end of March then be prepared for May publication. Collamer was invited to participate in the technical review process representing nutrient management subcommittee stakeholders.

Goodson shared the printed presentation about the voluntary EPA/DEP Source Water Protection program (SWP) that was presented by Pat Bowling (DEP) at the October 25, 2012 USDA State Technical Committee meeting. Goodson is communicating with Vicky Binetti (EPA SWP) to identify some places subcommittee stakeholders and SWP can strengthen outreach and impact of this voluntary program. The new Penn State nitrogen leaching guidance may be helpful to that program's work.

Goodson provided 2013 Payment Schedule data CNMP (CAP 102), Nutrient Management (CAP 104) and Nutrient Management (590), a written description of Pennsylvania's Enhanced 590 payment scenario, and discussed difference among various scenarios under 102, 104, and 590. The subcommittee discussed potential recommendations for increasing 4R nutrient management and better conservation practice funding to focus best practices in targeted areas with the highest most conservation need. The consensus of the subcommittee was advice that NRCS use ranking to offer practices with the highest impact potential for decreasing sediment, nutrient and manure pollution. Rankings could identify and prioritize applicants who have received Notice of Violation from PA DEP and applicants requesting high impact manure and runoff practices appropriate for applicants ag sector needs with primary goal of reducing winter spreading of manure.

Goodson announced national NRCS creation of Soil Health Management division within Science and Technology Deputy Area. New division will join two existing divisions, Conservation Engineering and Ecological Sciences, in that area.

Goodson provided information to guide implementation of effective local outreach campaigns. Materials were issued by the Conservation Tillage (now Technology) Information Center (CTIC). Examples of current CTIC project describing successful projects demonstrating and implementing 4Rs and cover crops in the Midwest were shared. Short discussion occurred regarding ideas for PA demo projects. General comments were made regarding further exploration of this outreach effort to be included in next meeting agenda.

Next meeting of the subcommittee is tentatively scheduled for April 16th and will precede the State Technical Committee. Date subject to change.

Meeting adjourned at 11:35

PENNSYLVANIA NRCS Strategic Plan FY 2011-2015

NRCS's strategic plan focuses on major agricultural and forestry activities affecting Pennsylvania's natural resources. Each major land use is described, identifying the many different types of activities and their typical resource concerns. This strategic plan covers the five-year period from October 1, 2010 through September 30, 2015. NRCS will prioritize its efforts on five major land uses within the Commonwealth, as identified below. By focusing on these activities and resource concerns, NRCS will achieve its goal of creating and enhancing sustainable protected landscapes.

Livestock Production Areas

This section addresses areas on a livestock farm where animals are confined and/or fed. It also includes other heavy-use areas where feed, manure, dead animals, and other agricultural material is handled, stored, or transferred. Livestock typically produced in Pennsylvania includes, but is not limited to, dairy and beef cattle, horses and other equine, sheep, goats, poultry, and swine.

Pennsylvania is also the nation's largest producer of mushrooms. Mushroom production that utilizes compost is also addressed in this section.

A. Protect and improve water and air resources

- Increase the number of Comprehensive Nutrient Management Plans (CNMPs) written and applied.
- Reduce the number of areas where livestock have unrestricted access to streams.
- Increase the implementation of conservation practices to improve water and air quality.

B. Conserve energy

- Increase the energy efficiency of equipment and facilities on farmsteads.

Cropland

This section addresses land used to grow crops in rotation including hay grown in short rotations. Hay grown without a crop rotation, except for reseeding purposes, is addressed in the Grazing and Forage Lands section.

A. Improve soil health and productivity

- Increase vegetative cover, crop rotations, and residue and tillage management.
- Install structural practices to control runoff and reduce soil erosion.
- Reduce the loss of prime farmland at risk for development.

B. Reduce pesticide risks on specialty cropland

- Increase adoption of integrated pest management (IPM).

C. Protect and improve water and air resources

- Increase the number of farmers who apply nutrients in the right amount from the right source in the right place at the right time.
- Increase the use of edge of field practices to reduce nutrient and sediment transport.

D. Conserve water resources

- Conserve and improve efficient use of irrigation water by specialty crop producers.

E. Increase energy efficiency of field operations

- Increase energy efficiency of field operations.

Grazing and Forage Lands

This section addresses lands used to grow crops not rotated except for reseeding purposes which includes the following categories: forage land, permanent pasture, and grazing lands.

A. Protect and improve water and air resources

- Encourage livestock operations to utilize sustainable grazing systems.
- Convert vulnerable cropland to prescribed grazing systems.

B. Improve the health of grazing land plant communities

- Increase the application of prescribed grazing on permanent pastures.

C. Improve the health of permanent grasslands

- Maintain existing perennial grassland plant communities.
- Restore and protect additional native cool and warm season grassland communities.

Streams and Wetlands

There are several threats to natural resources associated with streams and wetlands. These include the lack of forest buffers along streams, legacy sediments, loss of stream and wetland habitat for species of concern, and loss of wetland functions.

A. Protect and improve streams in cropland and pasture areas

- Increase establishment and maintain existing riparian forested buffers.
- Stabilize severely eroded streams whose flow is disrupted by natural disaster.
- Reduce the negative impact of legacy sediment.
- Improve stream habitat and stream corridor conditions for eastern brook trout.

B. Protect and improve wetlands in cropland and pasture areas

- Create, enhance, and protect known adn potential wetlands targeting bog turtle and eastern massasauga rattlesnake.
- Restore degraded wetlands and adjacent plant communities.

C. Watershed Operations, Rehab, and Emergency Streams Restoration

- Assist project sponsors in securing funds.
- Increase outreach efforts to encourage the protection and sustainable uses of watersheds' natural resources.

Forests

This section addresses woodlands, shrub lands, and forests.

A. Increase habitat for at risk and declining wildlife species

- Increase adequate size habitat and connected corridors for Golden-winged Warblers and other at-risk species.
- Create, enhance, and protect woodland habitat for the Indiana Bat.

B. Improve the health of forests and woodlands

- Increase the implementation of forest management plans that minimize invasive species, increase populations of declining species, and address water quality issues.
- Demonstrate the multiple benefits of agroforestry practices in Pennsylvania.

STATE TECHNICAL COMMITTEE
ATTENDANCE

NAME	ORGANIZATION/ AGENCY/ COMPANY	E-MAIL ADDRESS (if different/changed since last meeting)	MAILING ADDRESS or PHONE # (if e-mail not available)	How did you hear about this meeting?		
				e-mail	newspaper	other (specify)
Jack Tressler	PACD	jacktressler@rocketmail.com	2868 New Centerville Rd PA Rockwood Pa 15557			—
RON RAMSEY	TNC					
Fran Schneider	SCC	fschneider@pa.gov		✓		
Greg Hostetter	FSA	ghoste@pa.net				
Jackie Waldorf	WOCAV	MYSTI5605@aol.com				
Dennis Waldorf	WOCAV	WALDORFDL@adelphia.net				
Rachel R Reyna	PA DCNR - Forestry					
Erin Smith	PDA	erins@pa.gov				
Bill Weilson	PA FARM BUREAU	WWNeilson@PFB.com				
Dean Collamer	GROWMARK FS	dcollamer@growmarkfs.com		✓		
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Sue McDowell	EPA	Sutton.Fred@epa.gov				
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Mike Pruss	PGC	mpruss@pa.gov				
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Hannah Smith-Rubaker	PA Farmers Union	pafarmersunion@gmail.com				—

STATE TECHNICAL COMMITTEE
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NAME	ORGANIZATION/ AGENCY/ COMPANY	E-MAIL ADDRESS (if different/changed since last meeting)	MAILING ADDRESS or PHONE # (if e-mail not available)	How did you hear about this meeting?		
				e-mail	newspaper	other (specify)
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Marel Raub	CBC	mraub@chesbay.us	✓			
TOM Richard	Penn State	trichard@psu.edu				