

FEDERAL LANDS AND FACILITIES AGRICULTURE DESIGNATION

INFORMATIONAL

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WATER QUALITY GOAL IMPLEMENTATION TEAM MEETING

19 DEC 2016

BOTTOM LINE UP FRONT

- **Decision to be requested on Phase 6 Model: federal agriculture designation – explicit or implicit**
- **Sub-group formed and identified 3 options**
- **FFWG did not reach consensus on an option**
- **FFWG agreed that accountability, equity and crediting implementation were important**

OPTIONS

- **Option 1: Shift the estimated federal crop and pasture acres from federal agency types to their corresponding counties.**
- **Option 1a: (Option 1) + Assign loading goals to federal ag (as was done with federal stormwater) and track progress using BayFAST / CAST which is designed for smaller scales.**
- **Option 2: Maintain estimated federal crop and pasture acres within the federal agency type footprint as part of the model simulation for every scenario.**

POLICY CONSIDERATIONS

- *A more defensible accounting of what's happening on the ground; OR*
- *Model accountability exactly as feds/non-feds without available data for feds*

BACK-UP

BACK-UP



Federal Agriculture What We Need for Data for Federal Agriculture

- ❖ We will have the acres of federal ag from Editor Tool or default
- ❖ We don't have anything on the sources of the problem, how the sources have changed over time – in order to credit BMPs against those sources

BACK-UP



Federal Agriculture

What We Need for Data for Federal Agriculture

- ❖ Specifically, for each federal facility w/ crop and/or pasture percentages in each of 200+ counties, we need for each year (1985-2016):
 - Crops and land uses
 - Types (up to 100 types in a county)
 - Acres for each type
 - Nutrient applications to crops for N and P
 - Chemical fertilizer
 - Manure = animal populations
 - Bio-solids
 - Nutrient excretions to pasture
 - Manure = animal populations
 - BMP implementation record
 - 50 agriculture BMP categories = hundreds of reported BMP names

BACK-UP



Example 2
County Assumptions
Naval Air Station Patuxent River

BACK-UP



Federal Agriculture

Example II = Naval Air Station Patuxent River

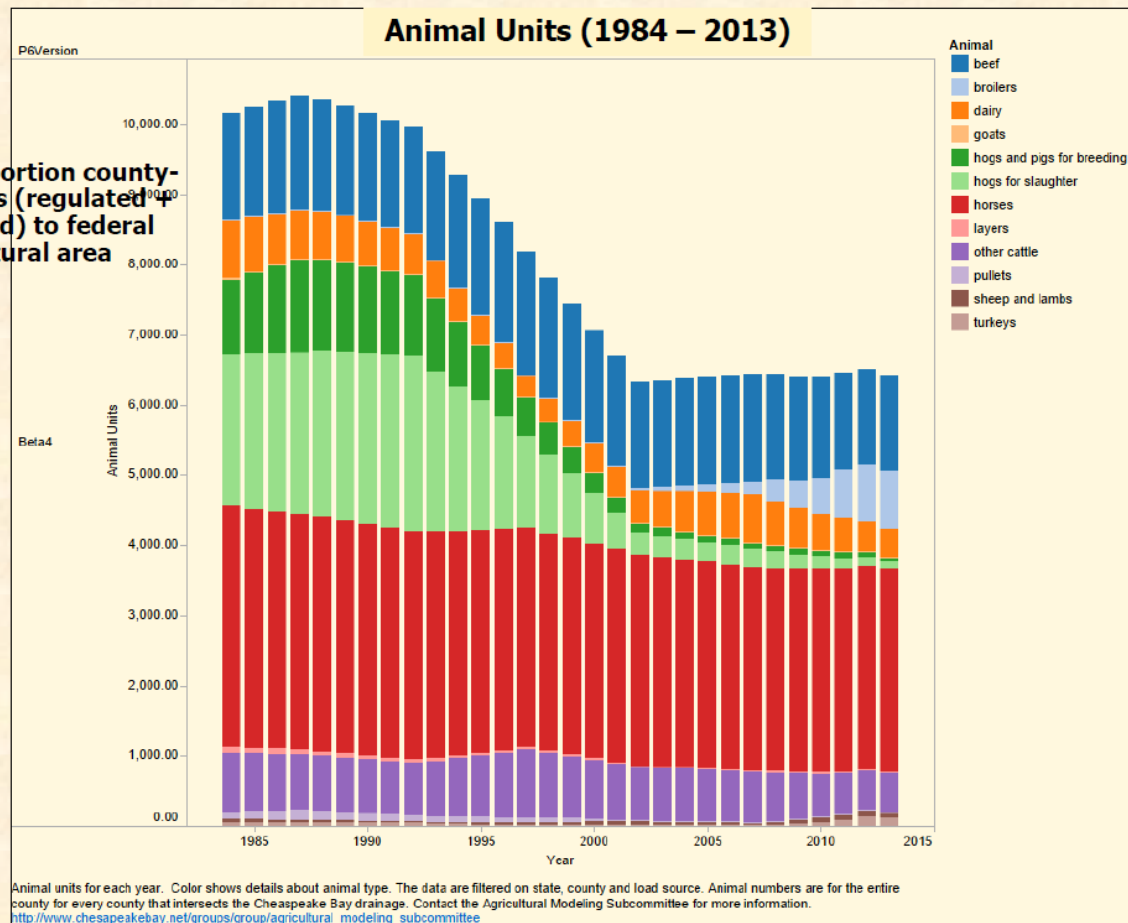
- 14,500-acre complex includes:
 - St. Mary's County, MD = main station and Webster Outlying Field
 - Calvert County, MD = Navy Recreation Center Solomons
 - Bloodsworth Island Range in the Chesapeake Bay
- Submitted to CBPO
 - 463.76 acres of cropland
 - Crops around air fields use bird-resistant crops such as sorghum to discourage avian populations; no-till or minimum tillage practices are implemented where possible

BACK-UP



Federal Agriculture Example II = Naval Air Station Patuxent River

Need to proportion county-wide animals (regulated & unregulated) to federal agricultural area



BACK-UP SLIDES



Federal Agriculture Example II = Naval Air Station Patuxent River

- Each federal ag area would be proportionally assigned crop types and acres for each of the 31-year record
- Crops around air fields use bird-resistant crops such as sorghum to discourage avian populations

Alfalfa Hay Harvested Area	Cropland on which all crops failed or were abandoned Area	Nursery stock Area
Alfalfa seed Harvested Area	Cropland used only for pasture or grazing Area	Oats for grain Harvested Area
Aquatic plants Area	Cucumbers and Pickles Harvested Area	Okra Area
Asparagus Harvested Area	Cut Christmas Trees Production Area	Orchardgrass seed Harvested Area
Barley for grain Harvested Area	Cut flowers and cut florist greens Area	Other field and grass seed crops Harvested Area
Bedding/garden plants Area	Dry edible beans, excluding limas Harvested Area	Other haylage, grass silage, and greenchop Harvested Area
Beets Harvested Area	Dry Onions Harvested Area	Other managed hay Harvested Area
Berries- all Harvested Area	Eggplant Harvested Area	Other nursery and greenhouse crops Area
Birdsfoot trefoil seed Harvested Area	Emmer and spelt Harvested Area	Parsley Harvested Area
Broccoli Harvested Area	Escarole and Endive Harvested Area	Pastureland and rangeland other than cropland and woodland pastured Area
Bromegrass seed Harvested Area	Fescue Seed Harvested Area	Peanuts for nuts Harvested Area
Brussels Sprouts Harvested Area	Foliage plants Area	Peas, Chinese (sugar and Snow) Harvested Area
Buckwheat Harvested Area	Garlic Harvested Area	Peas, Green (excluding southern) Harvested Area
Bulbs, corms, rhizomes, and tubers - dry Harvested Area	Green Lima Beans Harvested Area	Peas, Green Southern (cow peas) - Black-eyed, Crowder, etc. Harvested Area
Canola Harvested Area	Green Onions Harvested Area	Peppers, Bell Harvested Area
Cantaloupe Harvested Area	Greenhouse vegetables Area	Peppers, Chile (all peppers - excluding bell) Harvested Area
Carrots Harvested Area	Haylage or greenchop from alfalfa or alfalfa mixtures Harvested Area	Popcorn Harvested Area
Cauliflower Harvested Area	Head Cabbage Harvested Area	Potatoes Harvested Area
Celery Harvested Area	Herbs, Fresh Cut Harvested Area	Potted flowering plants Area
Chinese Cabbage Harvested Area	Honeydew Melons Harvested Area	Pumpkins Harvested Area
Collards Harvested Area	Kale Harvested Area	Radishes Harvested Area
Corn for Grain Harvested Area	Land in Orchards Area	Red clover seed Harvested Area
Corn for silage or greenchop Harvested Area	Lettuce, All Harvested Area	Rhubarb Harvested Area
Cotton Harvested Area	Mushrooms Area	Rye for grain Harvested Area
Cropland idle or used for cover crops or soil improvement but not harvested and not pastured or grazed Area	Mustard Greens Harvested Area	Ryegrass seed Harvested Area

BACK-UP SLIDES



Federal Agriculture

Example II = Naval Air Station Patuxent River

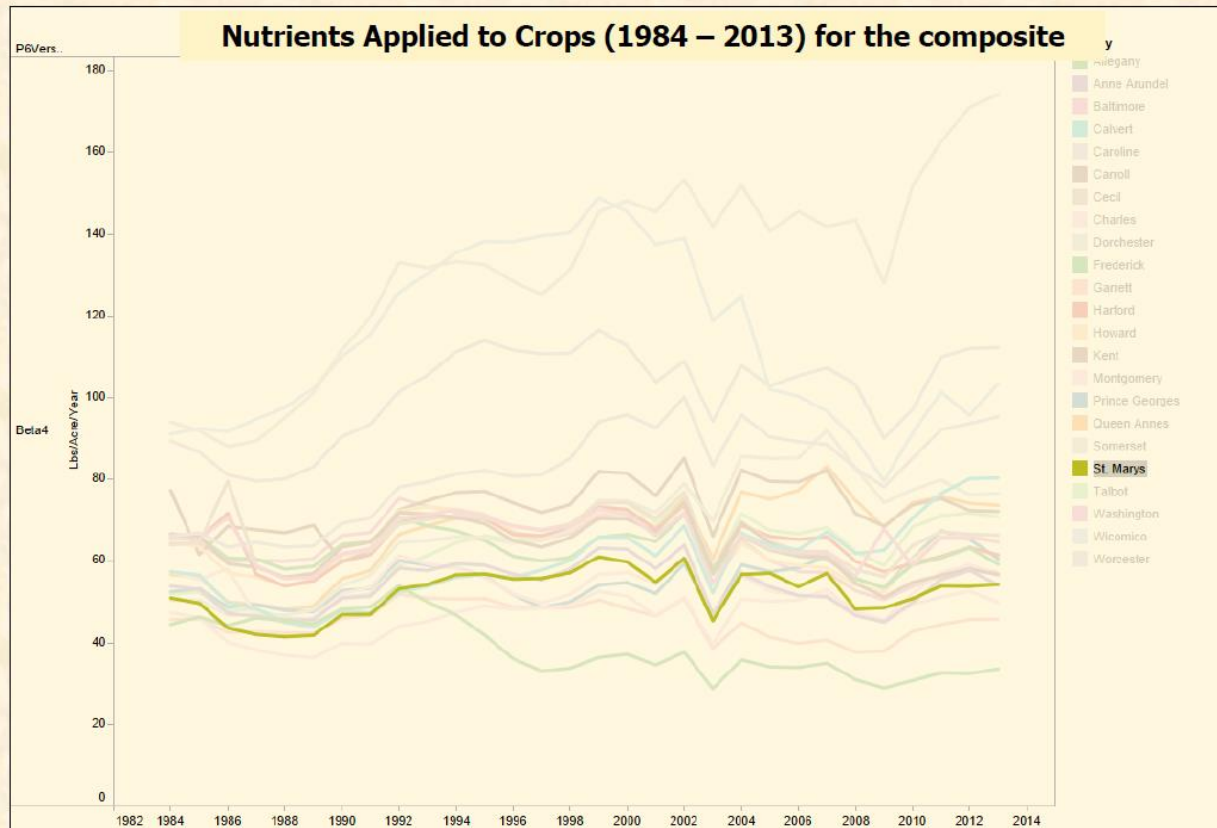
- Need to determine application rates for manure, chemical fertilizer and bio-solid nutrients to the following composite agricultural crop sources for each federal ag area

alfalfa
animal feeding operations
concentrated animal feeding operations
degraded riparian pasture
hay with nutrients
hay without nutrients
hightill with manure
hightill without manure
lowtill with manure
nursery
nutrient management alfalfa
nutrient management hay
nutrient management hightill with manure
nutrient management hightill without manure
nutrient management lowtill
nutrient management pasture

BACK-UP SLIDES



Federal Agriculture Example = Naval Air Station Patuxent River



Nutrients applied is total, not just plant available. Small grain and soybeans was renamed to Double Cropped Land for Bela 4. Double cropped means that the land has more than one crop on the same acre in a year. The nutrients applied reflect that the amount applied to more than one crop on the acre of land, such as where corn is followed by wheat. Contact the Agricultural Modeling Subcommittee for more information. http://www.chesapeakebar.net/groups/group/agricultural_modeling_subcommittee