



Historic Record of Practice Implementation

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Historic Record of Practice Implementation

- For the Phase 5.3.2 Watershed Model, record of implementation covers the period 1985-2011
 - In 1985:
 - NY = Ag
 - PA = Ag and stormwater
 - MD = Ag and stormwater
 - VA = Ag
 - WV = Ag and forestry



Chesapeake Bay Watershed Model

Agricultural Practice Groups

Nutrient Management

- Nutrient Management
- Decision Agriculture
- Enhanced Nutrient Management

Conservation Tillage

- Continuous No-Till
- Other Conservation Tillage

Cover Crops

- Cover Crops and Commodity Cover Crops
 - Early, standard, late-planting
 - Species
 - Seeding method

Pasture Grazing Practices

- Alternative Watering Facilities
- Stream Access Control with Fencing
- Prescribed Grazing
- Precision Intensive Rotational Grazing
- Horse Pasture Management

Other Agricultural Practices

- Forest Buffers
- Wetland Restoration
- Land Retirement
- Grass Buffers
- Tree Planting
- Carbon Sequestration/Alternative Crops
- Conservation Plans/SCWQP
- Animal Waste Management Systems
- Barnyard Runoff Control
- Mortality Composters
- Manure Transport
- Water Control Structures
- Non-Urban Stream Restoration
- Poultry and Swine Phytase
- Dairy Precision Feeding
and/or Forage Management
- Ammonia Emissions Reductions



Chesapeake Bay Watershed Model

Practices on Developed Lands

Stormwater Management

- Wet Ponds and Wetlands
- Dry Detention Ponds and Hydrodynamic Structures
- Dry Extended Detention Ponds
- Infiltration Practices
- Filtering Practices
- (Urban Stormwater Retrofit)
- (New State Stormwater Performance Standards)

Septic BMPs

- Septic Connections
- Septic Denitrification
- Septic Pumping

Other Urban/Suburban Practices

- Forest Conservation
- Impervious Surface and Urban Growth Reduction
- Forest Buffers
- Tree Planting
- Grass Buffers
- Stream Restoration
- Erosion and Sediment Control
- Nutrient Management
- Street Sweeping
- Abandoned Mine Reclamation
- Dirt and Gravel Road Erosion and Sediment Controls
- Shoreline Erosion Control



Historic Record of Practice Implementation

- Much of the BMP record was a carry-over from the Phase 4.3 Watershed Model
 - Exceptions among jurisdictions and particular BMPs in a jurisdiction
 - On-the-ground survey done after calibration – which would revise history
 - All available BMP data was assessed and submitted prior to calibration

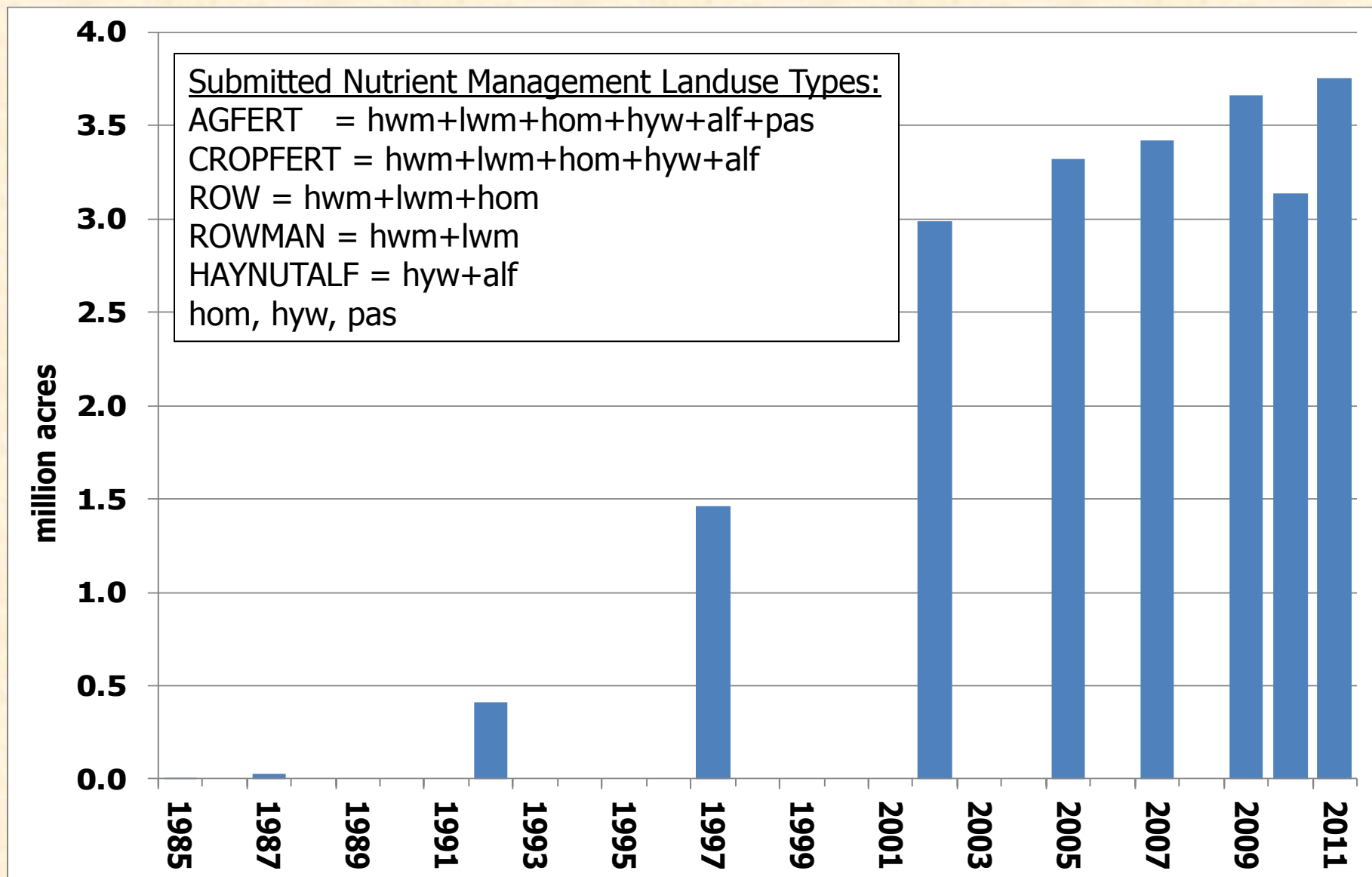


Historic Record of Practice Implementation

- Spatial scale that BMPs were reported at varies among BMP types and years
 - Conversion to county scale from Phase 4.3 to Phase 5 if jurisdiction did not submit comprehensive history
- Landuse types that a BMP applies to can vary among years in a jurisdiction and among jurisdictions



Nutrient Management Plan Submitted Record Chesapeake Watershed-Wide





Historic Record of Practice Implementation

- Need to “clean up” BMP history as best we can
 - Better accounting for changes in monitored loads over time



Historic Record of Practice Implementation

- Need to “clean up” BMP history as best we can
 - Issue of “cut-off” of implementation in the modeling tools
 - 100% implementation level at the reported scale
 - Have considered maximum implementation level in the past, but no consensus agreement
 - Some states consider life-span for some BMPs – others do not
 - Have considered loss of practice in the past due to land conversion, but no consensus agreement



Historic Record of Practice Implementation

- Need to “clean up” BMP history as best we can
 - Issue of “cut-off” of implementation in the modeling tools
 - Not enough acres, systems, AUs, etc. in the tools
 - Supplement data with “local” information but need history and forecast and need to align with, for example, land cover and landuse definitions
 - Landuse Workgroup under WQGIT being formed



Historic Record of Practice Implementation

- Options for historic BMP “clean up”
 - Jurisdictional agencies re-do with best available records and submit through NEIEN
 - Contractual support with direction from agencies and CBP following general rules
 - Spatial scale
 - Increasing implementation for “cumulative” practices – with consideration of life-span



Historic Record of Practice Implementation

- Options for historic BMP “clean up”
 - For agriculture, introduce NRCS and FSA data – with assurances for single-counting
 - Accommodate federal facilities data
 - Accommodate voluntary practice data
 - Considerable amount of work in regards to verification and “crediting”



Historic Record of Practice Implementation

- Timeline
 - By mid-2015 for calibration of the next versions of environmental modeling tools for TMDL mid-point evaluation
- Resources to complete tasks
 - Please let us know where you need help with this clean-up
 - Tetra Tech
 - CBRAP grants