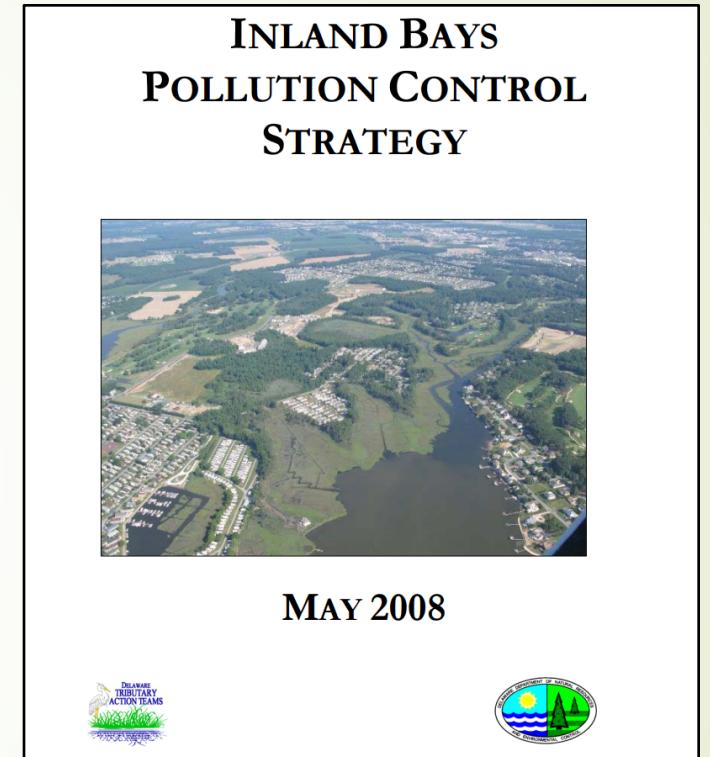


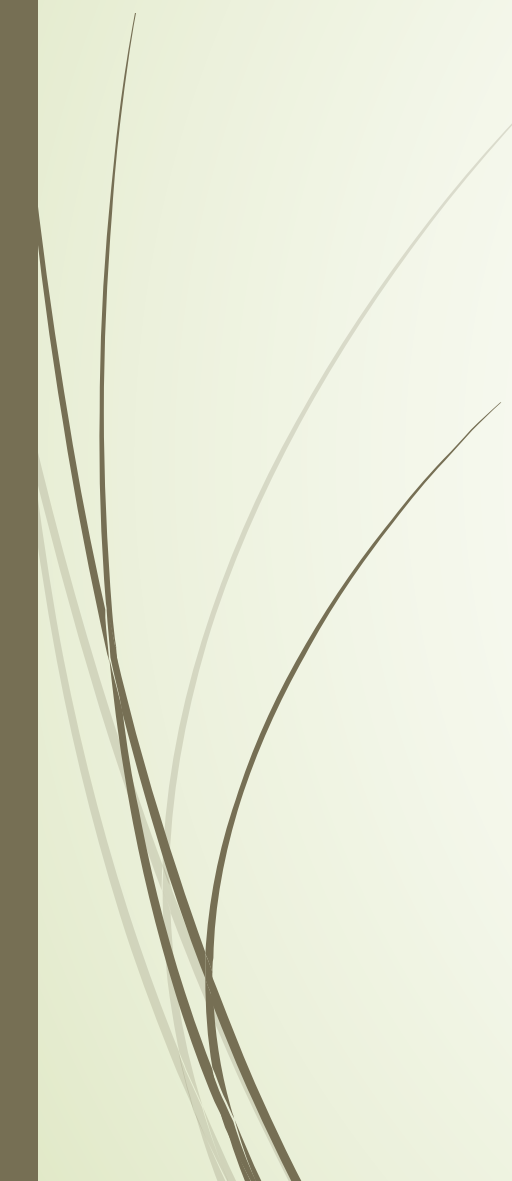
Assessment of the Implementation of the Inland Bays Pollution Control Strategy

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Purpose of the Pollution Control Strategy (PCS)

- Designed to reduce nutrient loadings from current and future land practices
 - Voluntary and regulatory actions to achieve TMDL
 - Included estimated BMP nutrient reductions and implementation cost
 - Promulgated in 2008
 - No comprehensive tracking or dedicated funding
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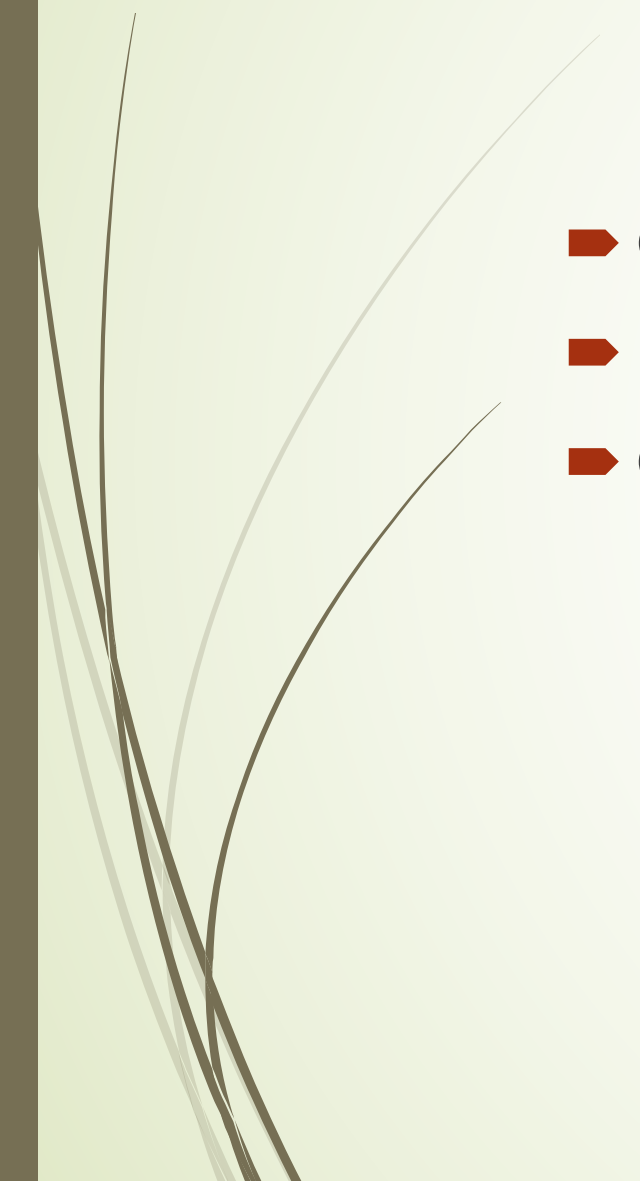


The Assessment

- Need for a comprehensive assessment
 - Partially reported in 2011 State of Bays
 - Critical need for public reporting and engagement on large-scale actions to restore water quality
- Data sources
 - DNREC
 - Dept. of Agriculture
 - Sussex County
 - NRCS/Sussex Conservation District
- Timeline: 2008-2015
- Progress determined by nutrient reductions and evaluated by sector



Structure of Assessment

- General action by sector
 - Estimated nutrient reductions
 - Overview of status
- 

Point Source

- General Action: Systematic elimination of all point sources of N and P to Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay
 - TN Reductions: 50.1 lb/d N (59%)
 - TP Reductions: 11.5 lb/d P (27%)





Point Source

➤ Overview

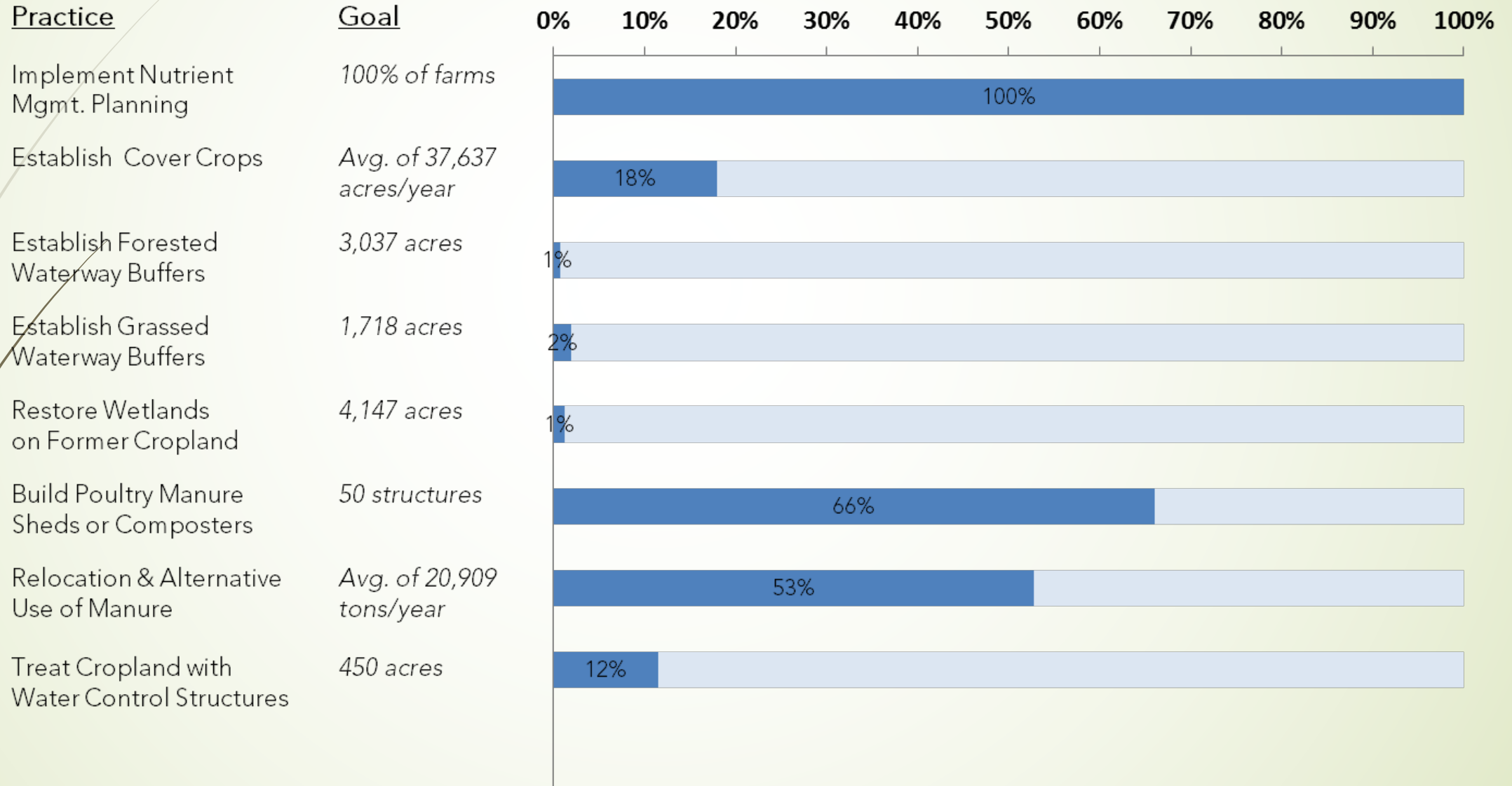
- Lewes: mitigation with financial contribution to manure relocation
- Millsboro: converted to RIB in August 2015
- Rehoboth: scheduled to convert to ocean outfall by 2018
- Allen Harim: In discussions with DNREC to address discharge

Nonpoint Source-Agriculture

- General action: The agricultural sector should implement additional best management practices in order to achieve water quality standards.
 - TN Reductions: 1,048 lb/d N (32%)
 - TP Reductions: 27.2 lb/d P (73%)



Nonpoint Source-Agriculture





Nonpoint Source-Onsite Wastewater Treatment and Disposal Systems

- General action: Improve O&M of onsite systems such that nutrient loadings from them are reduced. This will require the use of innovative and alternative removal systems, as well as the conversion of some onsite systems to central sewer.
 - TN Reductions: 314 lb/d (89%)
 - TP Reductions: 26.3 lb/d (445%)



Nonpoint Source-Onsite Wastewater Treatment and Disposal Systems

- Overview

- 10,936 EDU systems converted to central sewer
- New or replacement systems to achieve performance standards
- Maintain holding tank program
- Permanent holding tanks not allowed
- Septic Rehabilitation Loan Program

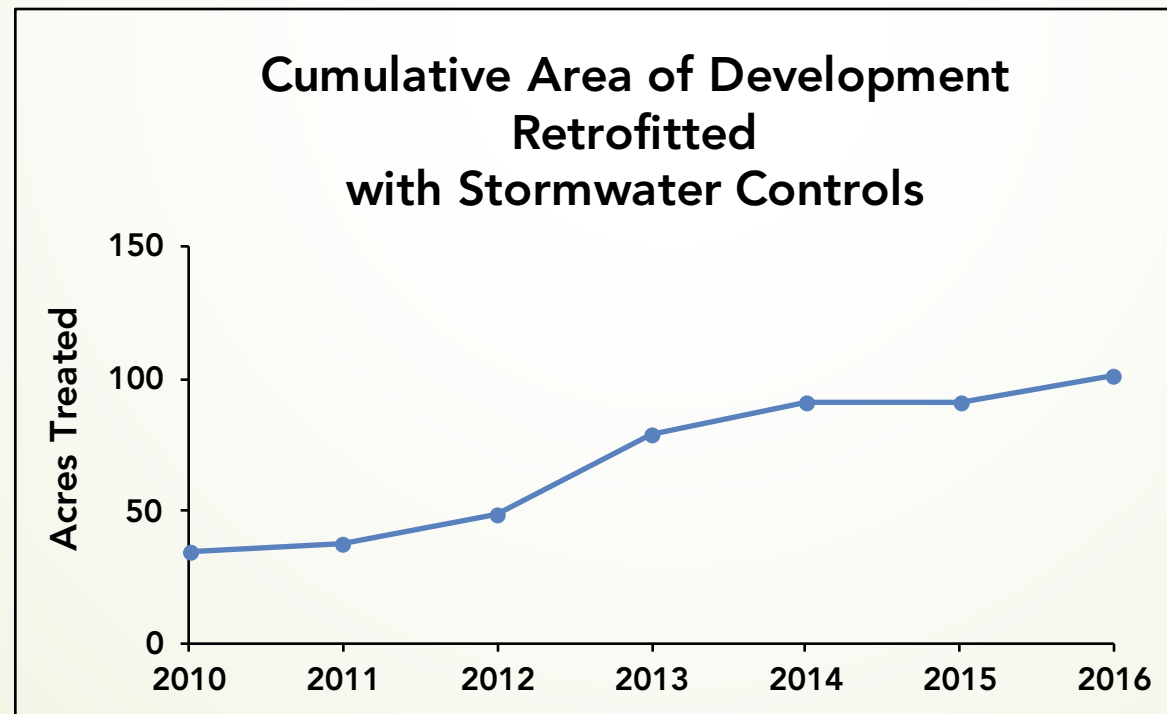


Nonpoint source-Urban Land Use

- General action: Decrease nutrient loading from urban nonpoint sources
 - 2011 DE Superior Court decision declared the buffer portions void and unenforceable
 - Considerably weakened the PCS
 - Specific nutrient reductions were not assigned
- Overview
 - No actions complete
 - In progress: From 2008 to 2015, CIB and partners planted about 248 acres of trees or other plants adjacent to waters and wetlands

Nonpoint source-Stormwater

- General action: Stormwater runoff shall be managed for nutrient reductions when practicable
 - TN Reductions: 2.9 lb/d (2%)
 - TP Reductions: 0.12 lb/d (2%)



Concurrence



- General action: A mechanism shall be established to ensure concurrence of policies, laws, and regulations within, between, and among government and other agencies.
- There is a need to develop a system of accountability for the Inland Bays region
- Nutrient reductions are not quantified

Results

Sector	Nitrogen			Phosphorus		
	Reduction (lb.)	Goal (lb)	% complete	Reduction (lb.)	Goal (lb.)	% complete
Point sources	50.1	84.6	59	11.5	42.9	27
Agriculture	1,049	3,272	32	27.2	37.2	73
Onsite systems	336.4	377	89	34.7	7.8	445
Stormwater	2.9	130.5	2	0.1	5.5	2
Total	1,437	3,864.1	37	73.5	93.4	79



Assessment revealed needs to inform 2018 revision

- GIS needs
 - Geo-located BMP data
 - Determine extent of voluntary BMP implementation
- Review and update
 - BMPs and other elements of the PCS
 - Nutrient reduction values using best available science
 - BMP cost estimates



Recommendations

➤ Concurrence

- Establish working groups of responsible parties by sector to oversee tracking and implementation of PCS

➤ Funding

- Establish dedicated Inland Bays Watershed funding programs for BMP implementation
- The creation of DNREC full-time planner position to coordinate responsible parties in the revision, tracking, and implementation of PCS

➤ Policy

- Develop prioritized project-level watershed implementation plan
- Revise Sussex County water quality buffer regulation
- Revise Nutrient Management Act to incorporate regulation on the composition and application of nutrients to turf



Recommendations and Discussion