

Cumulative and Secondary Impacts of Growth and Development

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Virginia Coastal Zone
MANAGEMENT PROGRAM



Cumulative and Secondary Impacts

National Ocean Economics Program Data on population and housing

Trends in Coastal Population and Housing Units				
Year	Population		Housing	
	Total (# of people)	% Change (compared to 2002)	Total (# of housing units)	% Change (compared to 2002)
2007	4,865,832	6.67%	2,007,898	3.71%
2012	5,190,204		2,082,419	

Cumulative and Secondary Impacts

NOAA's Land Cover Atlas and high-resolution C-CAP data

Distribution of Land Cover Types in Coastal Counties		
Land Cover Type	Land Area Coverage in 2011 (Acres)	Gain/Loss Since 2006 (Acres)
Developed, High Intensity	177,778	10,703
Developed, Low Intensity	414,483	7,274
Developed, Open Space	235,661	540
Grassland	91,601	19,960
Scrub/Shrub	423,377	73,002
Barren Land	39,692	6,454
Open Water	1,877,843	1,350
Agriculture	1,058,894	-4,219
Forested	2,149,305	-115,269
Woody Wetland	1,068,365-Wetlands in general; need emergent and woody	1295.9- Wetlands in general; need emergent and woody

Cumulative and Secondary Impacts

NOAA's Land Cover Atlas and high-resolution C-CAP data

Development Status and Trends for Coastal Counties			
	2006	2011	Percent Net Change
Percent land area developed	809,405 (10.7%)	827,921 (11.0%)	18,516 (2.3%)
Percent impervious surface area	250,027 (3.3%)	258,760 (3.4%)	8,733 (3.5%)

Cumulative and Secondary Impacts

NOAA's Land Cover Atlas and high-resolution C-CAP data

How Land Use Is Changing in Coastal Counties	
Land Cover Type	Areas Lost to Development Between 2006-2011 (Acres)
Barren Land	1,079
Emergent Wetland	2,672.5-Wetlands in general; need emergent and woody
Woody Wetland	
Open Water	163
Agriculture	5,133
Scrub/Shrub	1,816
Grassland	564
Forested	11,475

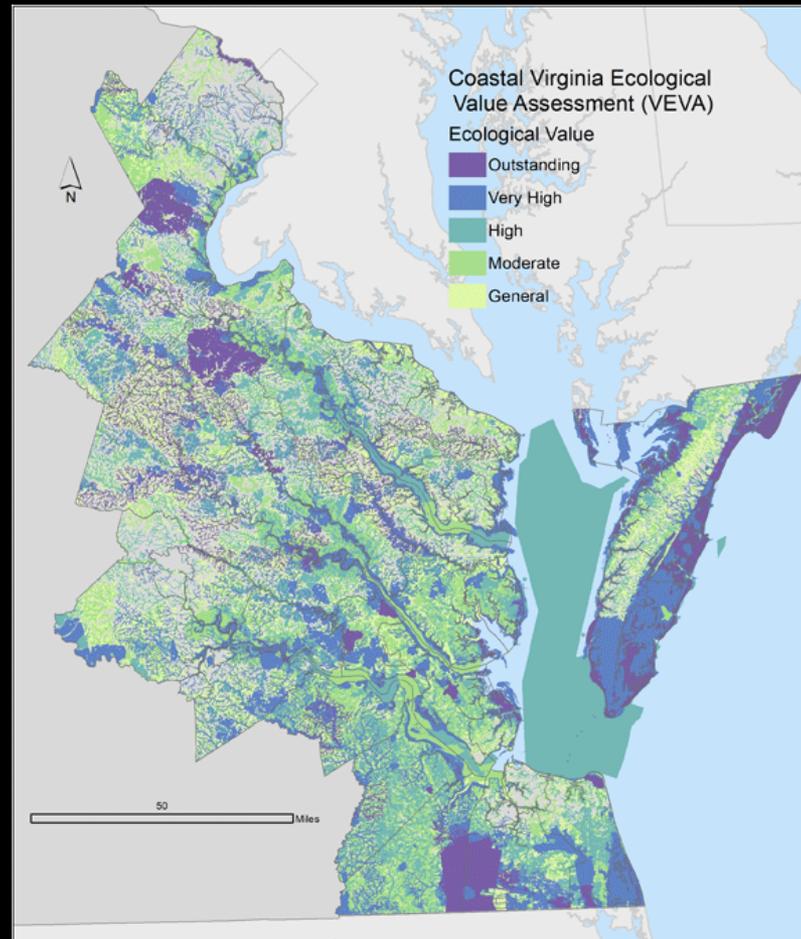


Cumulative and Secondary Impacts

Management Characterization

- Growth and development increasing in Coastal Zone
- Development Trend - increasing impervious cover in urban areas
- Rural areas impacted by changes in state regulations

Cumulative and Secondary Impacts





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Management Characterization

State Level Changes

Chesapeake Bay TMDL

- Phase II Watershed Implementation Plan (WIP), [EPA driven]
 - Virginia submitted (2012)
- Expanded Nutrient Credit Trading Program (2012)
- Agricultural Resource Management Plans (2011 & 2013)
- Advancement of Urban Nutrient Management (2011)



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Management Characterization

State Level Changes

Storm water Management

- DEQ became lead agency for NPS Pollution Control Programs (2013)
- Virginia Soil and Water Conservation Board adopted final storm water management regulations (2011)



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Management Characterization

State Level Changes

Chesapeake Bay Preservation Act

- Administration of Chesapeake Bay Preservation Act was moved to State Water Control Board (2013)
- General Assembly integrated the Storm water Management Act and Chesapeake Bay Preservation Act regulatory programs (2012)



Cumulative and Secondary Impacts

Management Characterization

State Level Changes

Alternative Onsite Sewage Systems

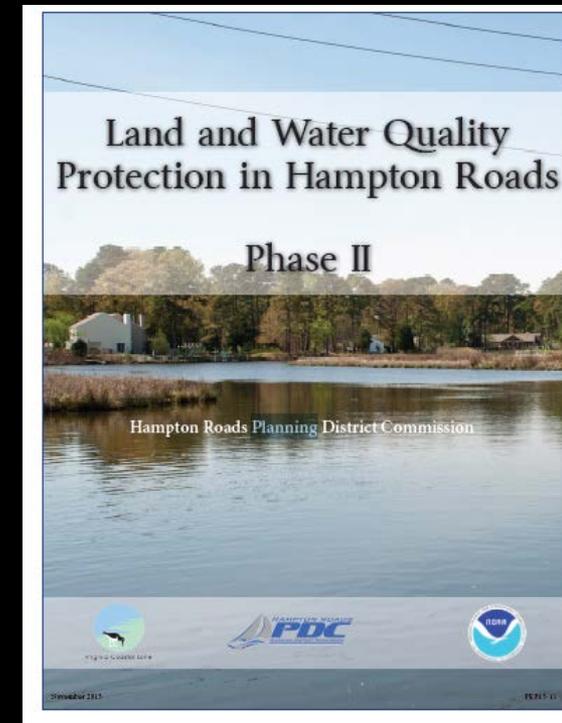
- New regulations for Alternative Onsite Sewage Systems (2011)
 - Reduce nitrogen by 50% after Dec 7, 2013

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Management Characterization

CZM Funded Efforts 2011-2015 Land and Water Quality Protection

- HRPDC – Urban and Suburban (2011- 2013)
- MPPDC – Rural (2011- 2014)
- NVRC – Urban Implementation (2014-2015)



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Management Characterization

CZM Funded Efforts 2011-2015

Developing a Working Waterfronts Plan

- Increased demand for residential and commercial development
- Loss of characteristic industries that support waterfront communities



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Management Characterization

CZM Funded Efforts 2011-2015

Developing a Working Waterfronts Plan

Year 1

- Began Comprehensive Inventory in A-N, HR, MP and NN
- Developed regional definitions of WW



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Management Characterization

CZM Funded Efforts 2011-2015

Developing a Working Waterfronts Plan

Year 2

- Completed Inventory
- Determined 4 sites for detailed economic analyses



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Management Characterization

CZM Funded Efforts 2011-2015

Developing a Working Waterfronts Plan

Year 3

- Economic analysis completed for Northampton County
- Studies underway in Hampton, Gloucester, and Weems

