

Calvert County Forest Coverage

Environmental Commission Presentation

Presented by David Brownlee, PhD, AICP
Department of Community Planning and Building

June 26, 2017



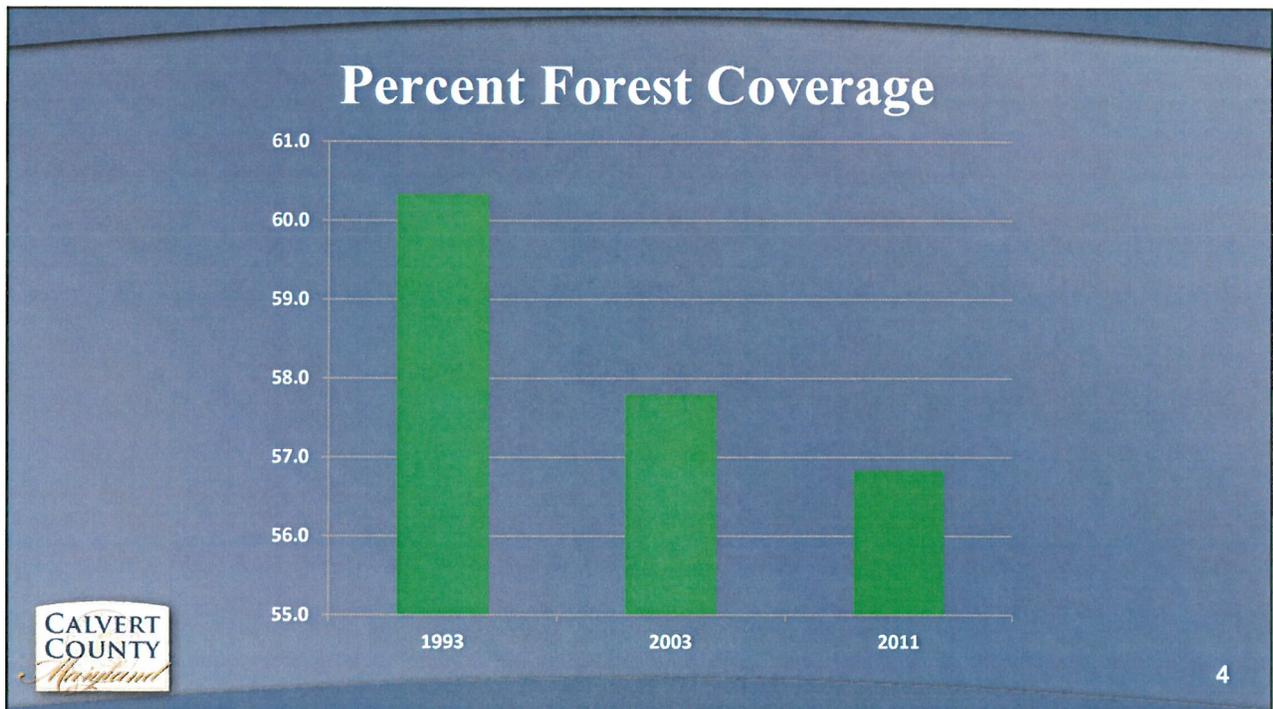
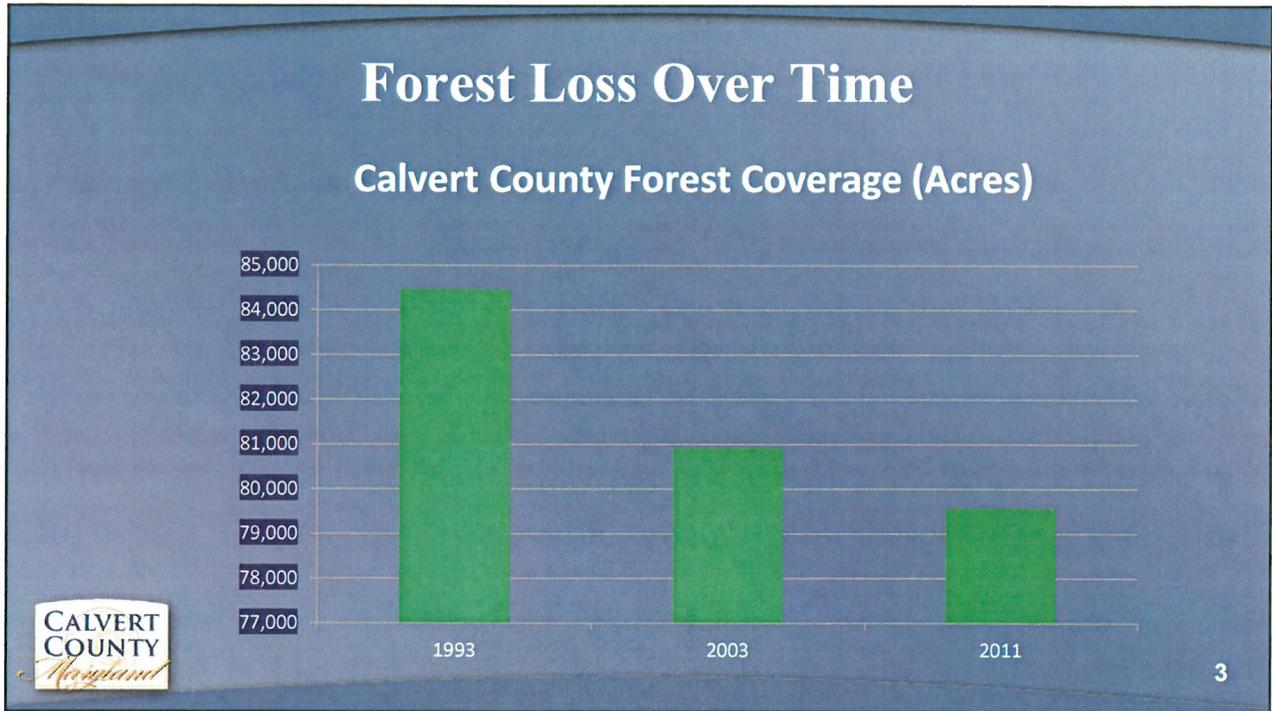
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Programs that Address Forest Loss

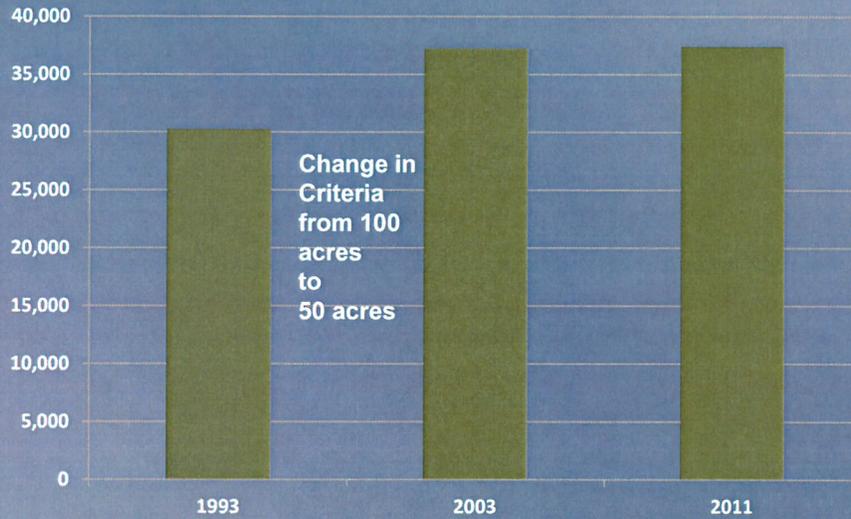
- Critical Area Program
 - Requires 100% replacement of all forest loss in the RCA and LDA overlay zones
 - Critical Area Reforestation Program (CARE Committee)
- Forest Conservation Program
 - Does not require 100% replacement



2



Forest Interior Dwelling Species Habitat (Acres)



5

Forest Coverage Data

Forest Coverage in Calvert County			
Assuming Calvert County =	140,000 Acres		
Year	1993	2003	2011
Forest Coverage (acres)	84,466	80,917	79,566
% Forest Coverage	60.3	57.8	56.8
% Change in Forest Cover		-4.20	-1.67
Loss in Forest (acres)		3,549	1,350
Forest Loss per Year (acres)		355	169
FID Coverage (acres)	30,259	37,222	37,396
% FID Coverage	21.6	26.6	26.7
% FIDs of Total Forest Cover	35.8	46.0	47.0
% Change in FID Cover		23.0	0.5
Criteria	100 acres	50 acres	50 acres
		Due to change in Criteria	No Significant change



6

Replanting Programs

- Critical Area Reforestation Program
 - 100% replacement requirement
 - Critical Area Reforestation Evaluation (CARE) Committee
- Forest Conservation Program



7

Issues

- Critical Area fees in lieu rate (\$0.30-\$0.50) – not sufficient to replant 100% if use nursery stock
- Forest Conservation Program fees in lieu rate is \$0.45/sq. ft. for the County (\$0.30/sq. ft., State)
- Costs for planting nursery stock is about \$1/sq. ft.
- State has not implemented its aligning for growth requirements



8

Moving Forward

- Continue Critical Area Reforestation Program (raise fees in lieu rate?)
- State has created task force to look at 100% forest replacement outside of the Critical Area via the Forest Conservation Program
- State implement the Aligning with Growth Requirements



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Calvert County, Maryland

Coastal Communities: Floodplain Management and Small Area Flood Mitigation Plans in Calvert County

Prepared by **Tay Harris, Environmental Planner II**
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Department of Community Planning and Building
April 11, 2017

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Floodplain Management in Calvert County

**Implementation of
Floodplain Regulations
(Department of
Community Planning and
Building)**

**Hazard Mitigation
Plan
(multidisciplinary)**

**County-Wide Flood
Mitigation Plan
(multidisciplinary)**

**FEMA Grants
Elevation or
Demolition/Acquisition
of Homes in the
Floodplain**



Floodplain Management Planning

Under the CoastSmart Grant

Shoreline Development Resources

CoastSmart Scorecard

Community Rating System

5 Small Area Flood Mitigation Plans

Hazard Mitigation Section for Integration into Comprehensive Plan Update

FEMA Hazard Mitigation Grant

Inundation Analysis (sea level rise)



Small Area Flood Mitigation Plans

Cove Point Flood Mitigation Plan

Cove Point Community Flood Mitigation Plan
September 23, 2014

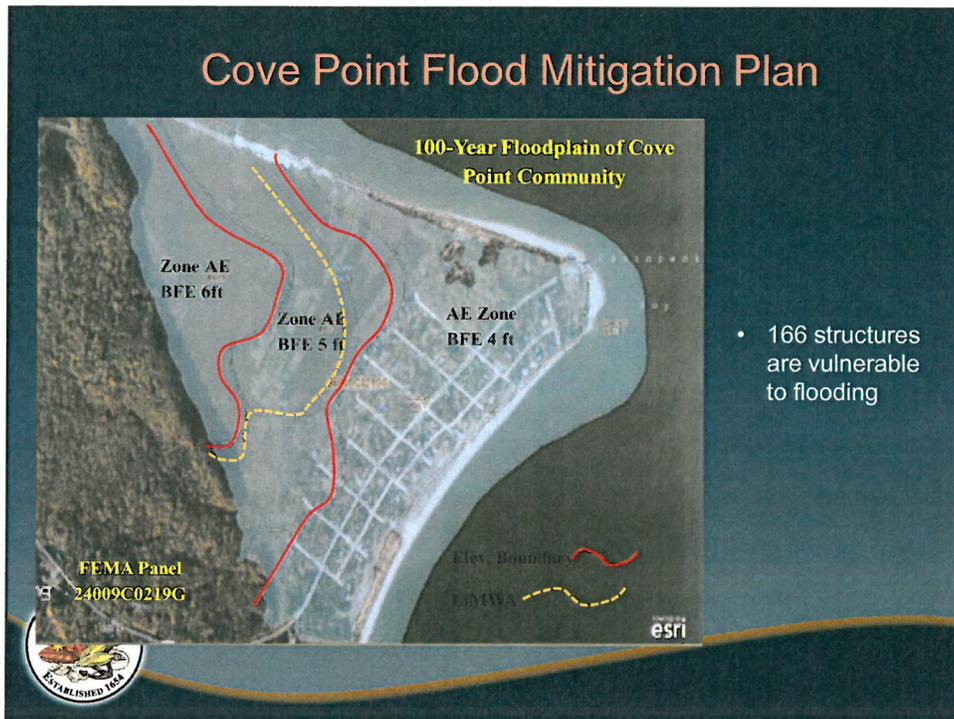


As authorized by the State of Maryland, Calvert County Department of Public Resources, Community and Coastal Planning. The information, findings, conclusions and recommendations are those of the author and do not represent the views of the State of Maryland or the Department of Public Resources.





Cove Point Flood Mitigation Plan



- 166 structures are vulnerable to flooding

Cove Point Flood Mitigation Plan

Cove Point Community Concerns

- Obtaining public water and sewerage service & funding
- Obtaining grants to assist in elevating homes
- Water quality & health issues
- Stormwater management
- Emergency management access during flooding
- County assistance in controlling flood insurance rates
- Controlling beach erosion

Progress in implementation of the plan



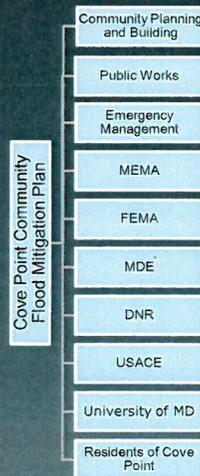
Cove Point Flood Mitigation Plan

Recommendations

- Explore funding options to provide public water & sewerage service to the Cove Point Community
 - Potential Funding Sources: Development of a tax district, Bay Restoration Funds, MDE public works grant, MDE revolving loan fund, etc.
- Work with MDE to allow Bay Restoration Funds to be used to connect Cove Point Community to the Solomons Wastewater Treatment Plant
- Pursue FEMA Hazard Mitigation Assistance Grant Funds to elevate or acquire homes in the Cove Point Community

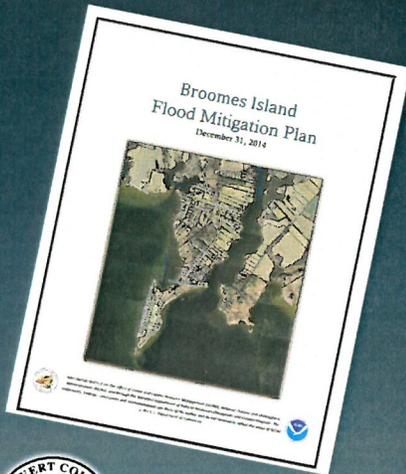


Cove Point Flood Mitigation Plan Collaboration



Small Area Flood Mitigation Plans

Broomes Island Flood Mitigation Plan



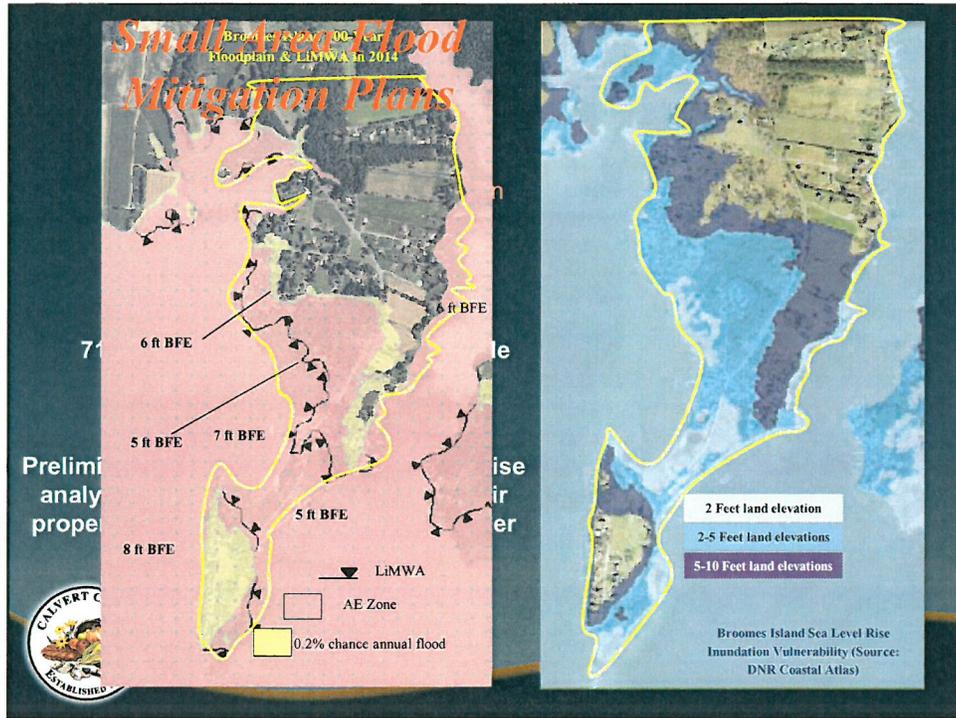
- Participants
Same as Cove Point FMP
- Inundation/Sea Level Rise Analysis
Expanded Analysis
Compared to Cove Point FMP

Broomes Island Flood Mitigation Plan

Concerns

- Wetland management during heavy/prolonged periods of rain
- Financial assistance to mitigate homes
- Emergency response for evacuation/emergency vehicle access at the end of the peninsula
- Flood water on roads
- Flooding impacts on water quality
- Hurricane & emergency preparedness
- Flooding impacts on businesses





Broomes Island Concerns

Recommendations to address flooding in the near term include:

- Elevate structures located within the 100-year floodplain and seek FEMA hazard mitigation grant funds;
- Consider elevating the Broomes Island Road Causeway by 4.5 feet for 5,926 feet of its length and research funding sources;
- Consider having the county conduct a study to address stormwater management issues that contribute to flooding where Ballard Rogers Road, Penkert Lane and River View Road converge;
- Utilize Bay Restoration Funds to address septic system failures;



Broomes Island Concerns (continued)

Recommendations to address flooding in the near term include:

- Ensure culverts along Broomes Island Road remain unclogged and debris-free;
- Encourage residents to be hurricane and flood ready by utilizing county on-line resources;
- Continue to conduct tidal and non-tidal water quality sampling in partnership with the Chesapeake Biological Lab and the Cove Point Natural Heritage Trust;
- Seek and plant free trees through the County's Critical Area Tree Planting Program;
- Conduct outreach to elected officials and residents about the impacts of increasing depth and extent of inundation over time.



Broomes Island Concerns

Longer-term recommendations to address inundation scenarios at 2050 and 2100 include:

- Through a collaborative effort between the county and Broomes Island residents, establish a threshold for which traditional flood mitigation actions (i.e., elevation of structures, demolition/acquisition, etc.) are no longer deemed adequate to address inundation;
- Consider non-traditional flood mitigation measures such as boardwalk communities and amphibious housing; and
- Factor in inundation scenarios into the regulation of development in flood-prone properties in Broomes Island.



Inundation Analysis

Draft Recommendations

Boardwalk Communities



Source: <http://www.inspirationgreen.com/floating-homes.html>



Source: <http://www.care2.com/causes/5-amphibious-houses-built-to-survive-the-coming-floods.html>

Instead of demolishing or elevating structures, build boardwalk communities with amphibious housing

Amphibious Housing



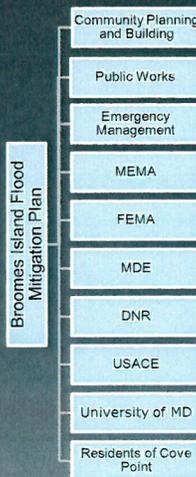
Source: <http://www.inspirationgreen.com/floating-homes.html>



Source: <http://thetechjournal.com/development/uks-first-amphibious-house-a-floating-pontoon.shtml/attachment/uks-first-amphibious-house>



Broomes Island Flood Mitigation Plan



Breezy Point/Neeld Estate Flood Mitigation Plan

Should

- Breezy Point Road
- Ridge Road
- Willow Street
- Burgess Road

be elevated for ingress and egress and emergency vehicle access during flooding?

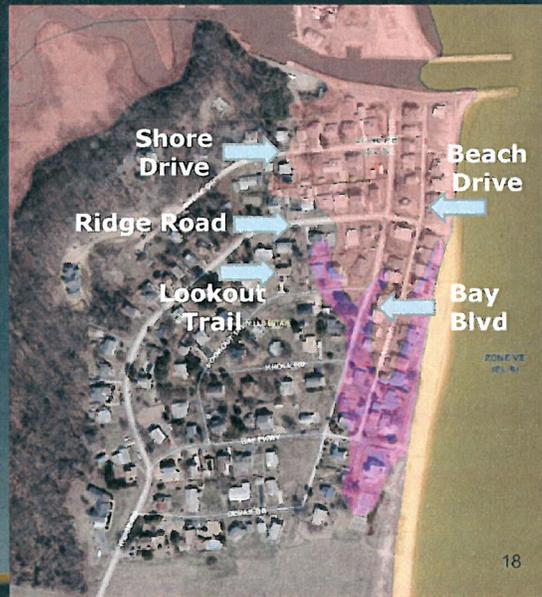


Breezy Point/Neeld Estate Flood Mitigation Plan

Should

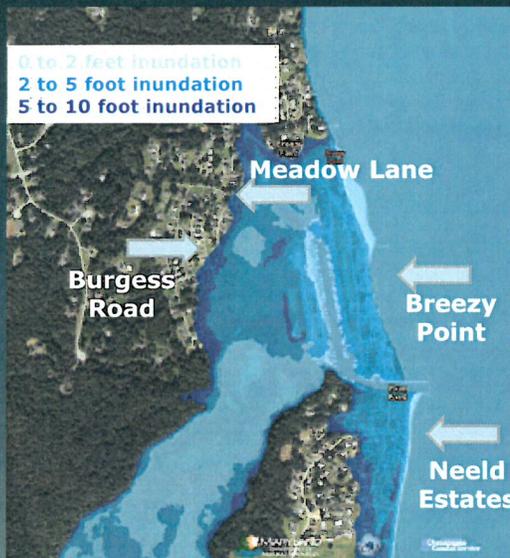
- Beach Drive
- Bay Boulevard
- Lookout Trail
- Shore Drive
- Ridge Road

be elevated for ingress and egress and emergency vehicle access during flooding?



Breezy Point/Neeld Estate Flood Mitigation Plan

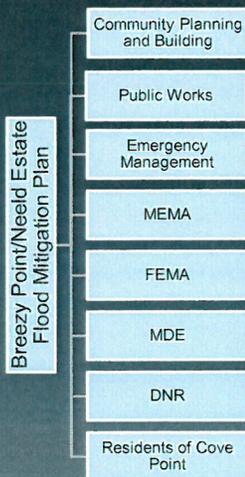
The County will conduct a sea level rise/inundation analysis of Breezy Point and Neeld Estates using MD's Department of Natural Resources' Coastal Atlas, which is an interactive mapping tool that presents an inundation scenario of 3.4 feet by 2100



Source: MD's DNR's Coastal Atlas:
<http://gisapps.dnr.state.md.us/coastalatlantlas/IMap-master/basicviewer/index.html>



Breezy Point/Neeld Estate Flood Mitigation Plan



- Many of the same participants as Cove Point Community and Broomes Island Flood Mitigation Plans
- This time DPW and EMS asked to attend the public meeting
- This time we were able to present inundation scenario upfront at public meeting.
- Integrate Bay Restoration Fund Availability
- Integrate FEMA Mitigation Grant Fund Opportunity



Additional Flood Mitigation Plans

- Chesapeake Beach Flood Mitigation Plan – drafted
- North Beach Flood Mitigation Plan – drafted
- Solomons Flood Mitigation Plan – being developed 2017
- County-wide Flood Mitigation Plan - drafted



Questions?

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