

Chesapeake Bay Clean-Up:

What does the future look like?

A photograph of a person in a red kayak paddling away from the viewer on a calm body of water. The water is a deep blue. On either side of the waterway are dense stands of tall, dry marsh grass. The sky above is a clear, pale blue with a few wispy white clouds.

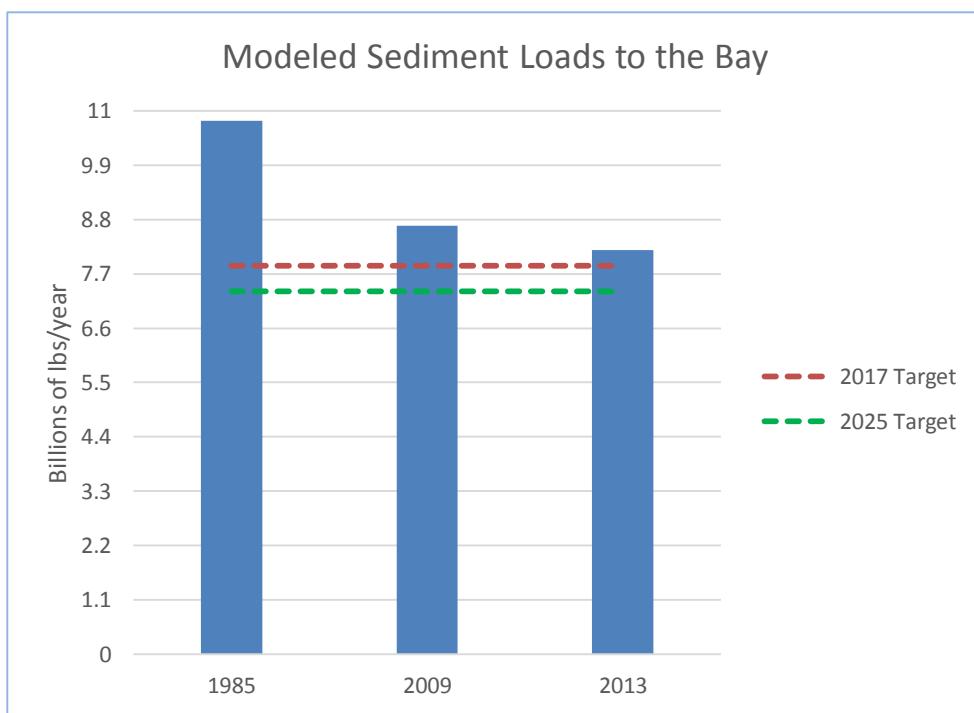
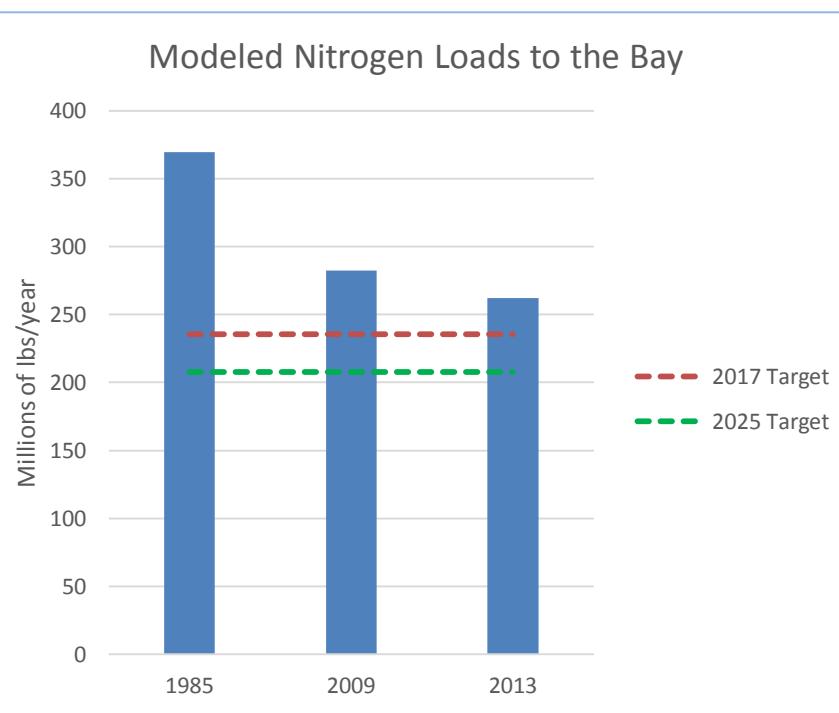
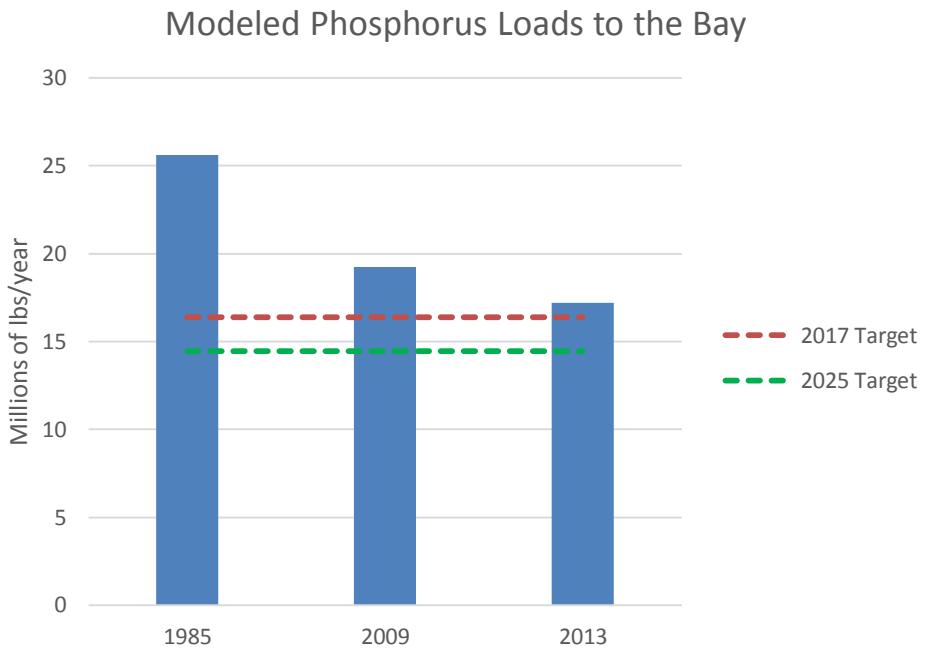
Kim Coble
Vice President
Chesapeake Bay Foundation



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Chesapeake Bay Commission
November 7, 2014

Chesapeake Bay Load Reductions 1985, 2009 & 2013 and 2017 & 2025 Targets



EPA Assessment 2012-2013 of Milestone Progress and 2014-2015 Milestone Commitments

Federal Agencies Water Quality Progress and WIP Support

EPA will continue to assess options for developing methods to track progress in reducing the release of nitrogen, phosphorus and sediment pollutants from federal lands and facilities. Progress assessment will continue to provide accountability and inform future federal activities that are intended to support the Bay jurisdictions' WIPs and the Bay TMDL.

2014 Oversight Status

	Agriculture:	Urban/Suburban:	Wastewater:	Trading/Offsets:
DE	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
DC	Not Applicable	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
MD	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
NY	Ongoing Oversight	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight
PA	Backstop Actions Level	Backstop Actions Level	Ongoing Oversight	Enhanced Oversight
VA	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight
WV	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight

Ongoing

Enhanced

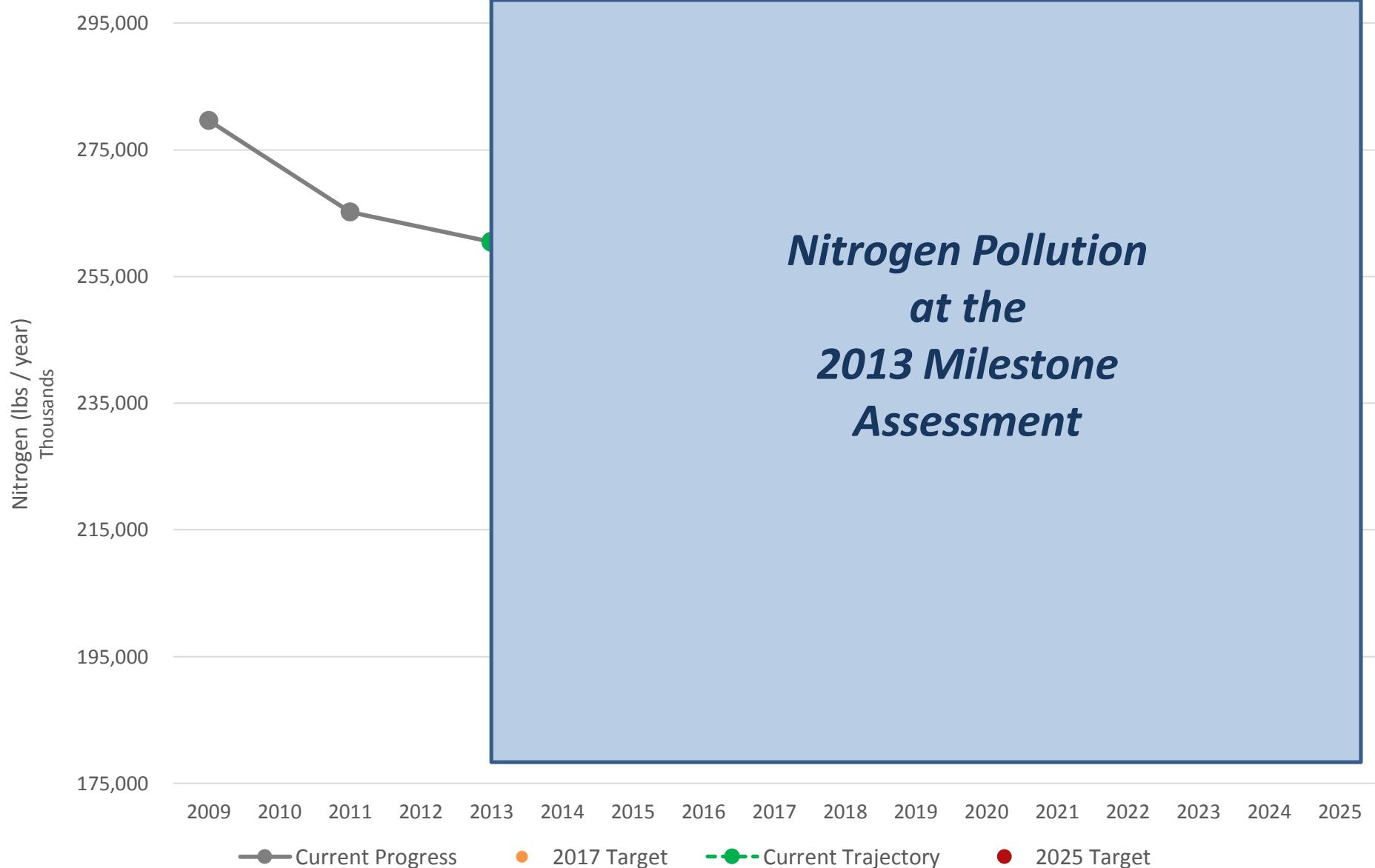
Backstop

How are things watershed wide?

A wide-angle photograph of a calm body of water, likely a river or lake, during sunset. The sky is filled with soft, scattered clouds. On the left, a dense line of green trees reflects on the water. In the center-right, two people are in a small, dark boat, one operating a motor. The water has a mirror-like quality, reflecting the warm colors of the sky and the surrounding landscape.

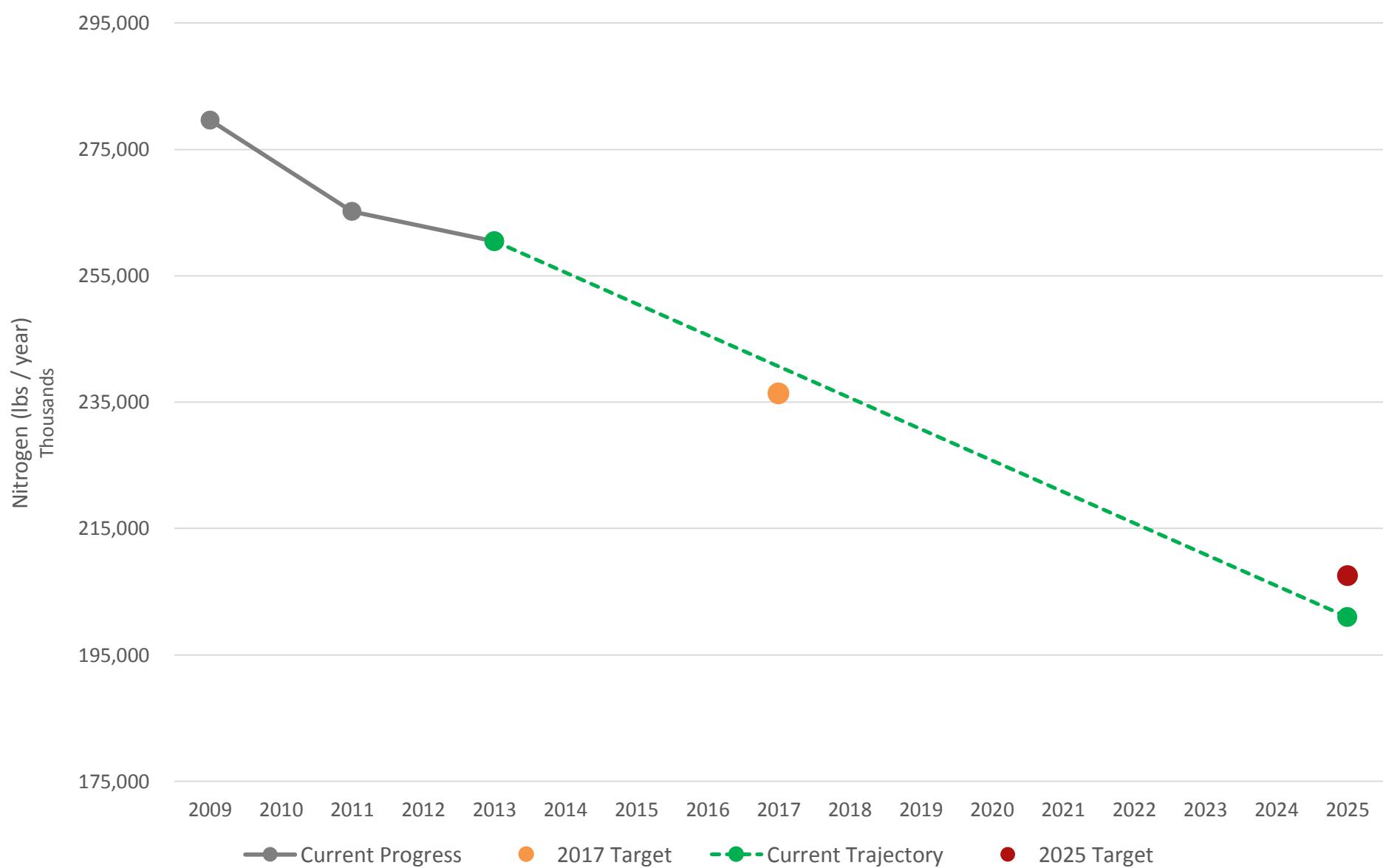
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Nitrogen Pollution at the 2013 Milestone Assessment



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Nitrogen Pollution**

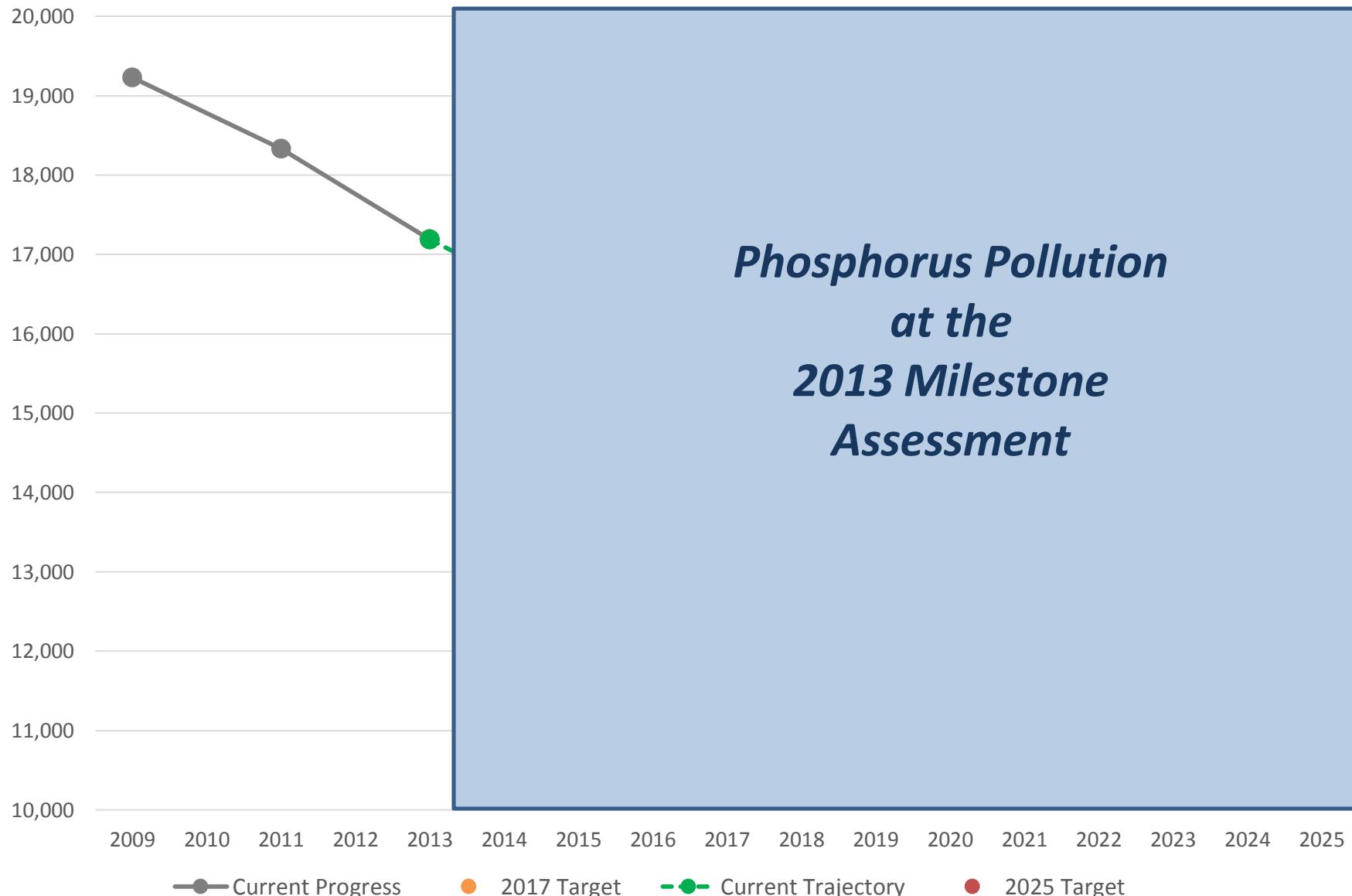


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Nitrogen Pollution**

Phosphorus Pollution at the 2013 Milestone Assessment

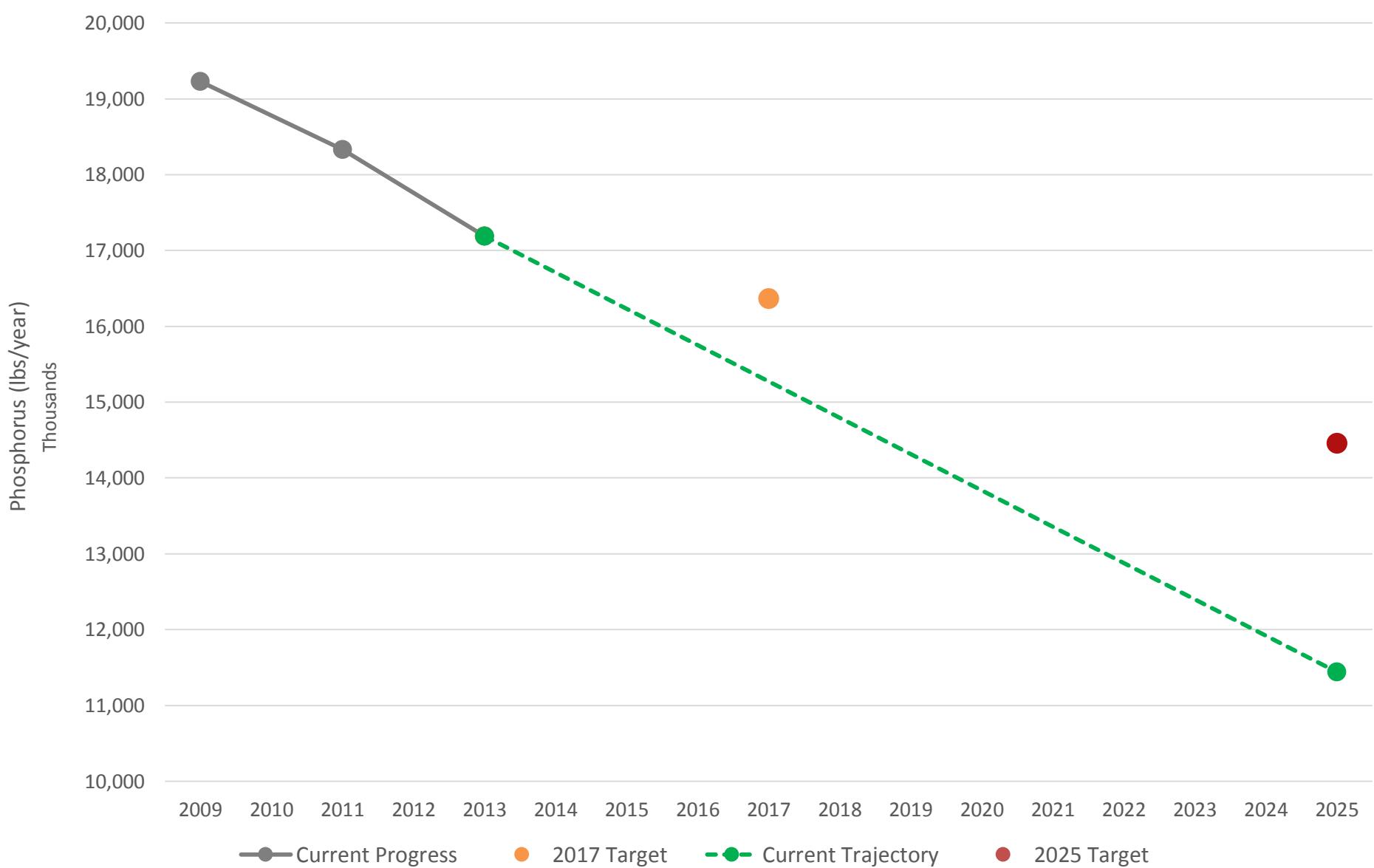
Phosphorus (lbs/year)
Thousands



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



**Watershed Wide
Phosphorus Pollution**

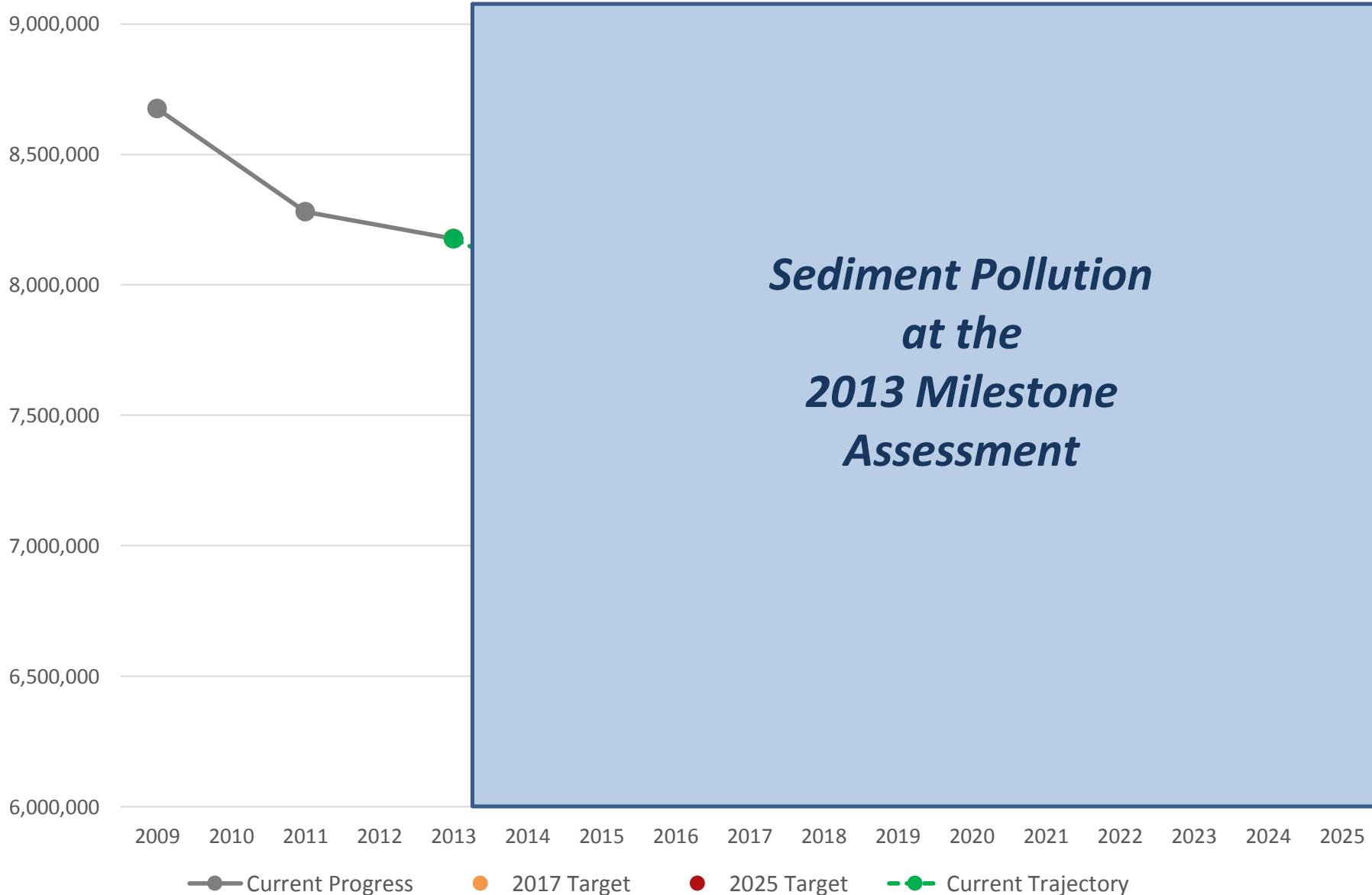


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Watershed Wide
Phosphorus Pollution

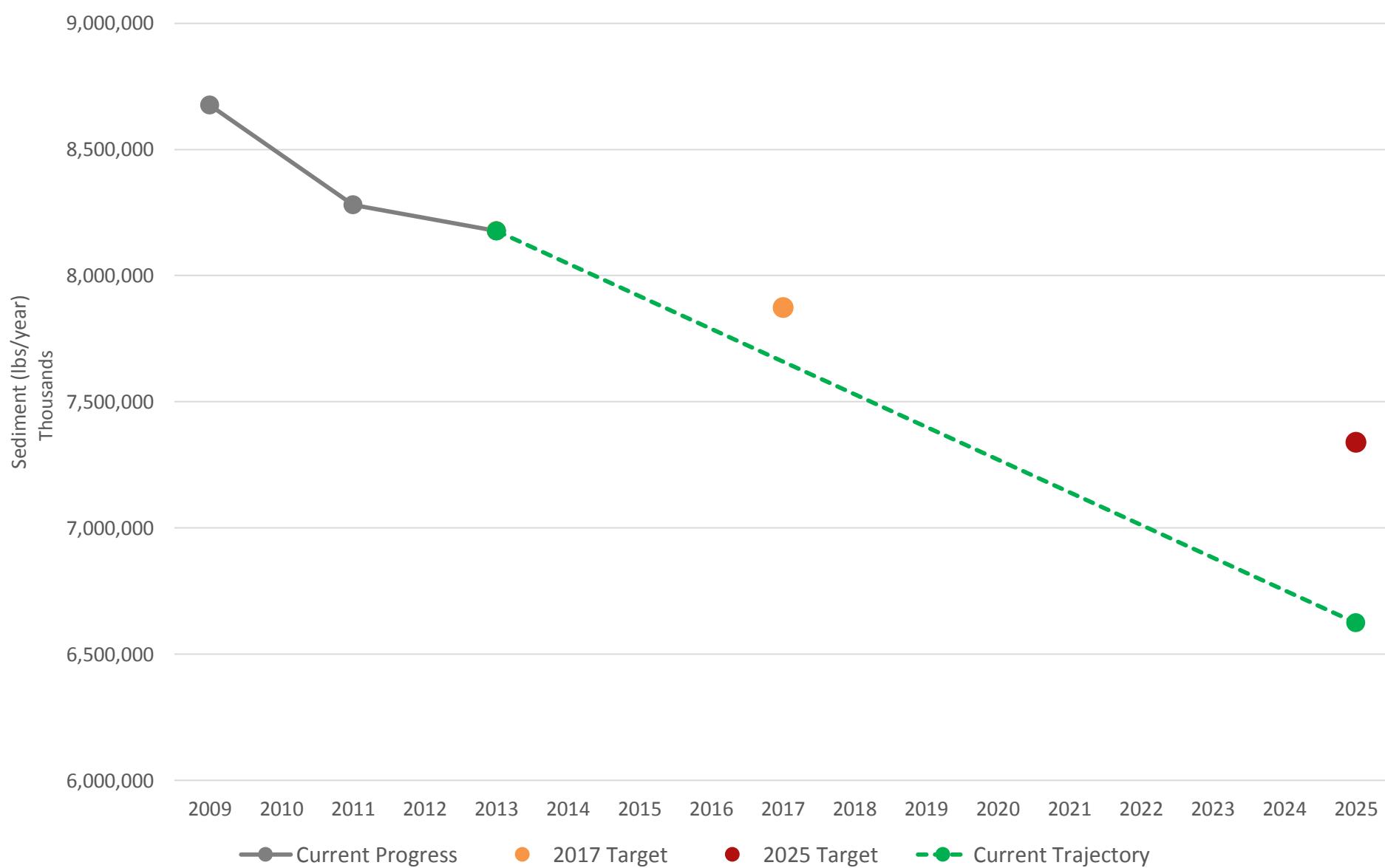
Sediment Pollution at the 2013 Milestone Assessment

Sediment (lbs/year)
Thousands



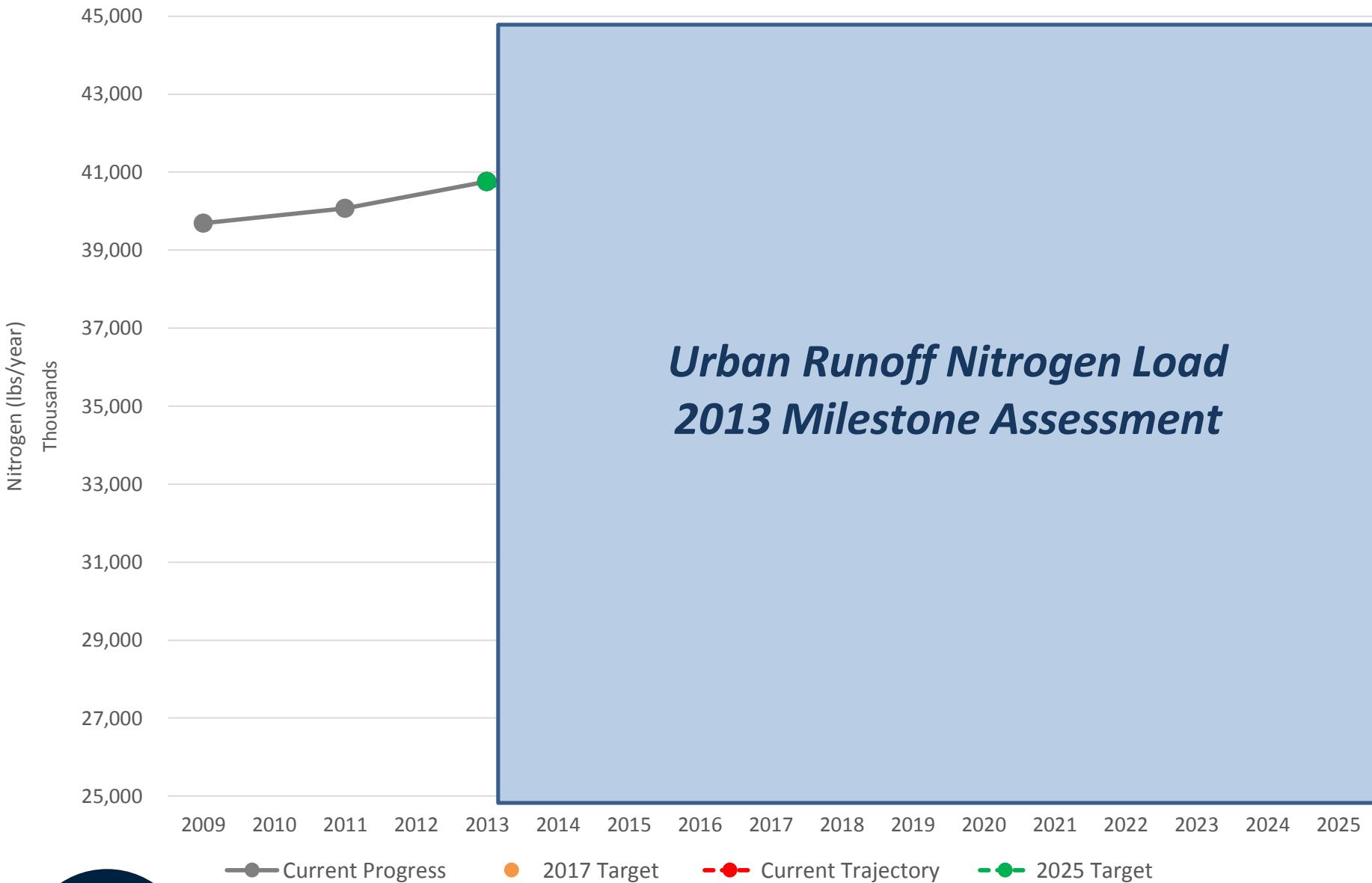
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Sediment Pollution**



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Sediment Pollution**



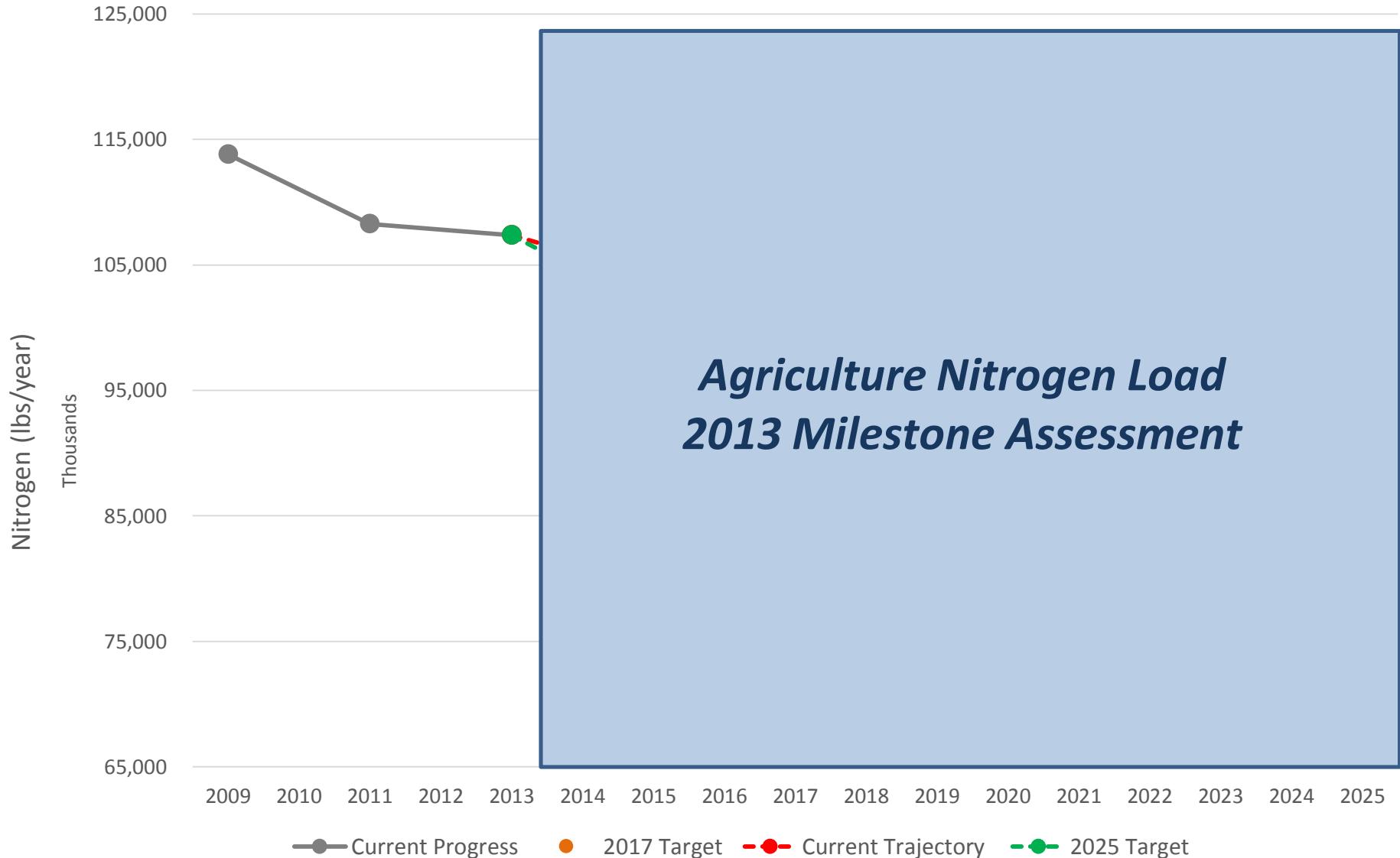
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Urban Runoff Nitrogen Load**



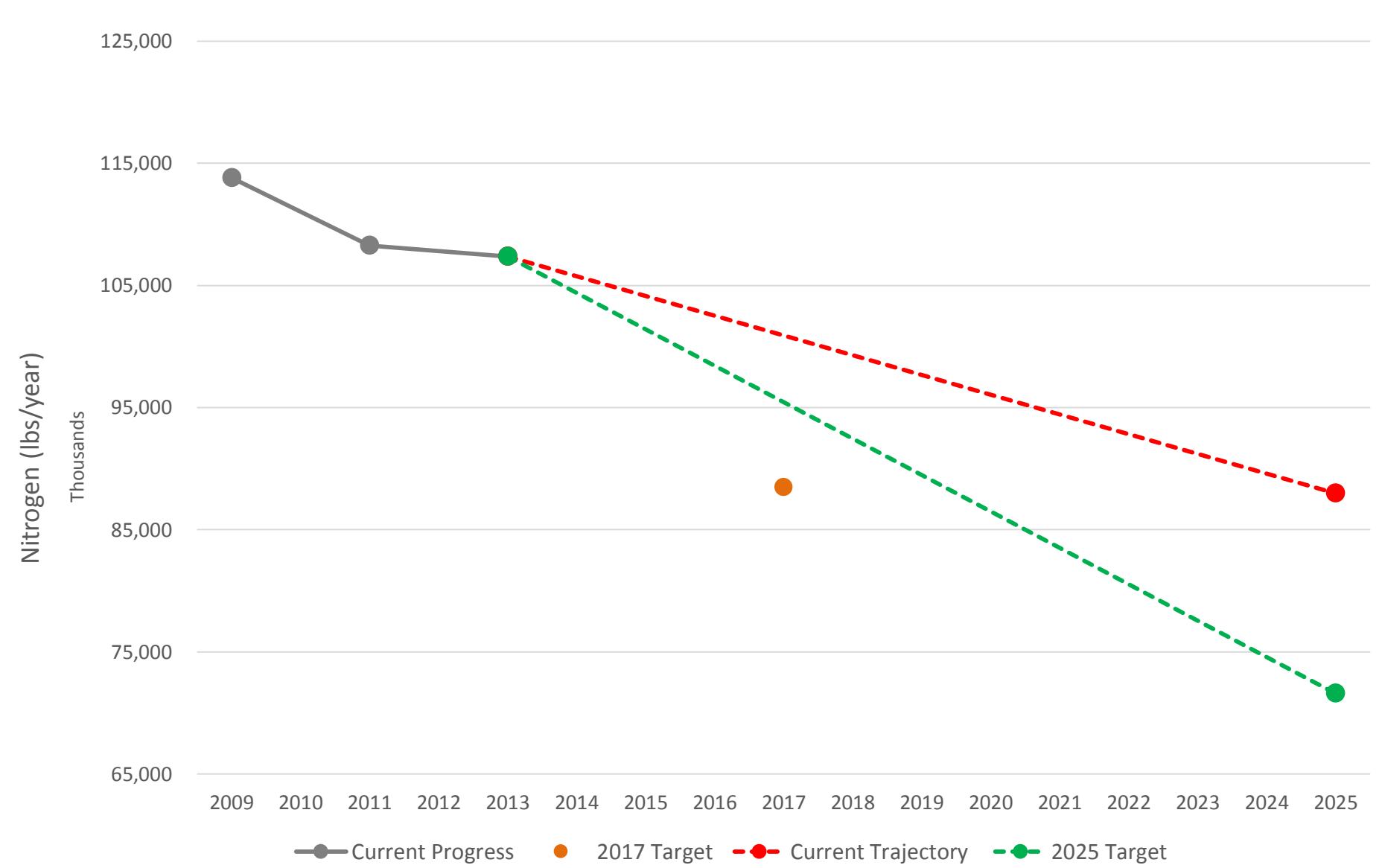
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Urban Runoff Nitrogen Load**



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Watershed Wide
Agriculture Nitrogen Load**



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

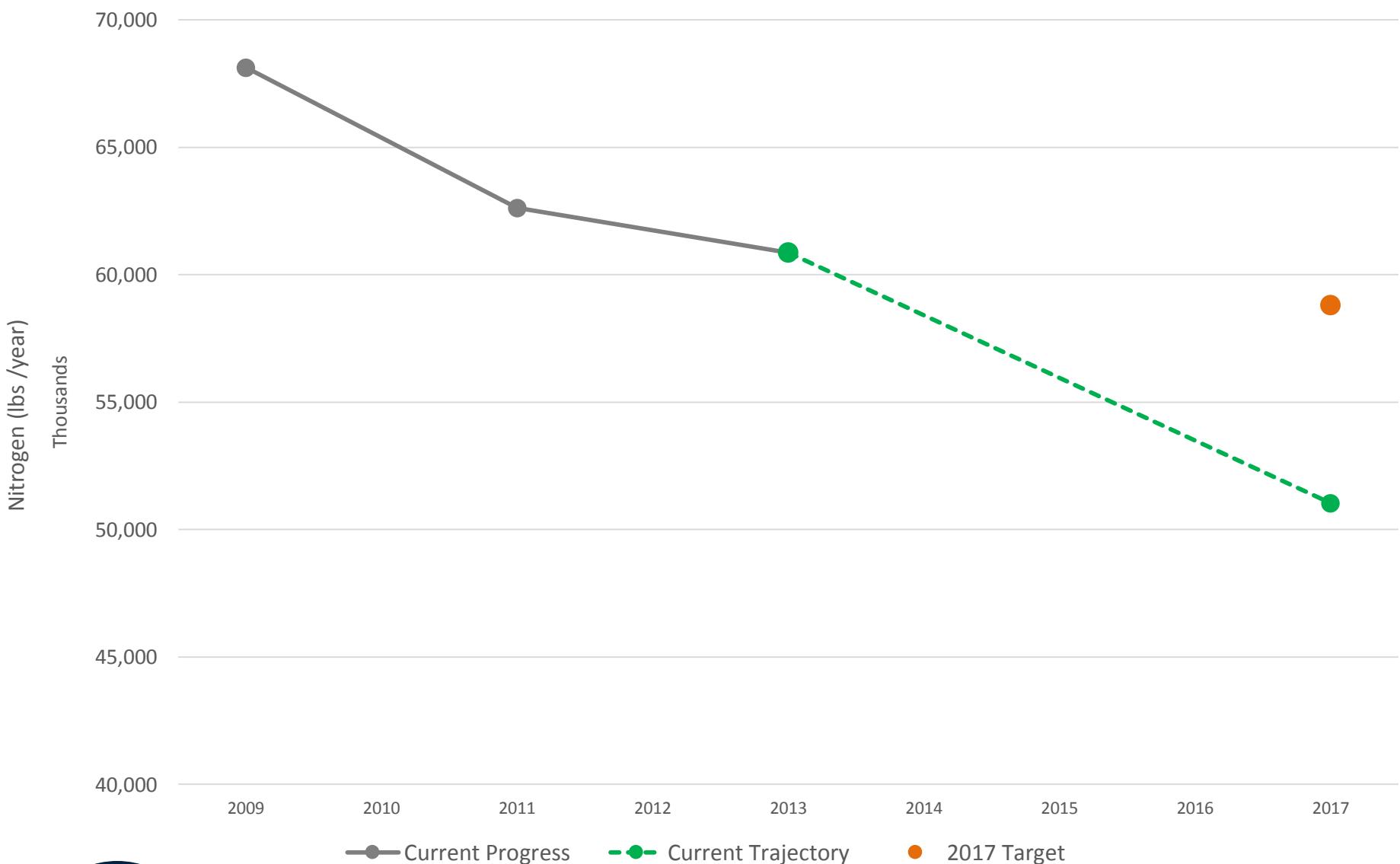
**Watershed Wide
Agriculture Nitrogen Load**

A scenic landscape featuring a range of mountains in the background under a sky transitioning from blue to warm orange and yellow hues. In the foreground, silhouettes of evergreen trees are visible against the bright sky.

How are things in Virginia?

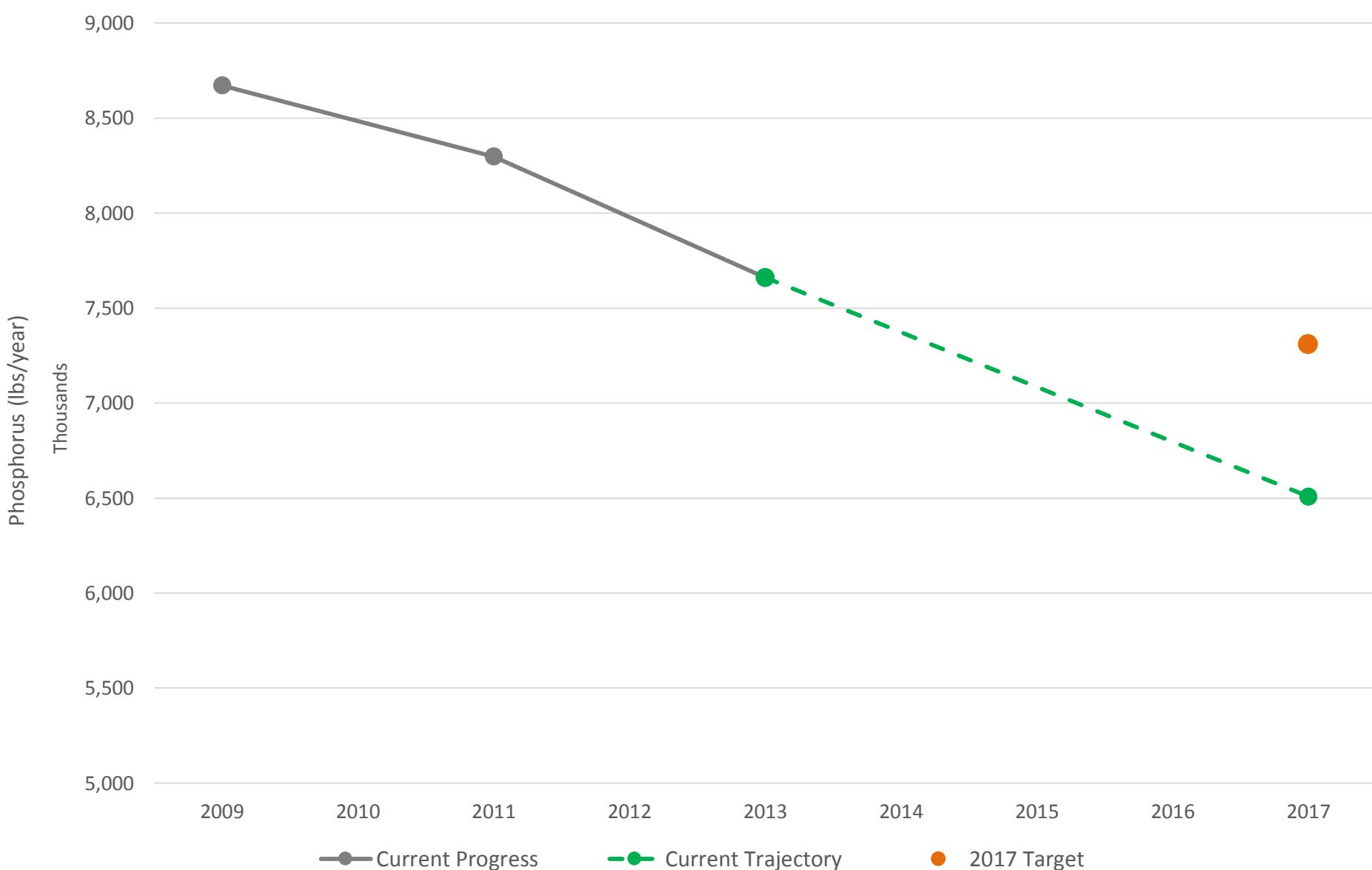


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



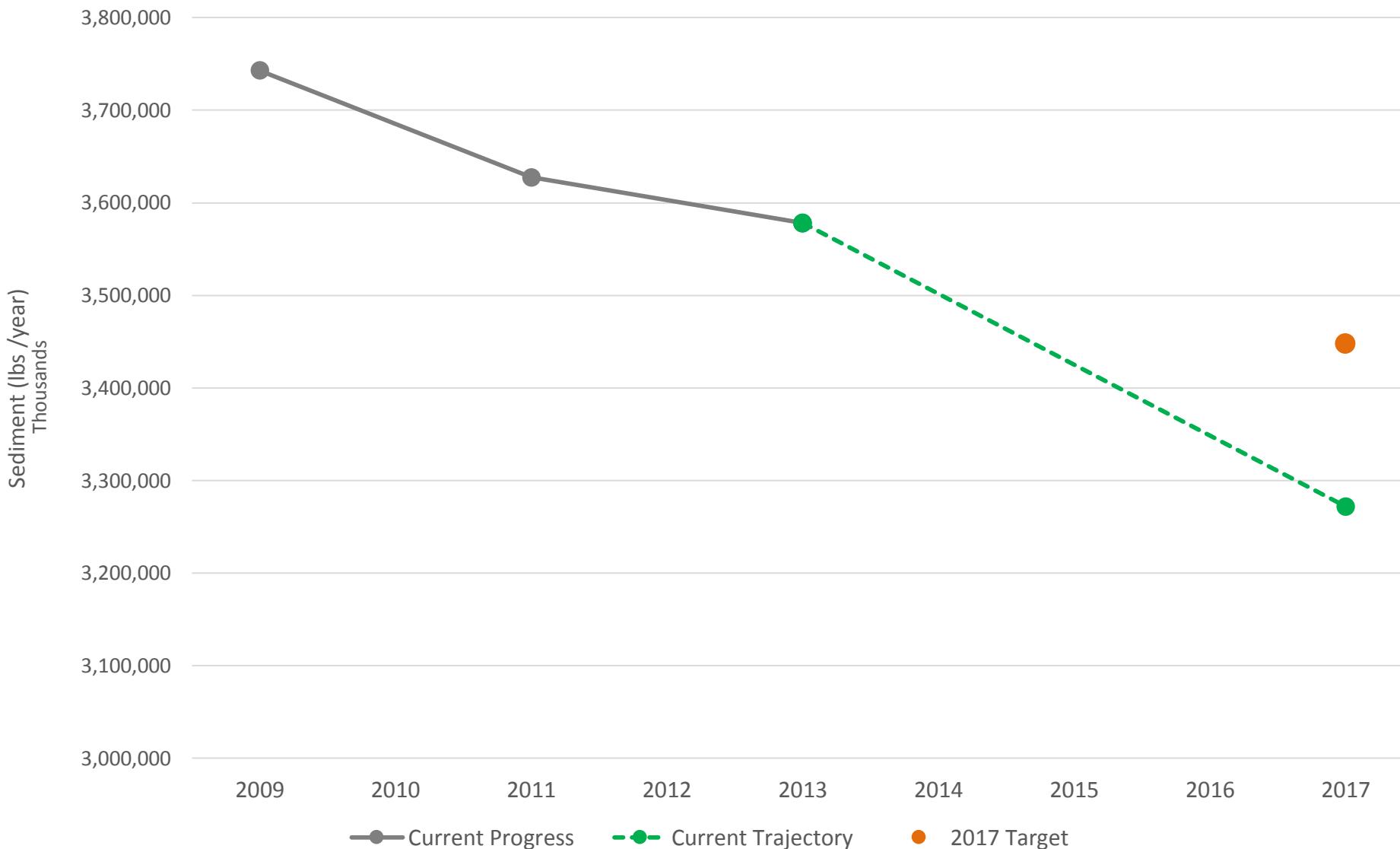
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Nitrogen Pollution



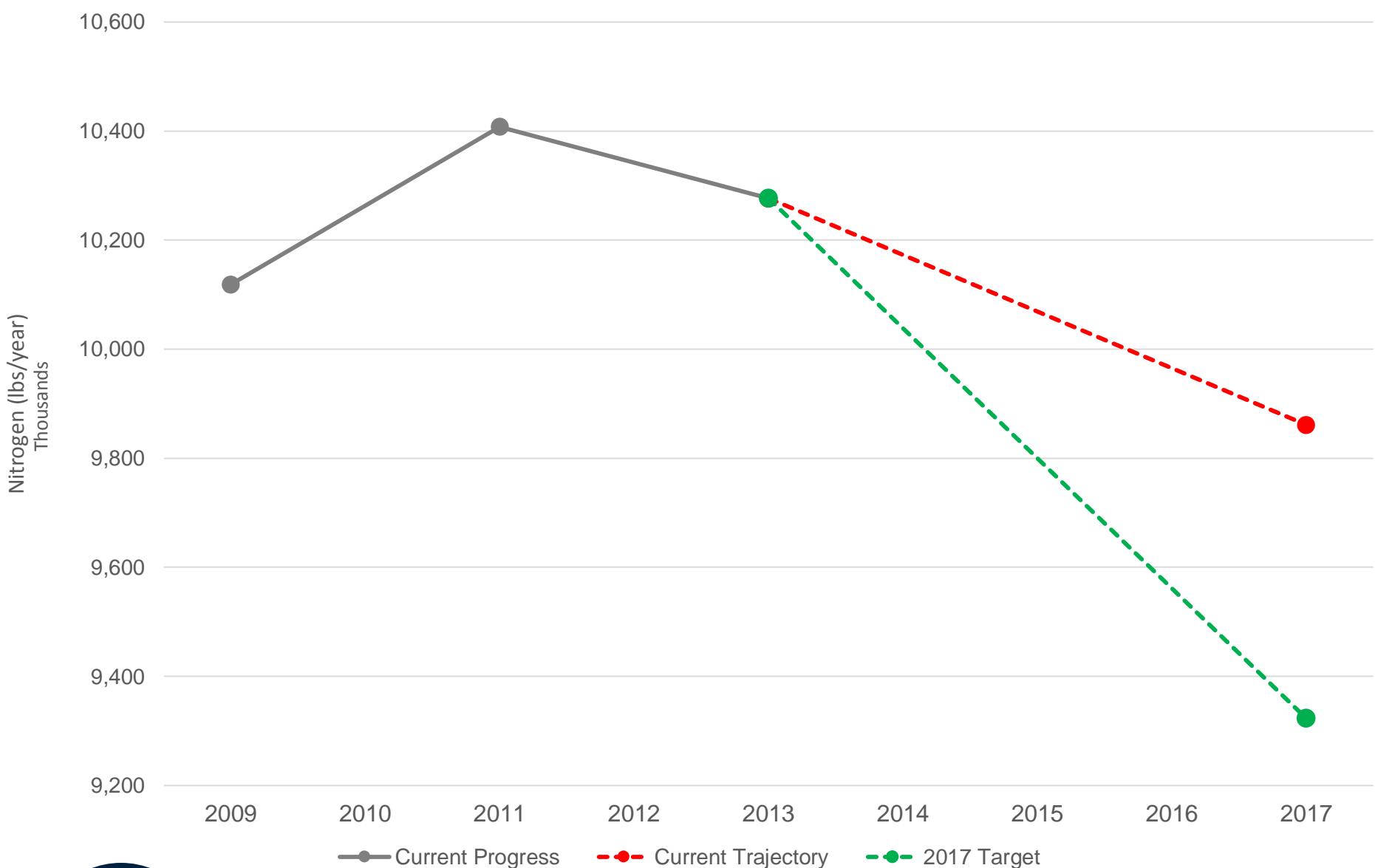
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Phosphorus Pollution



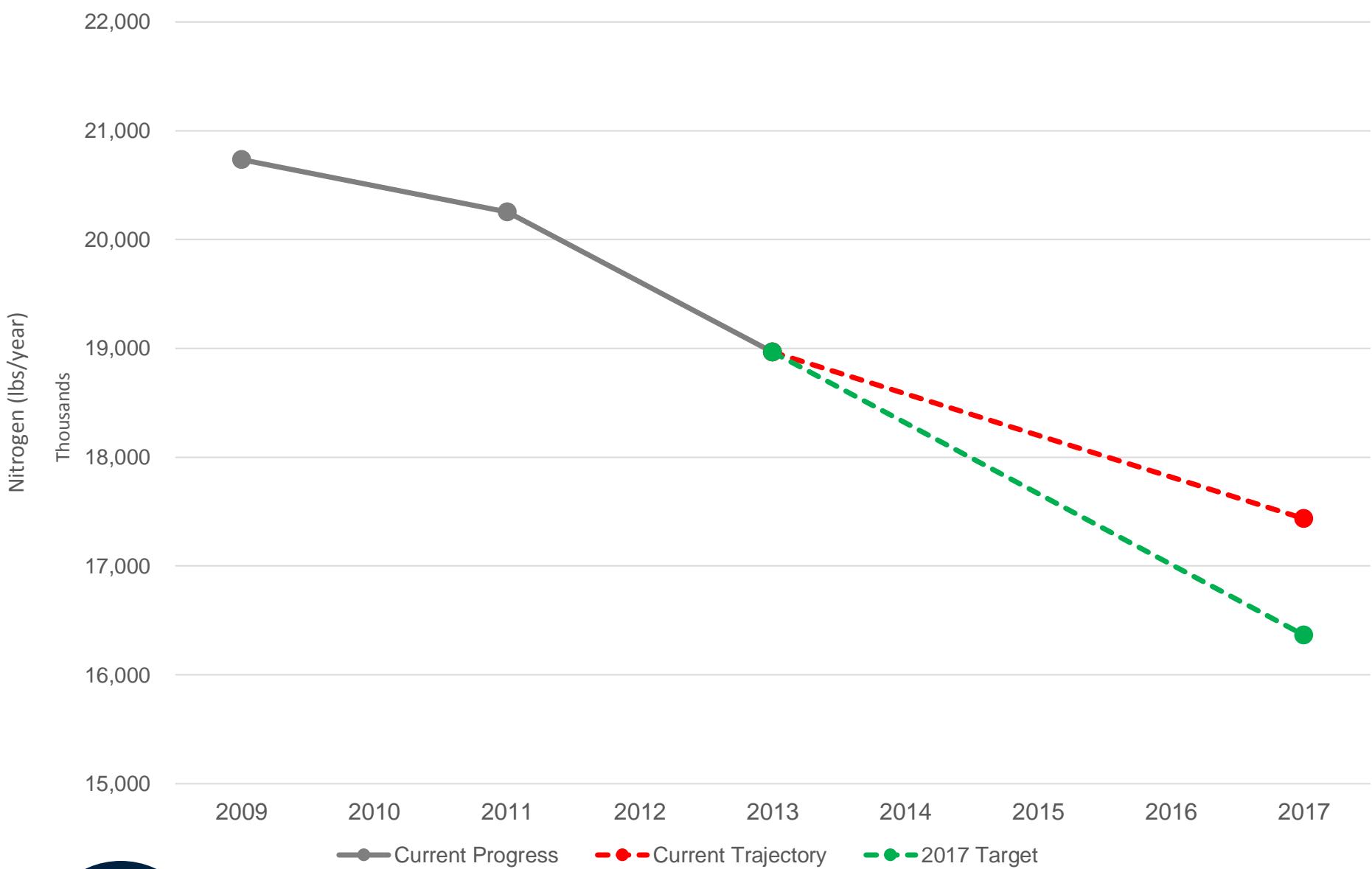
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Sediment Pollution



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Nitrogen Pollution – Urban Runoff



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Nitrogen Pollution – Agriculture

2,300,000

2,100,000

1,900,000

1,700,000

1,500,000

1,300,000

1,100,000

2009

2010

2011

2012

2013

2014

2015

2016

2017

Current Progress

Current Trajectory

2017 Target



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Virginia
Agriculture BMPs Composite



How are things in Pennsylvania?

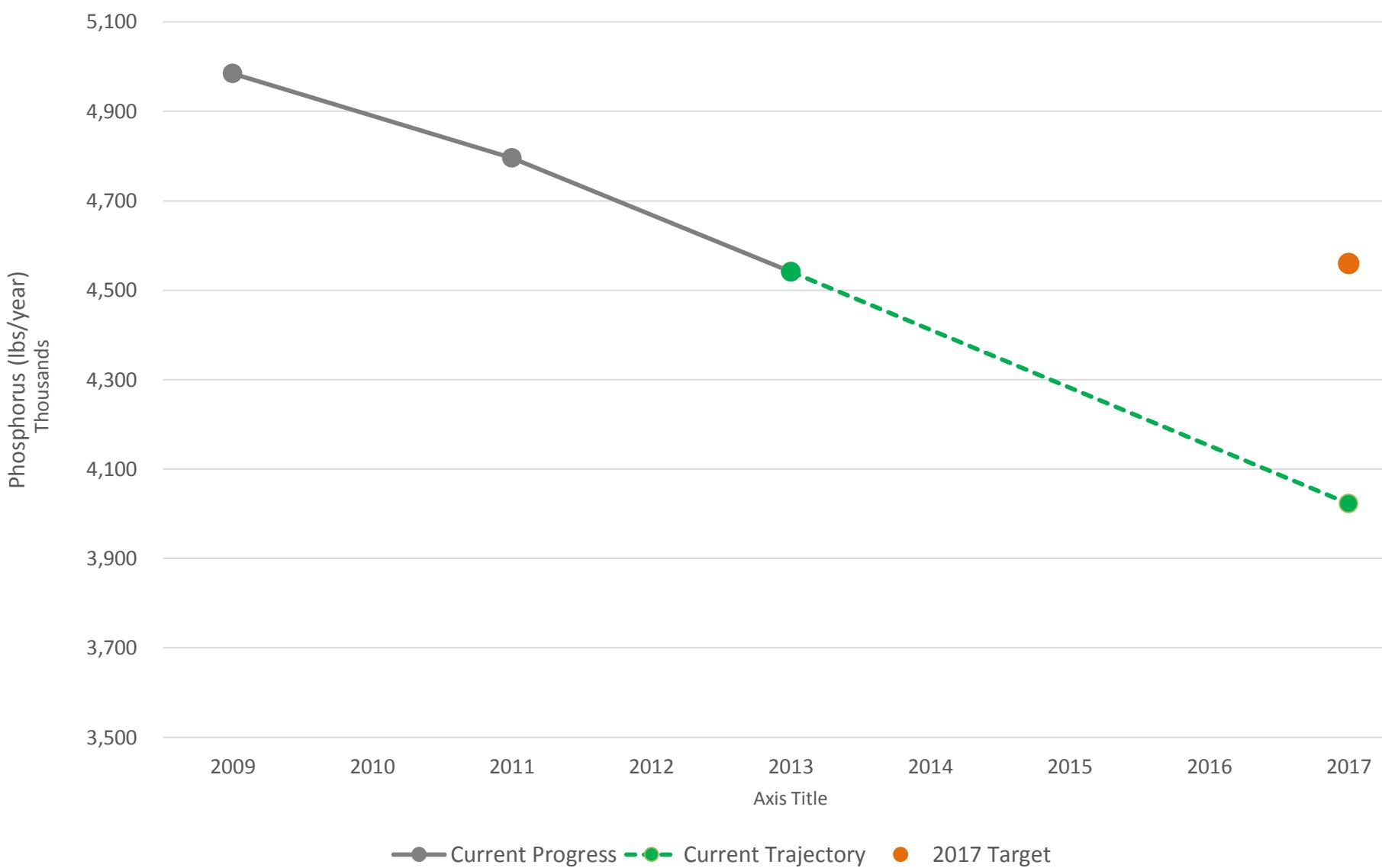


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



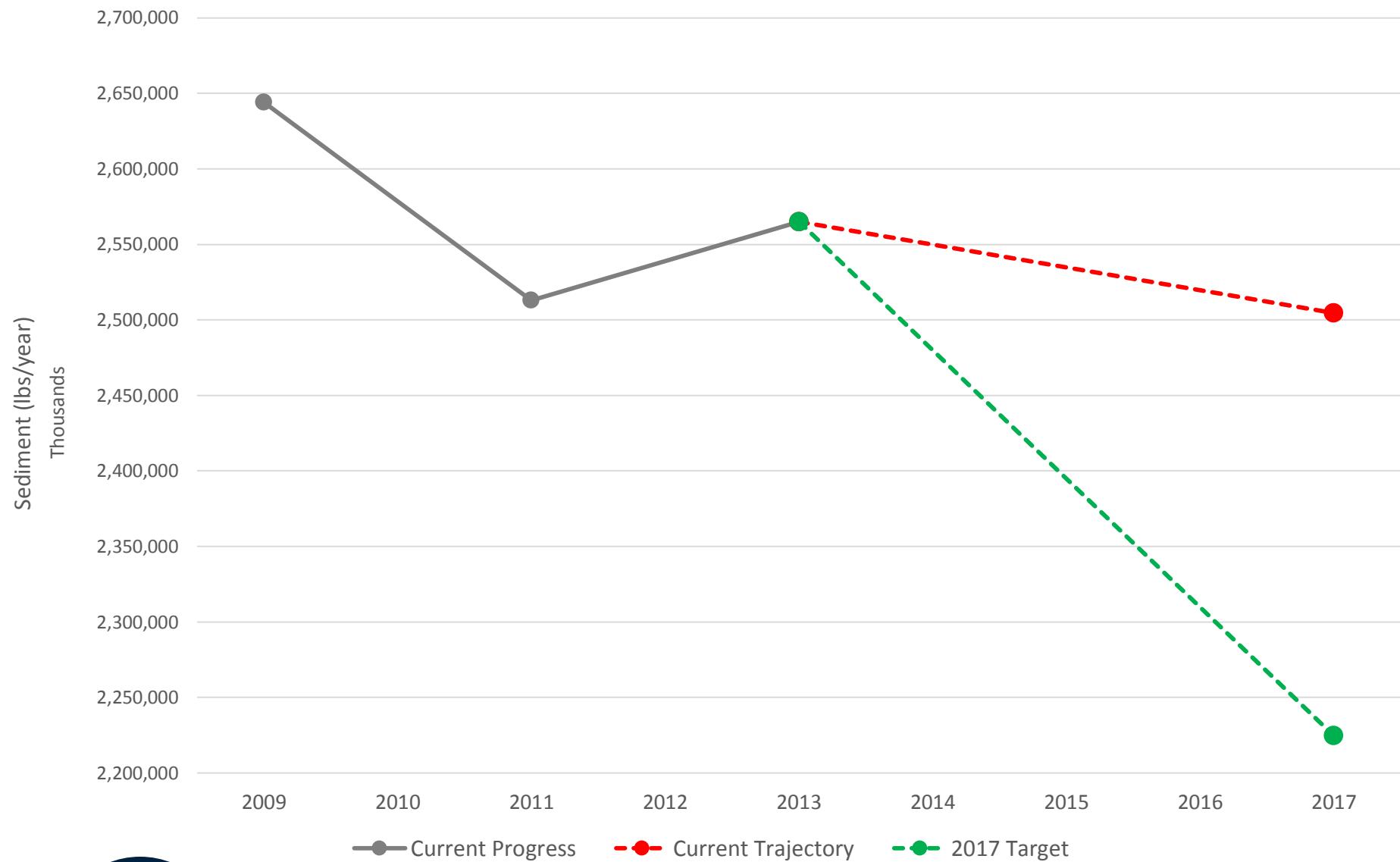
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Nitrogen Pollution



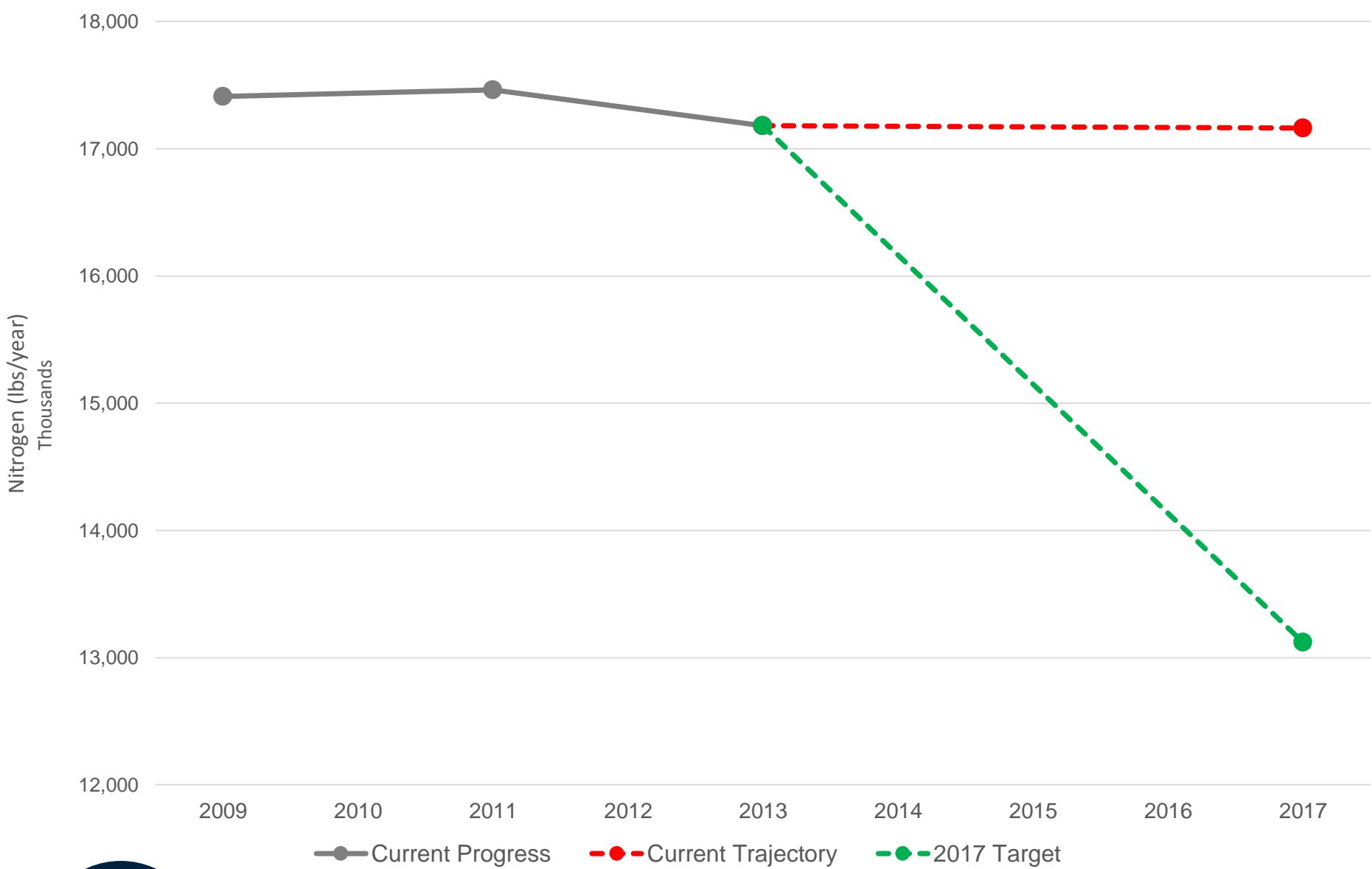
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Phosphorus Pollution



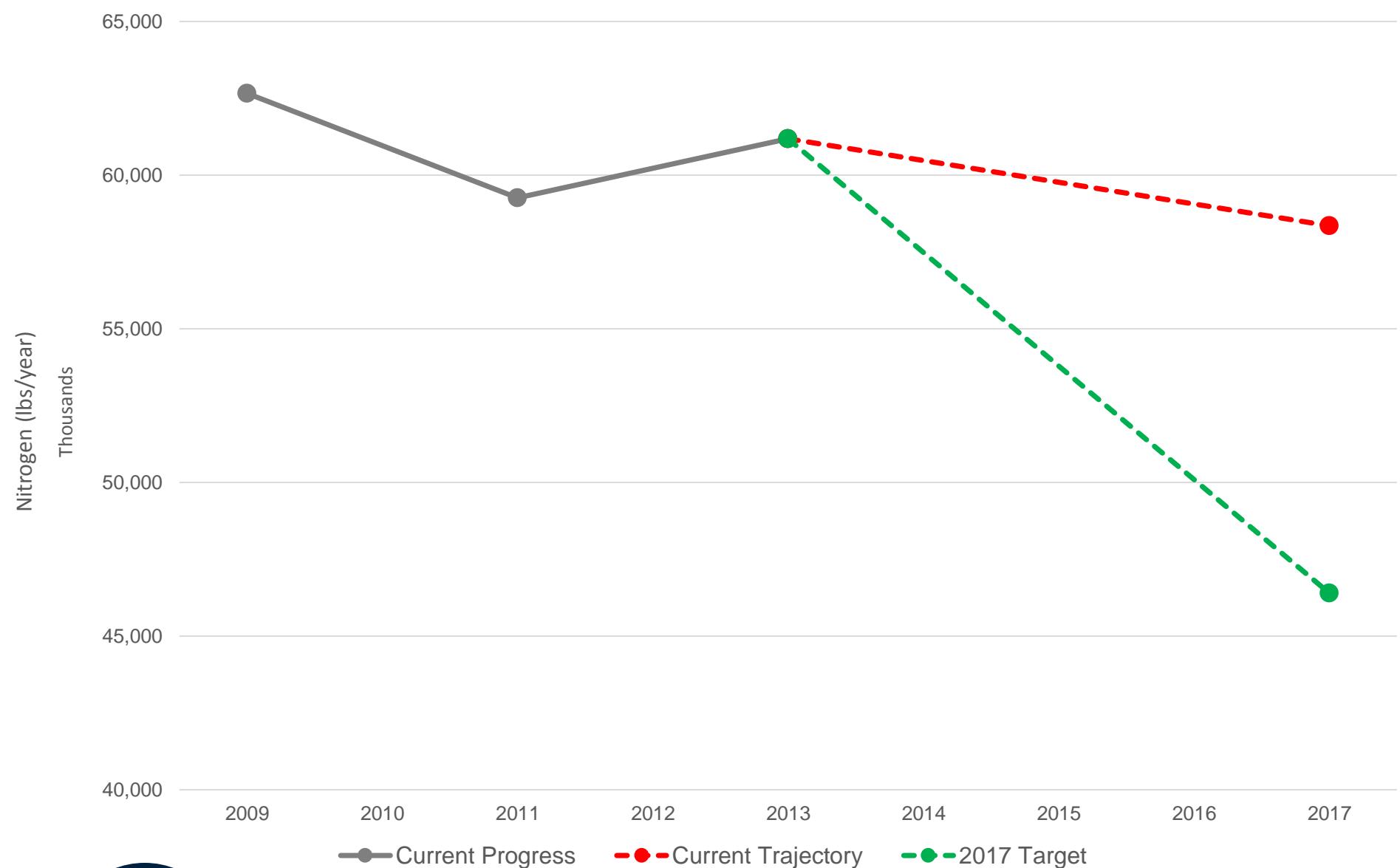
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Sediment Pollution



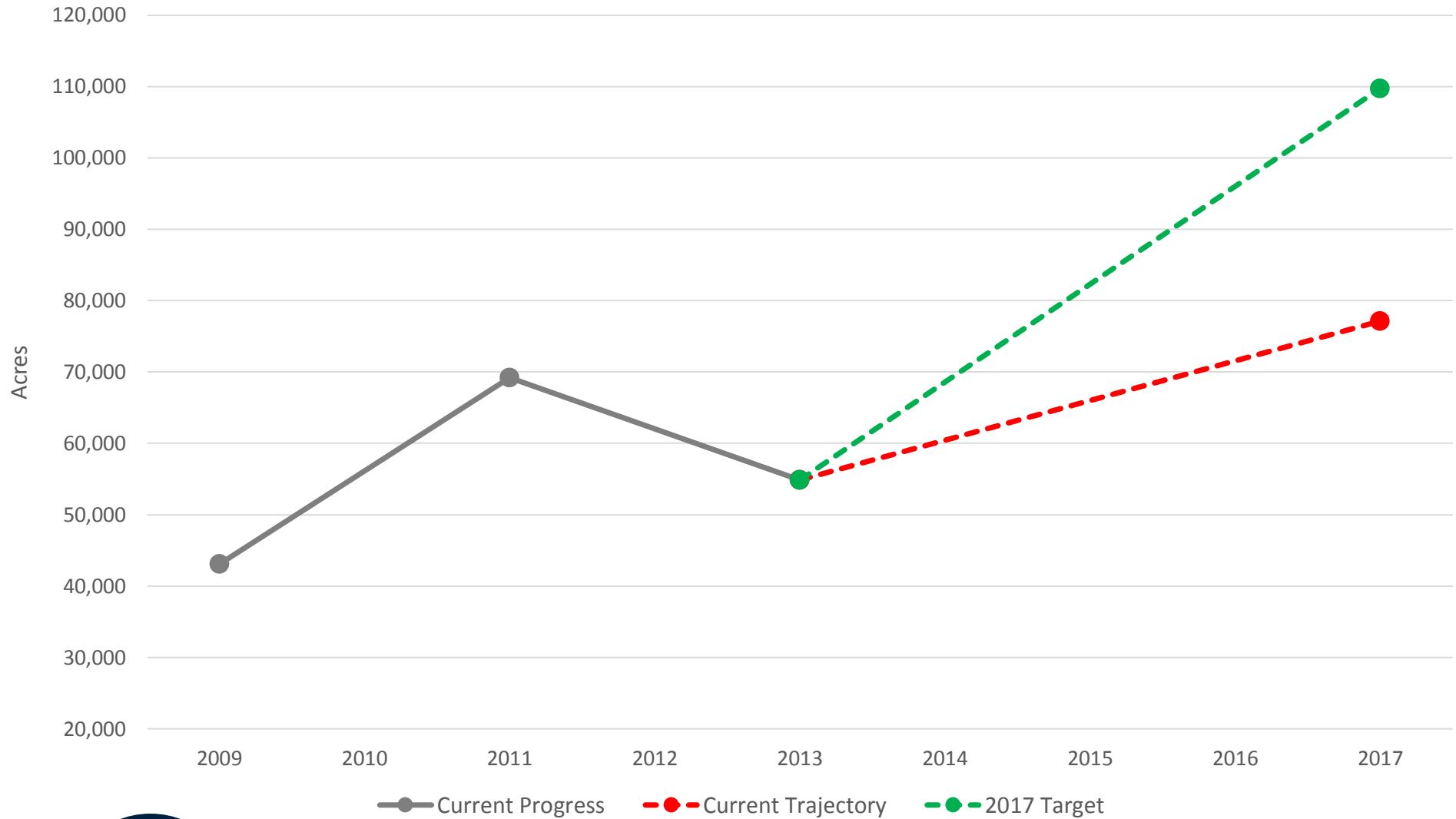
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Nitrogen Pollution – Urban Runoff



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Nitrogen Pollution – Agriculture



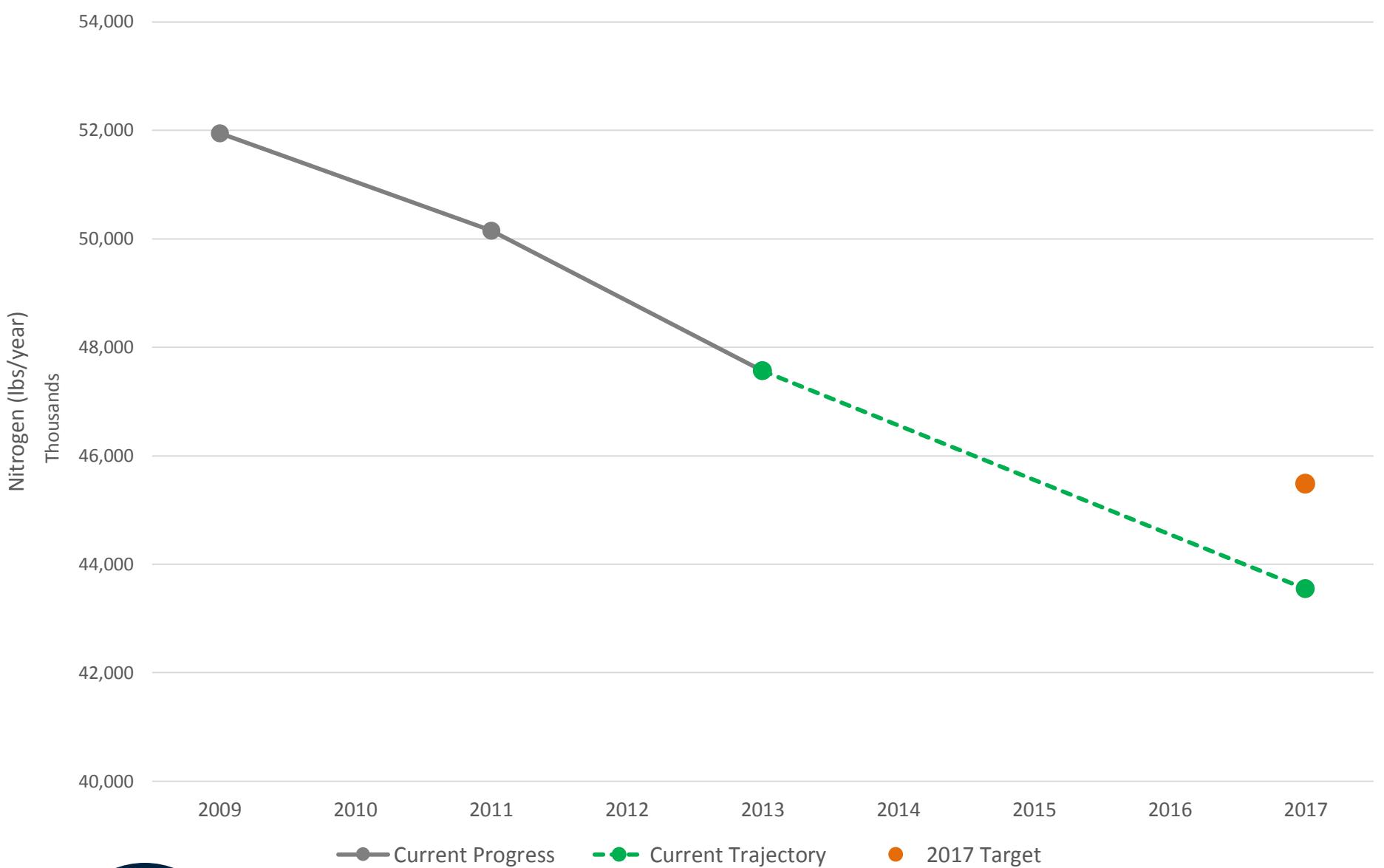
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania
Agricultural Forested Buffers

How are things in Maryland?

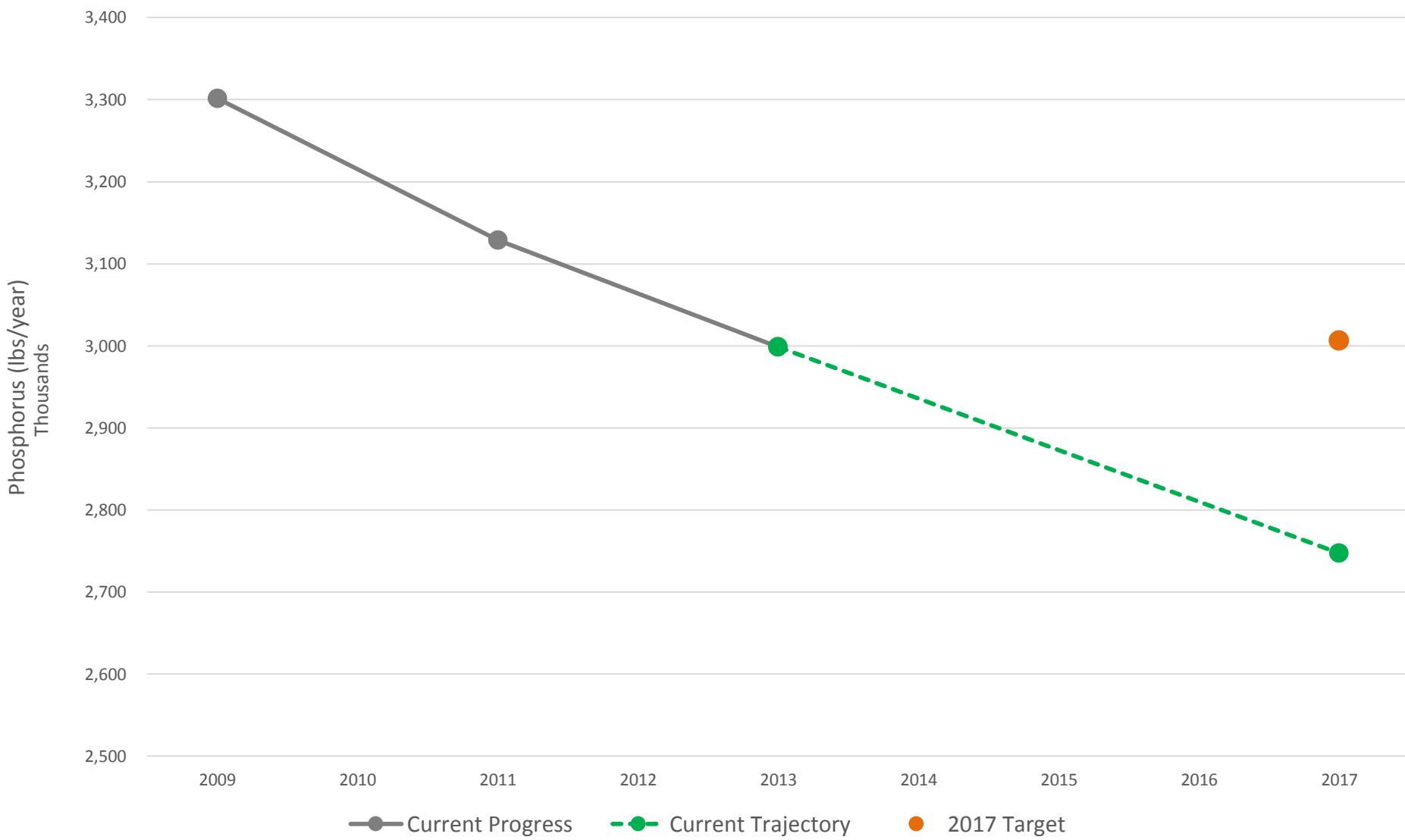


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



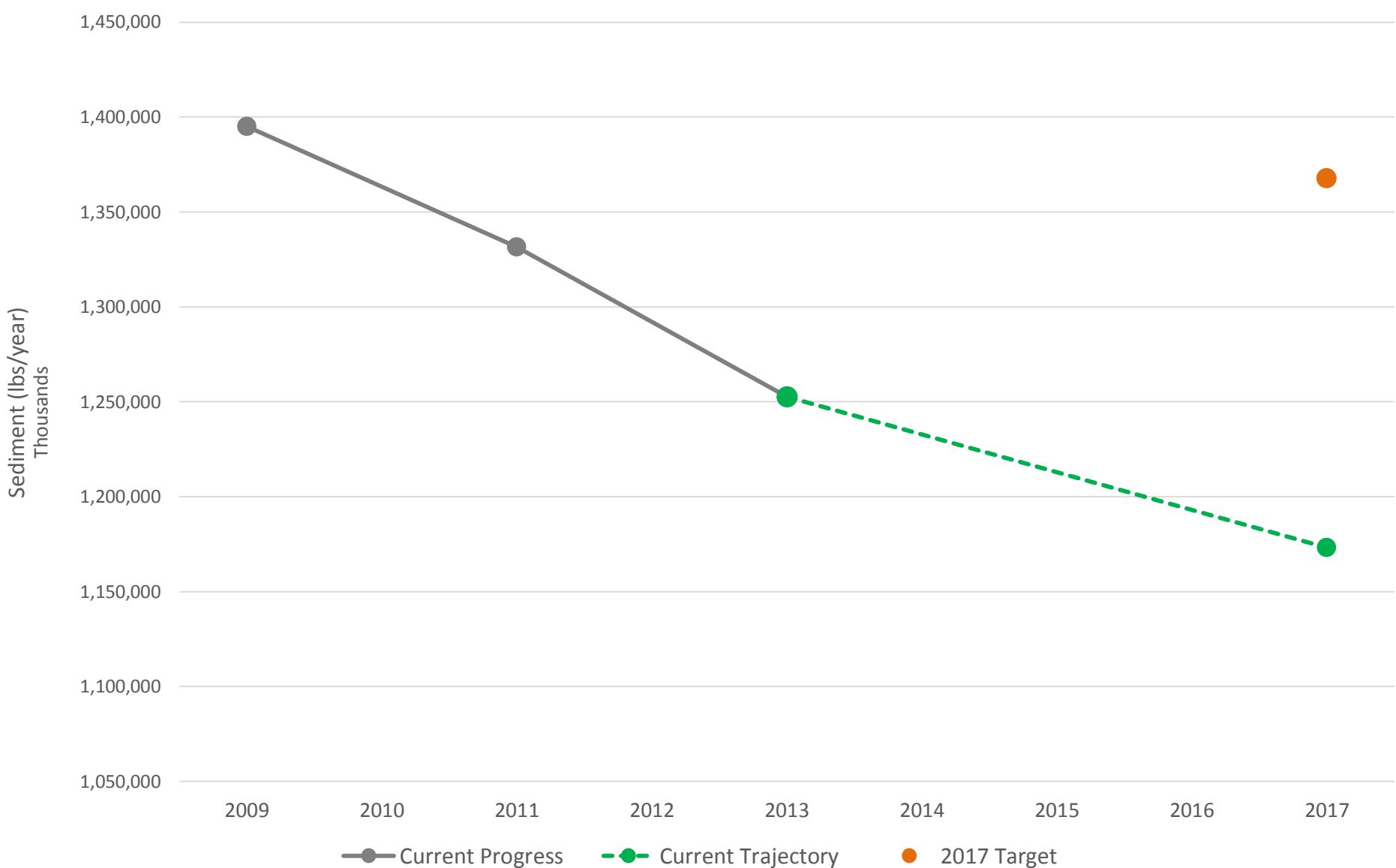
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Maryland
Nitrogen Pollution



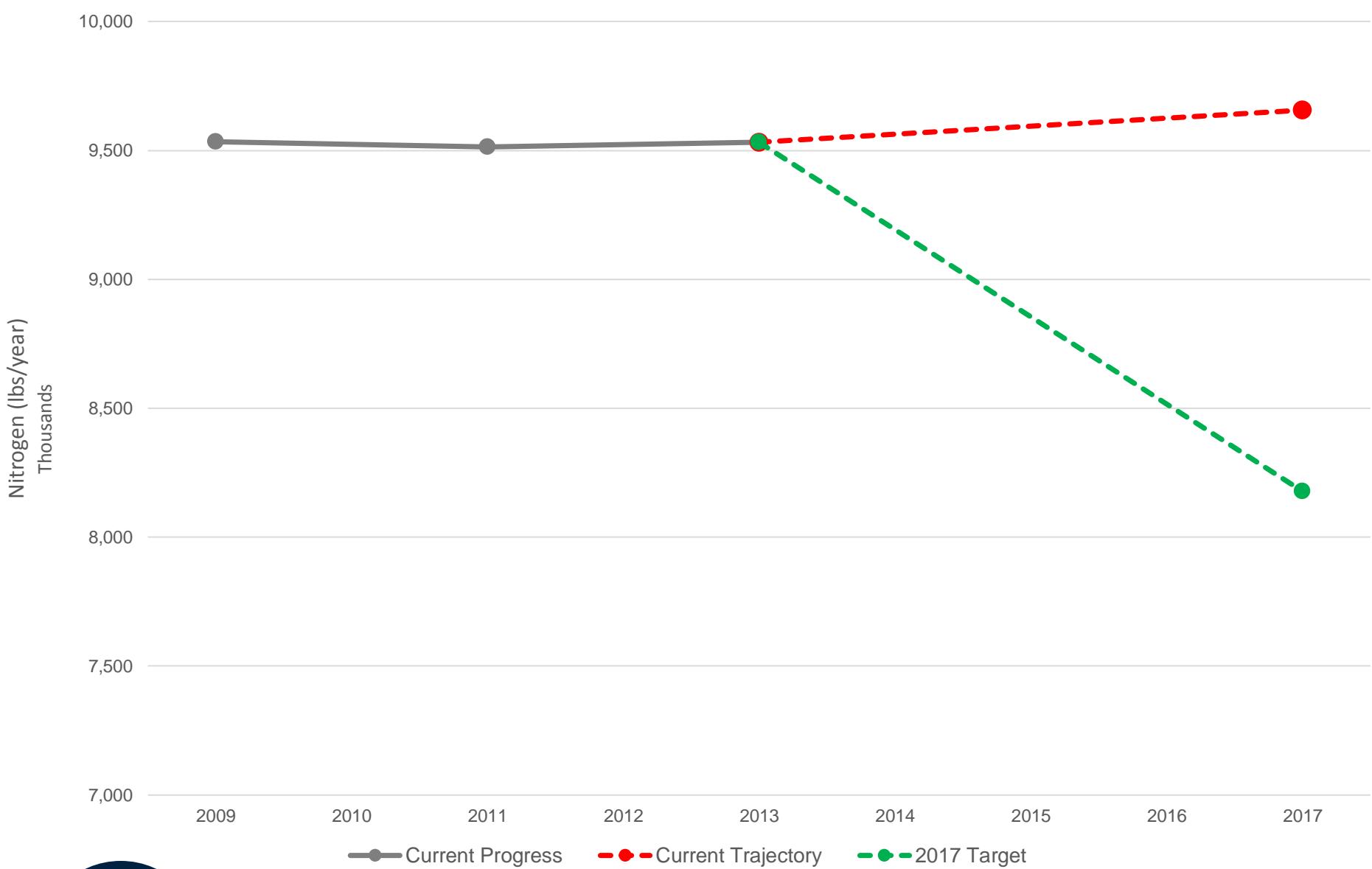
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Maryland
Phosphorus Pollution



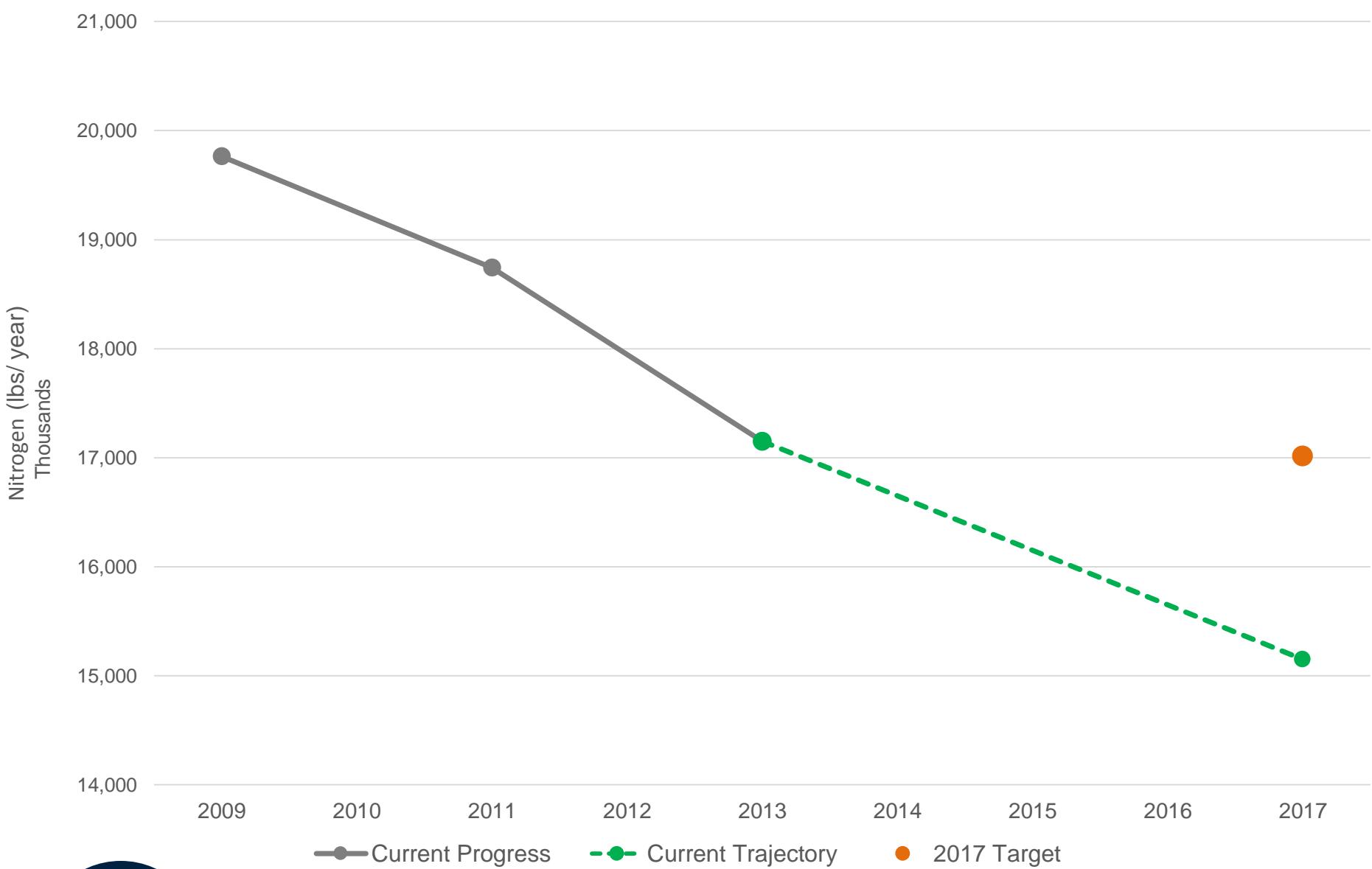
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Maryland
Sediment Pollution



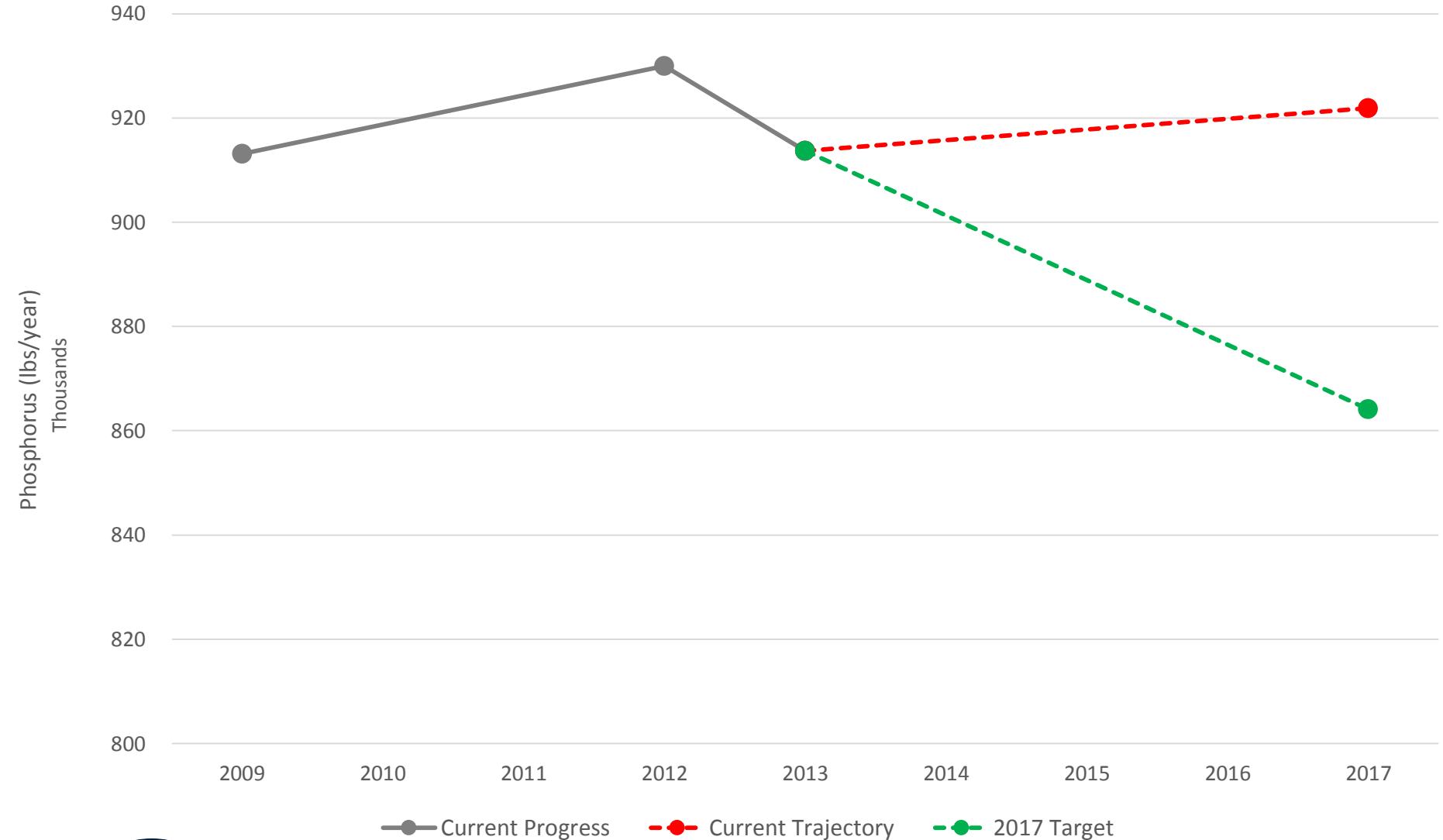
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Maryland
Nitrogen Pollution – Urban Runoff



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Maryland
Nitrogen Pollution – Agriculture



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

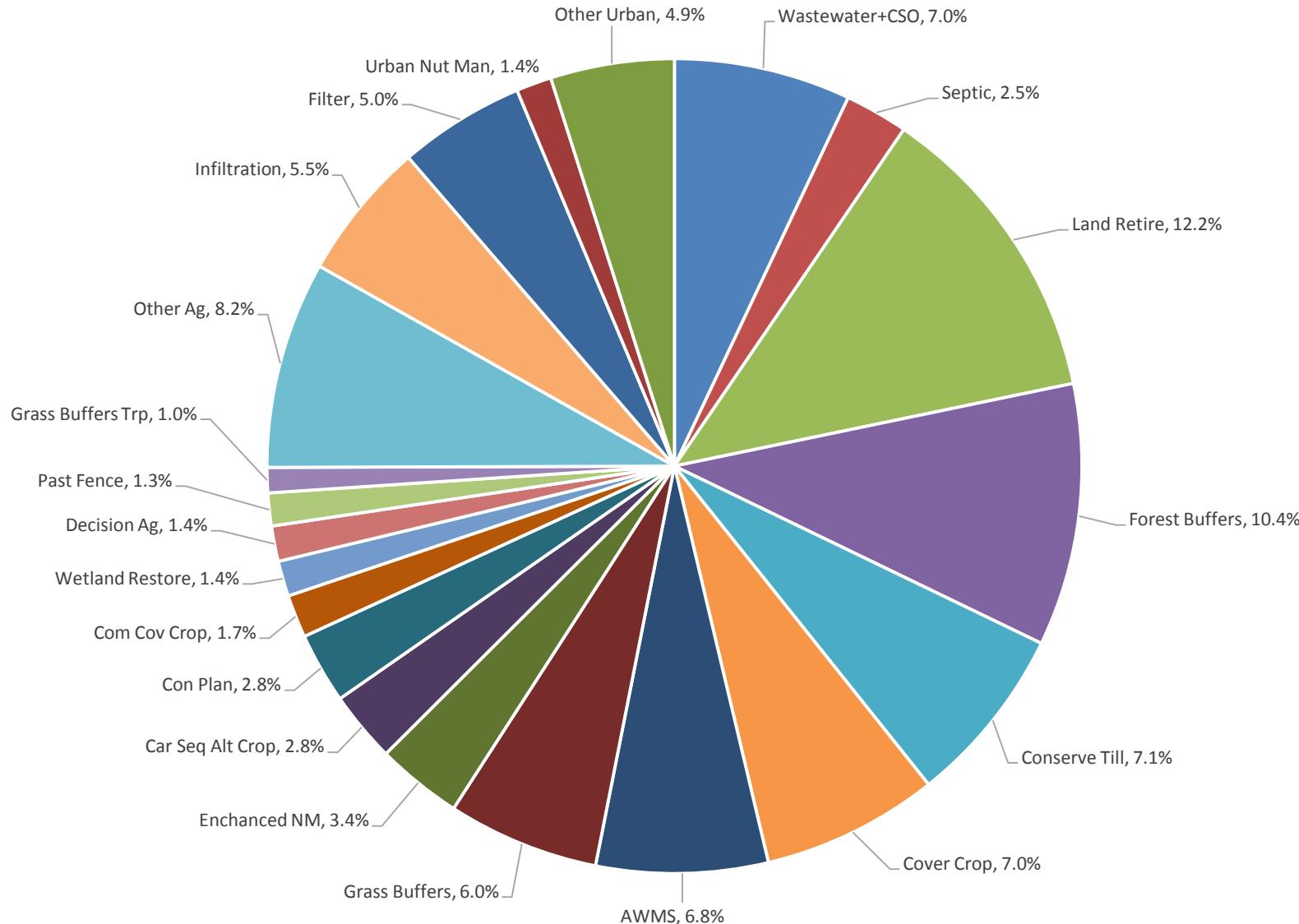
Maryland Eastern Shore
Phosphorus Loads: Agriculture



Are we making progress with BMP implementation?

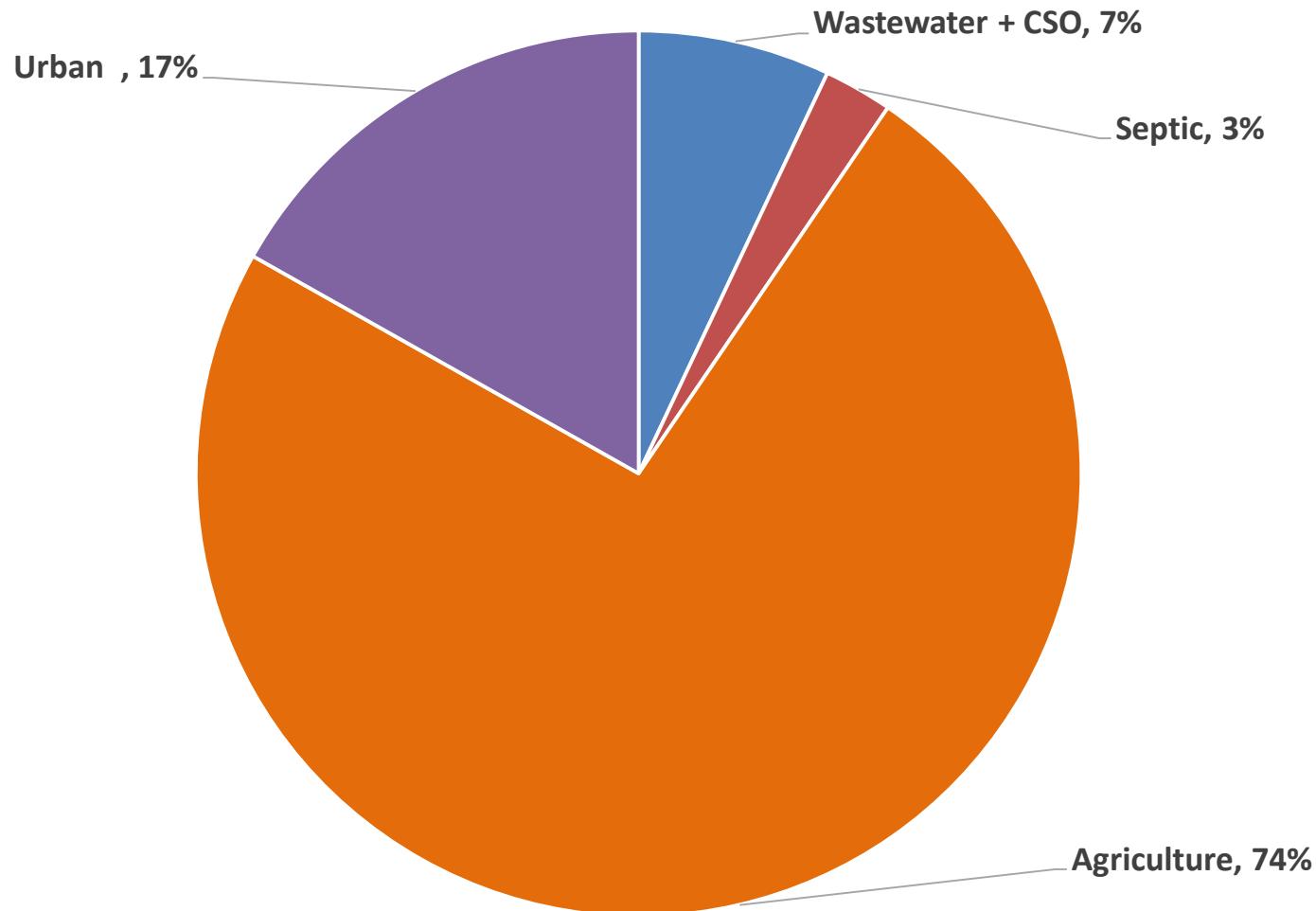


CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



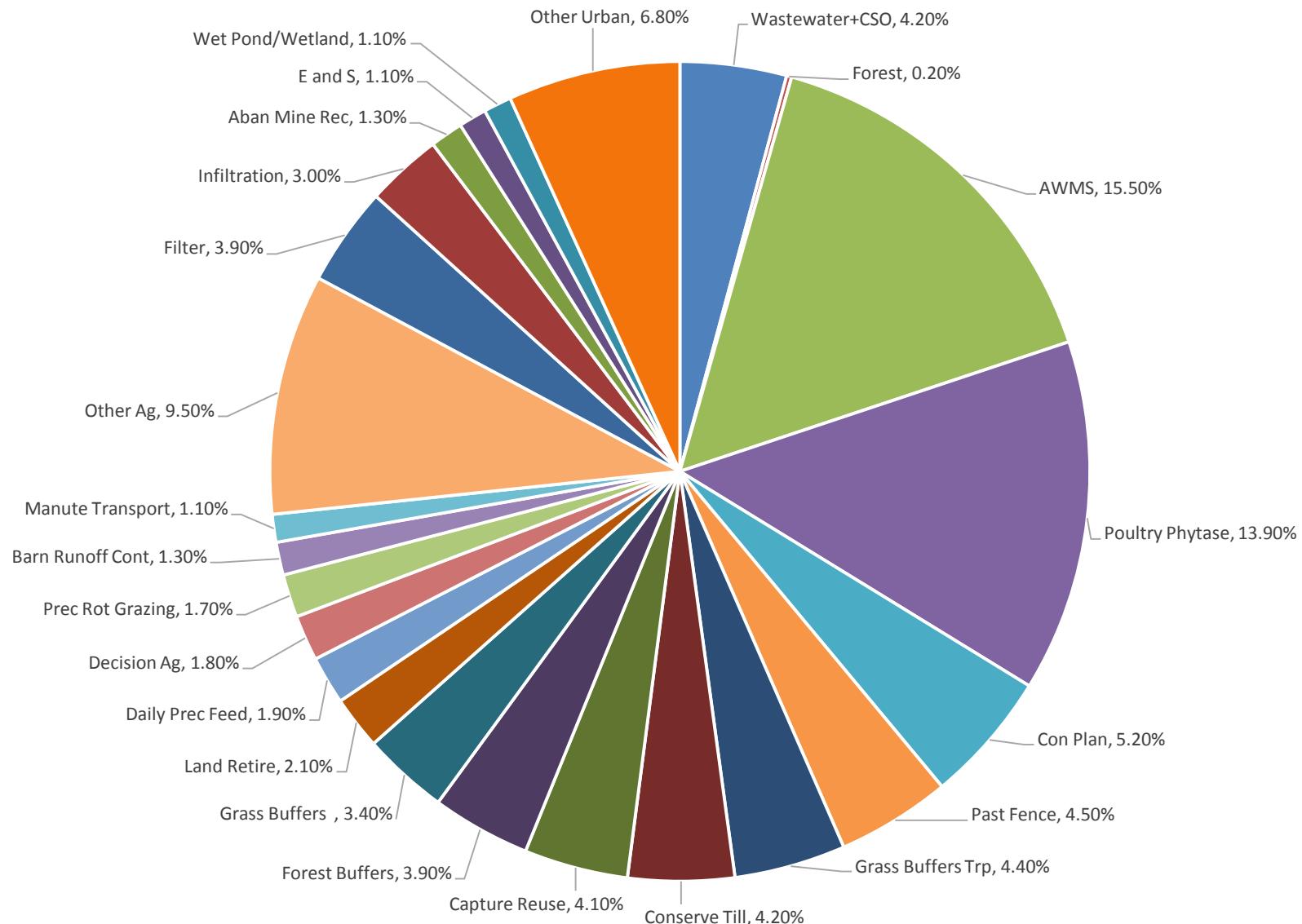
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Nitrogen Relative
Load Reductions**



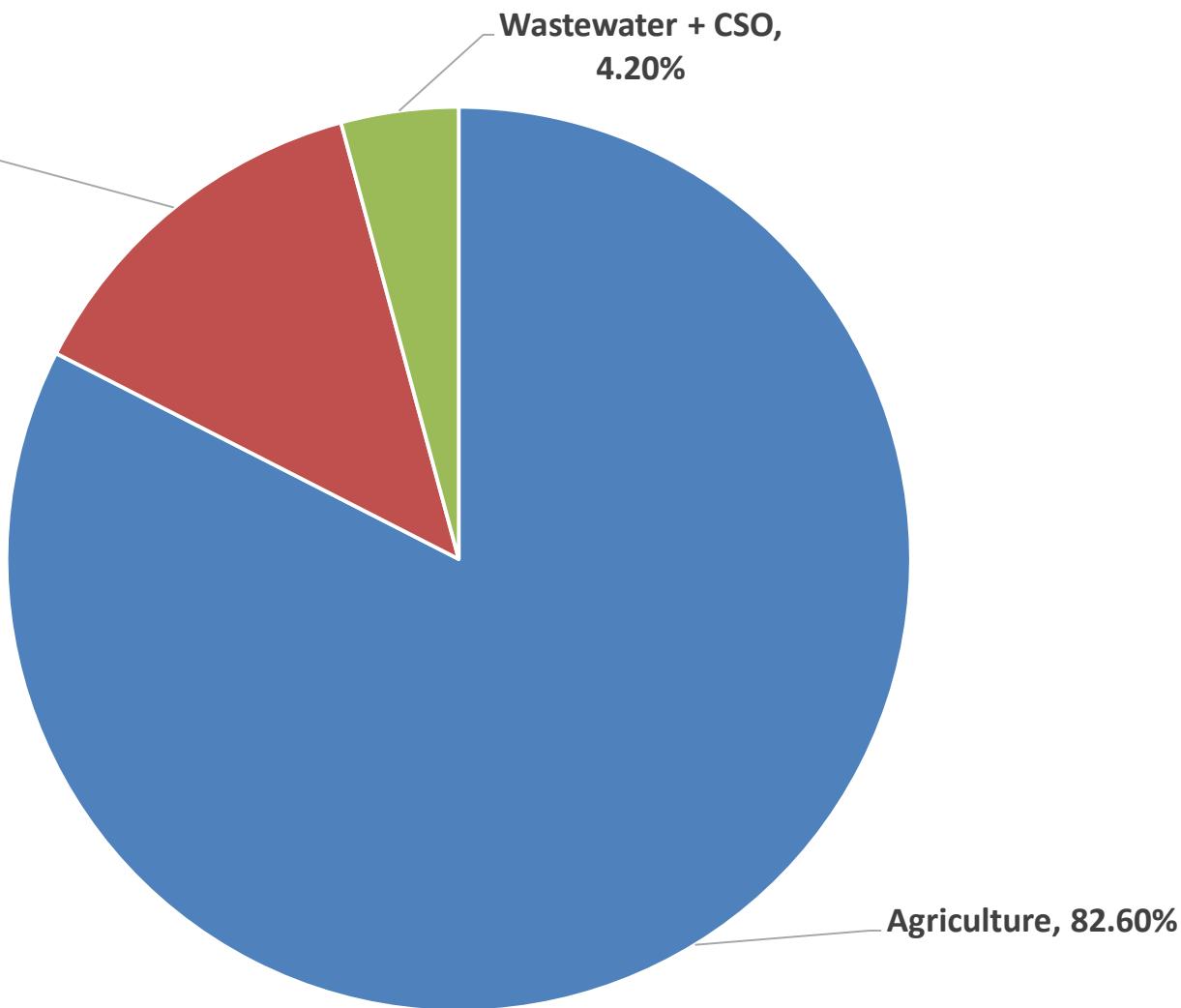
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Nitrogen Reductions
Needed by Source**



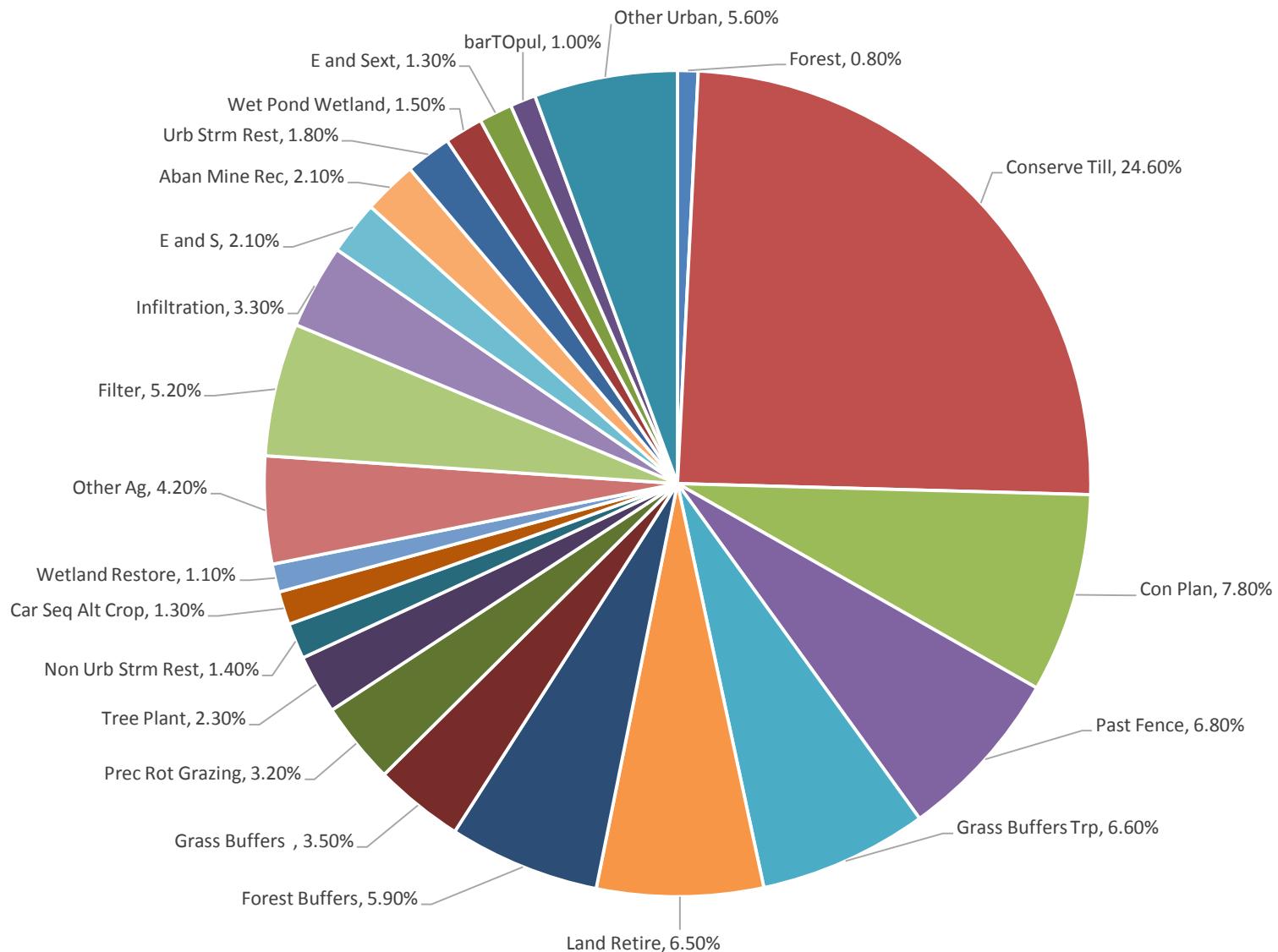
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Phosphorus Relative
Load Reductions**



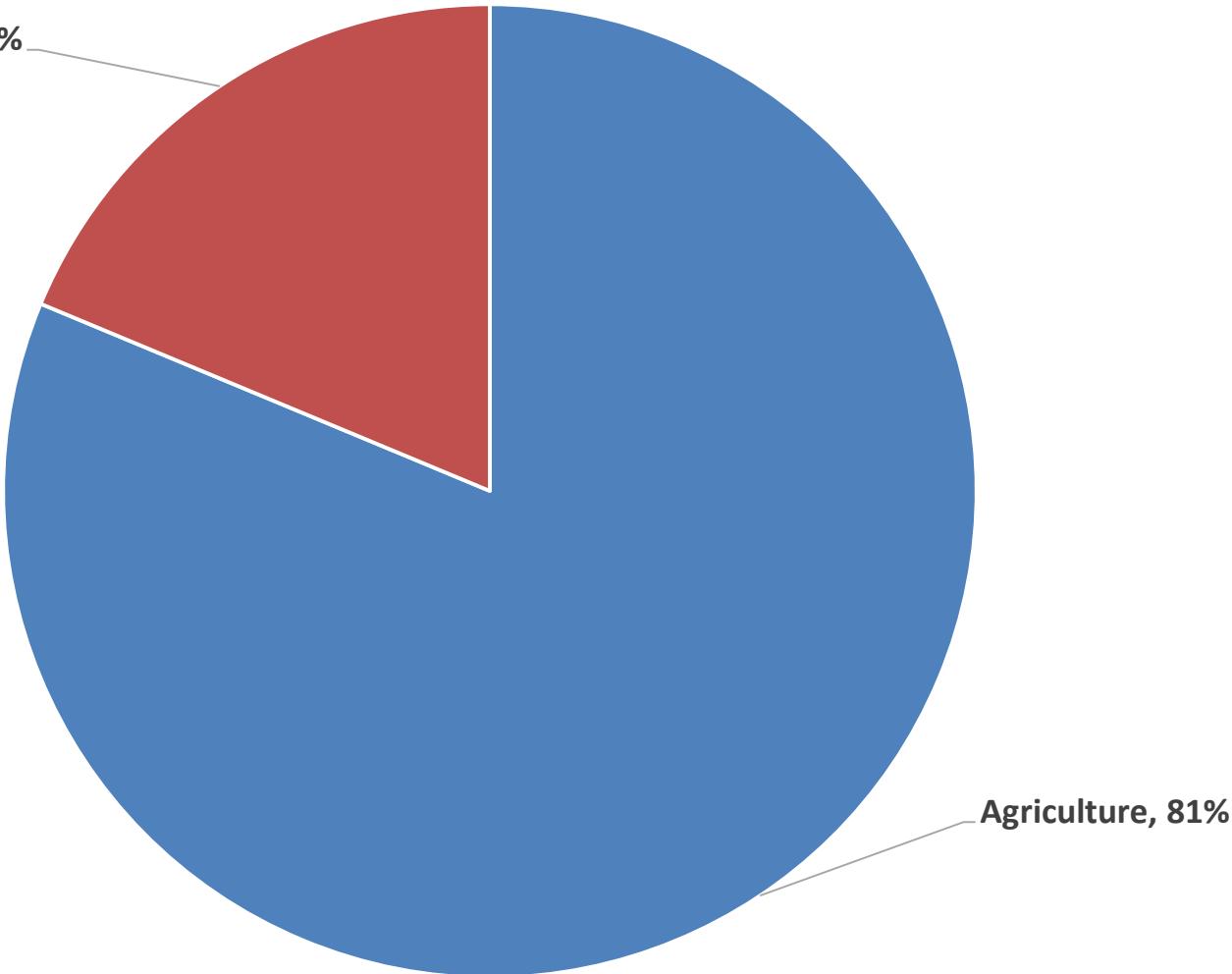
CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Phosphorus Reductions
Needed by Source**



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Sediment Relative
Load Reductions**



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Sediment Reductions
Needed by Source**

Practice	Nitrogen Percent	Phosphorus Percent	Sediment Percent
Conservation Tillage	7.1	4.2	24.6
Grass Buffers (cropland)	6.0	7.7	10.1
Forested Buffers	10.4	3.9	5.9
Land Retirement	12.2	2.1	6.5
Phytase	--	13.9	--
Animal Waste Management Systems	6.8	15.5	--
Cover crops	7.0	--	--
Pasture Fencing *	1.3	4.5	6.8
Grass Buffers (pasture) *	1.0	4.4	6.0



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pollution Reduction by BMP

	% of 2025 Target Achieved between 2009 and 2013		
BMP	Maryland	Pennsylvania	Virginia
Grass buffers	74%	3%	-3%*
Forested buffers	55%	11%	3%
Land Retirement	16%	12%	26%
Conservation tillage	88%	73%	80%
Poultry Phytase	0%	0%	0%
Swine Phytase	25%	0%	0%
AWMS	25%	15%	8%
Fencing*	101%	102%	84%



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

BMP Implementation by State



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

The End