# Using Phase 6 Tools to Advance Implementation

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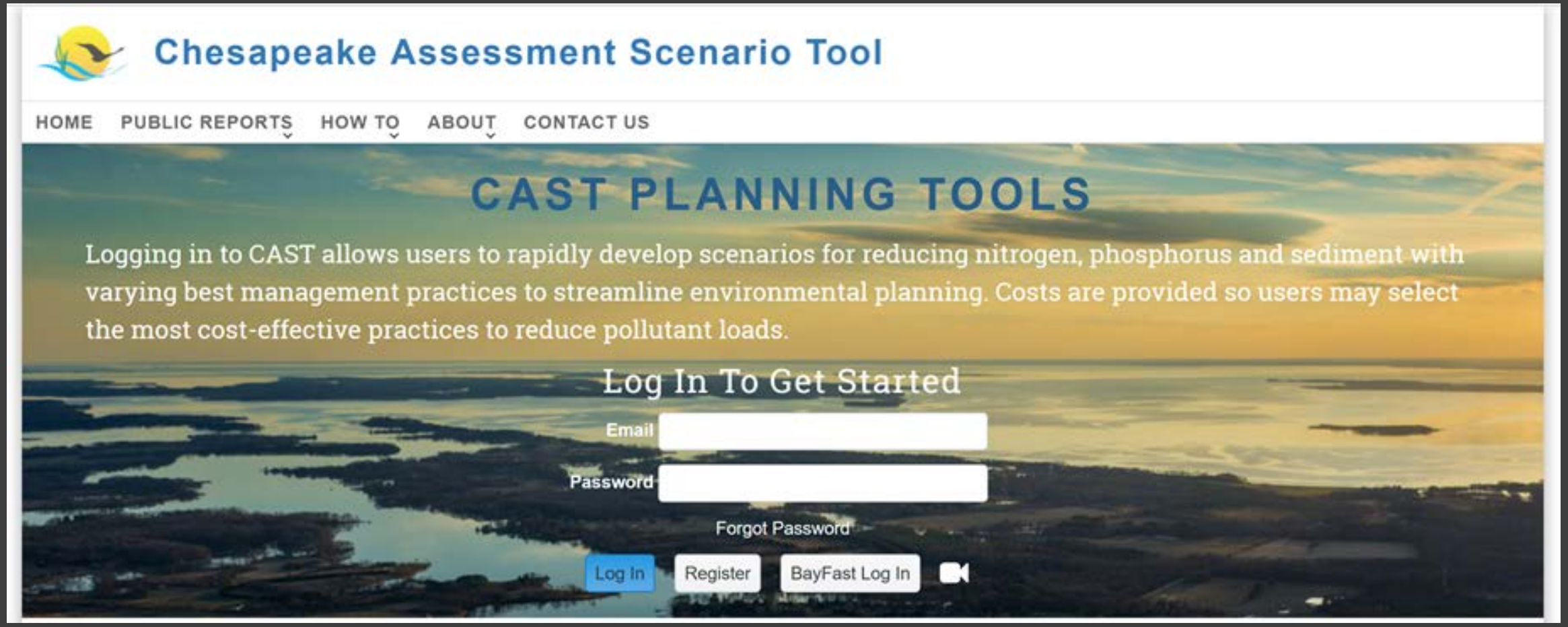
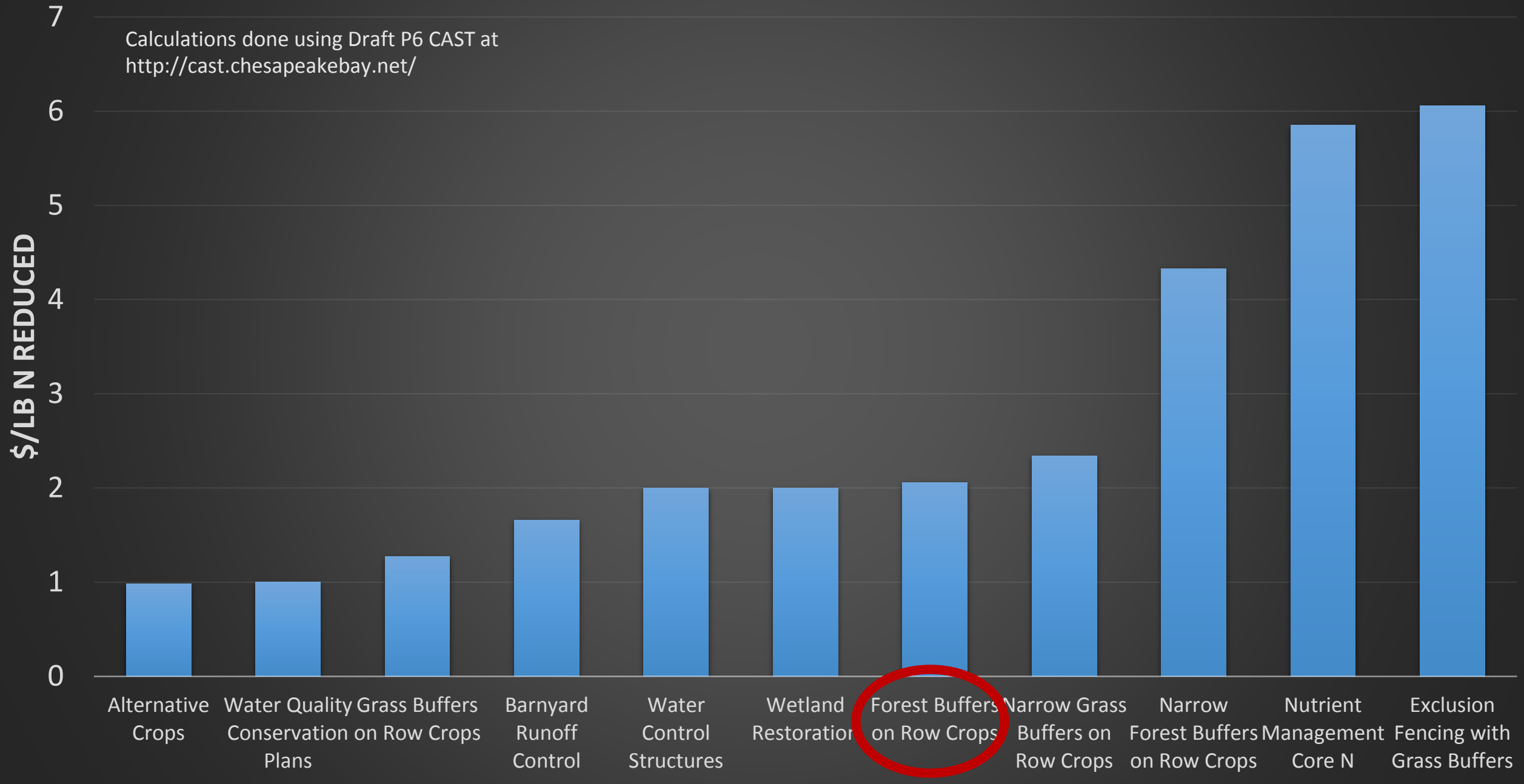
# CAST

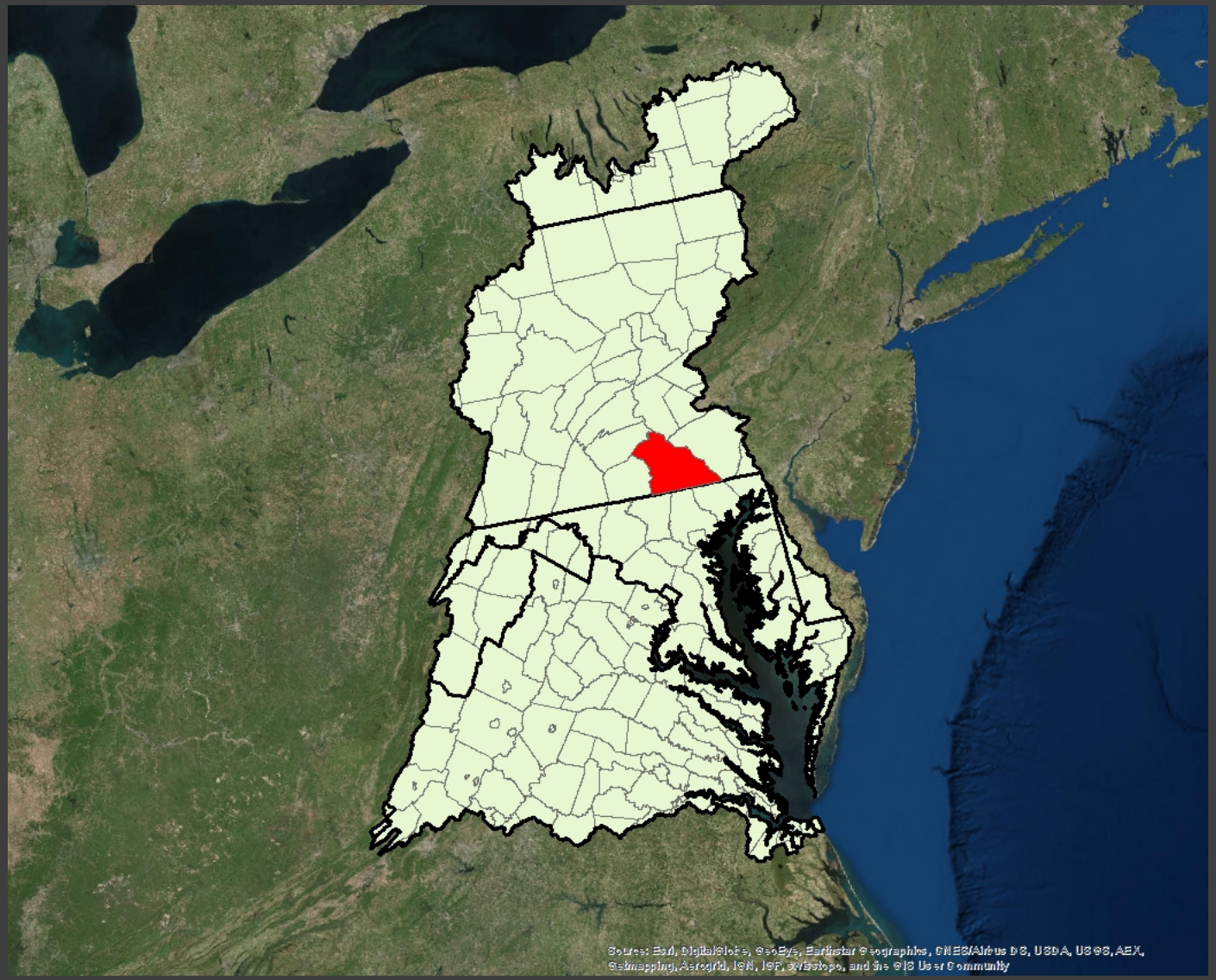



**http://cast.chesapeakebay.net/**

# Most Cost-Effective Practices to Reduce N to Bay



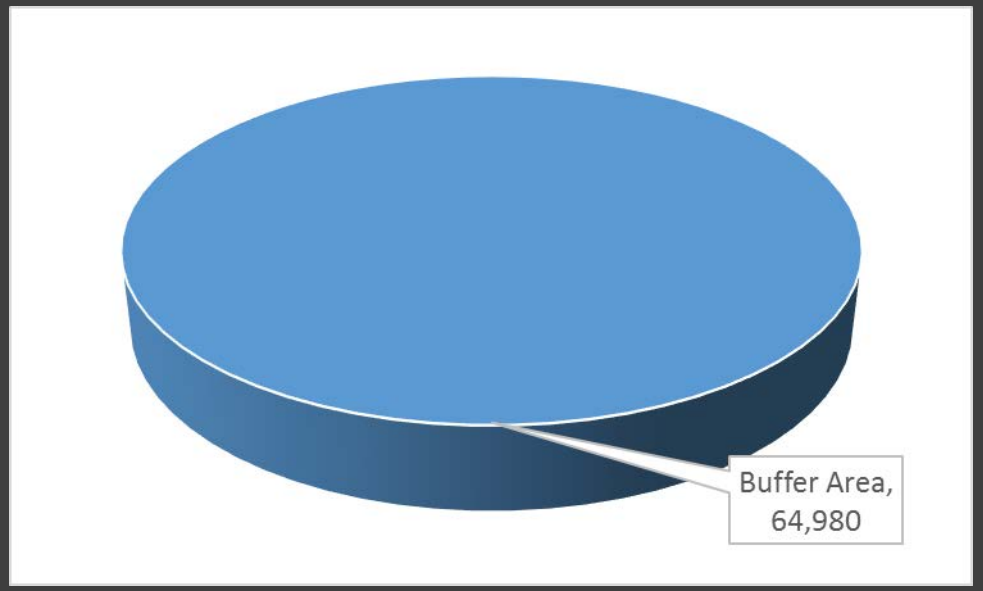
# York County Agricultural Forest Buffers Example




- Need to know:
  - How many acres are available?
  - Where can buffers be sited?
  - How much will it cost?
  - What will we get for investment?

All maps courtesy of Lindsey Gordon, Chesapeake Research Consortium

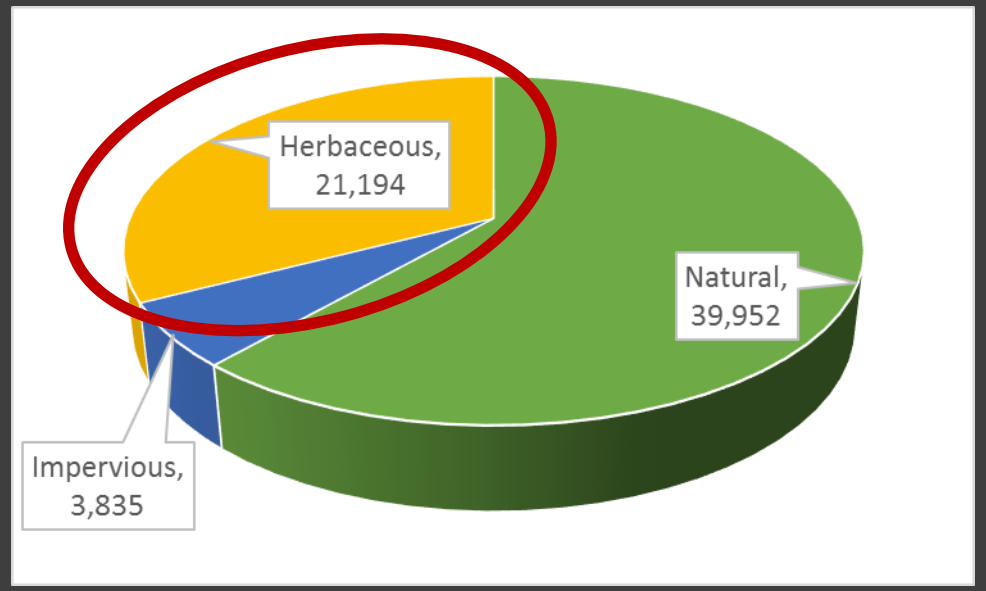
# How many acres are available?




- There are about 65,000 acres of “buffer area” within 30 meters (approx. 100 ft) of stream.

All maps courtesy of Lindsey Gordon, Chesapeake Research Consortium

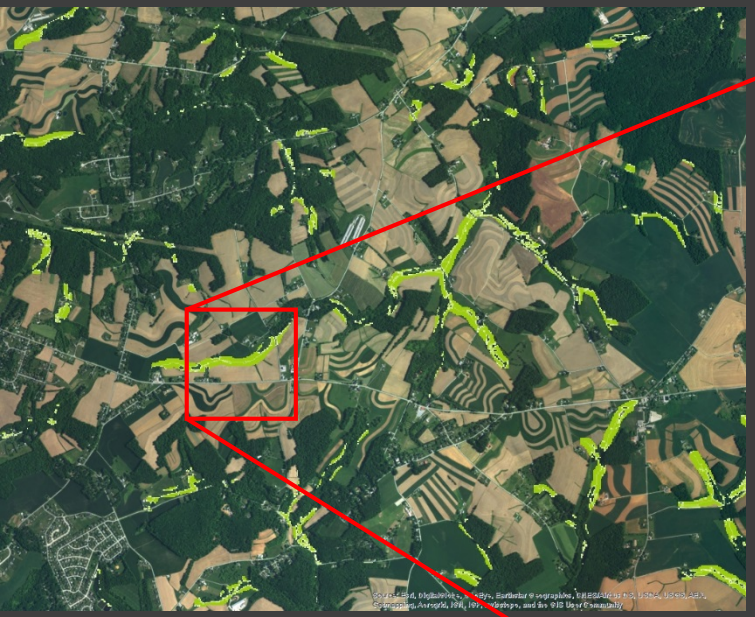
# How many acres are available?




- There are about 21,000 acres of “unbuffered” herbaceous (ag) land within 30 meters (approx. 100 ft) of stream.

All maps courtesy of Lindsey Gordon, Chesapeake Research Consortium

# Where can buffers be sited?



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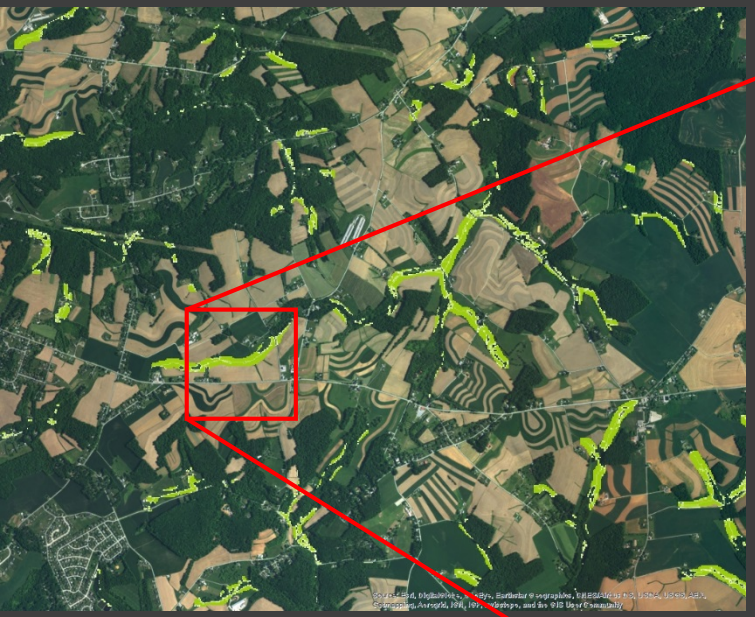
# Where can buffers be sited?



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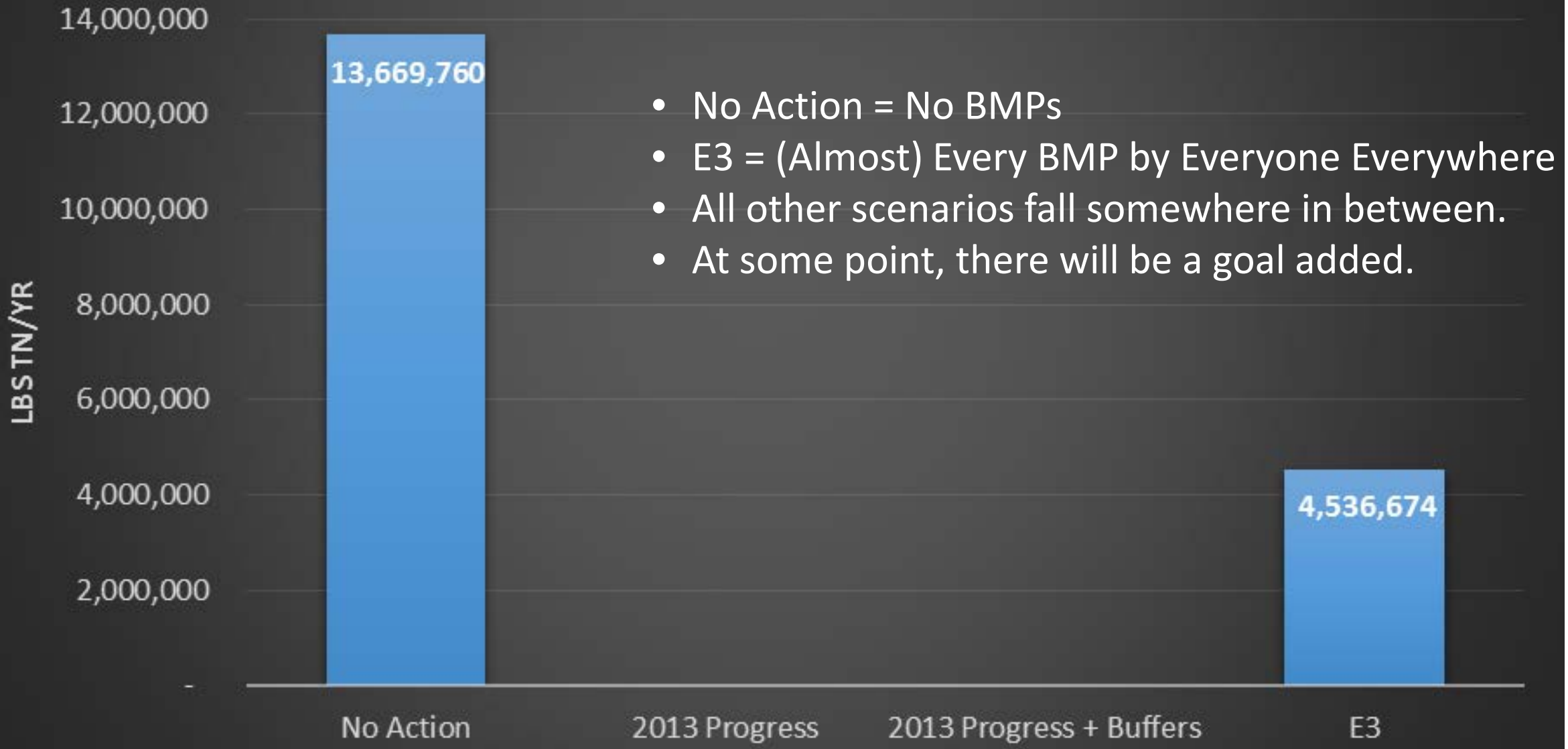
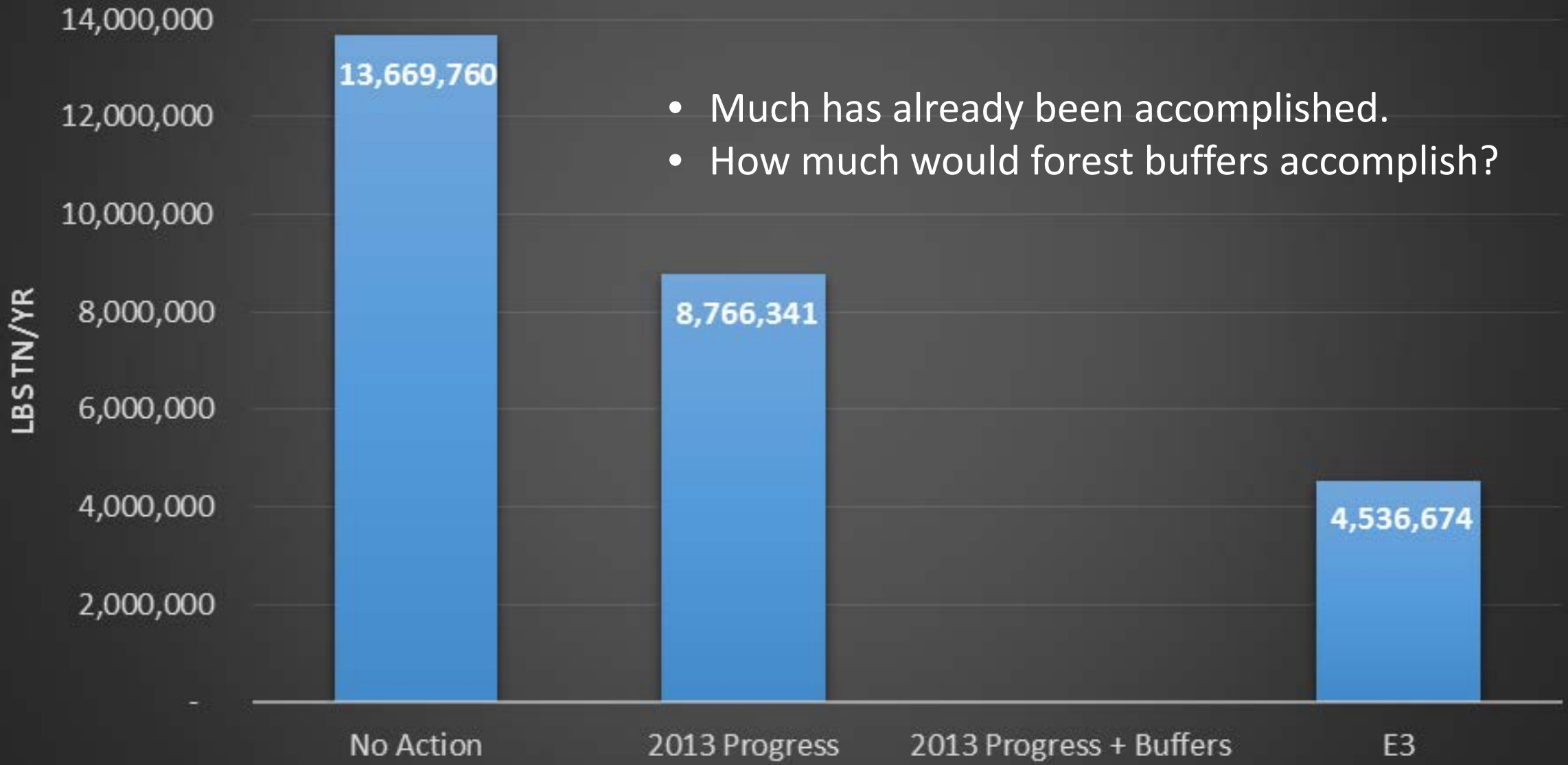
# Annual Lbs Nitrogen Delivered to Chesapeake Bay from York County



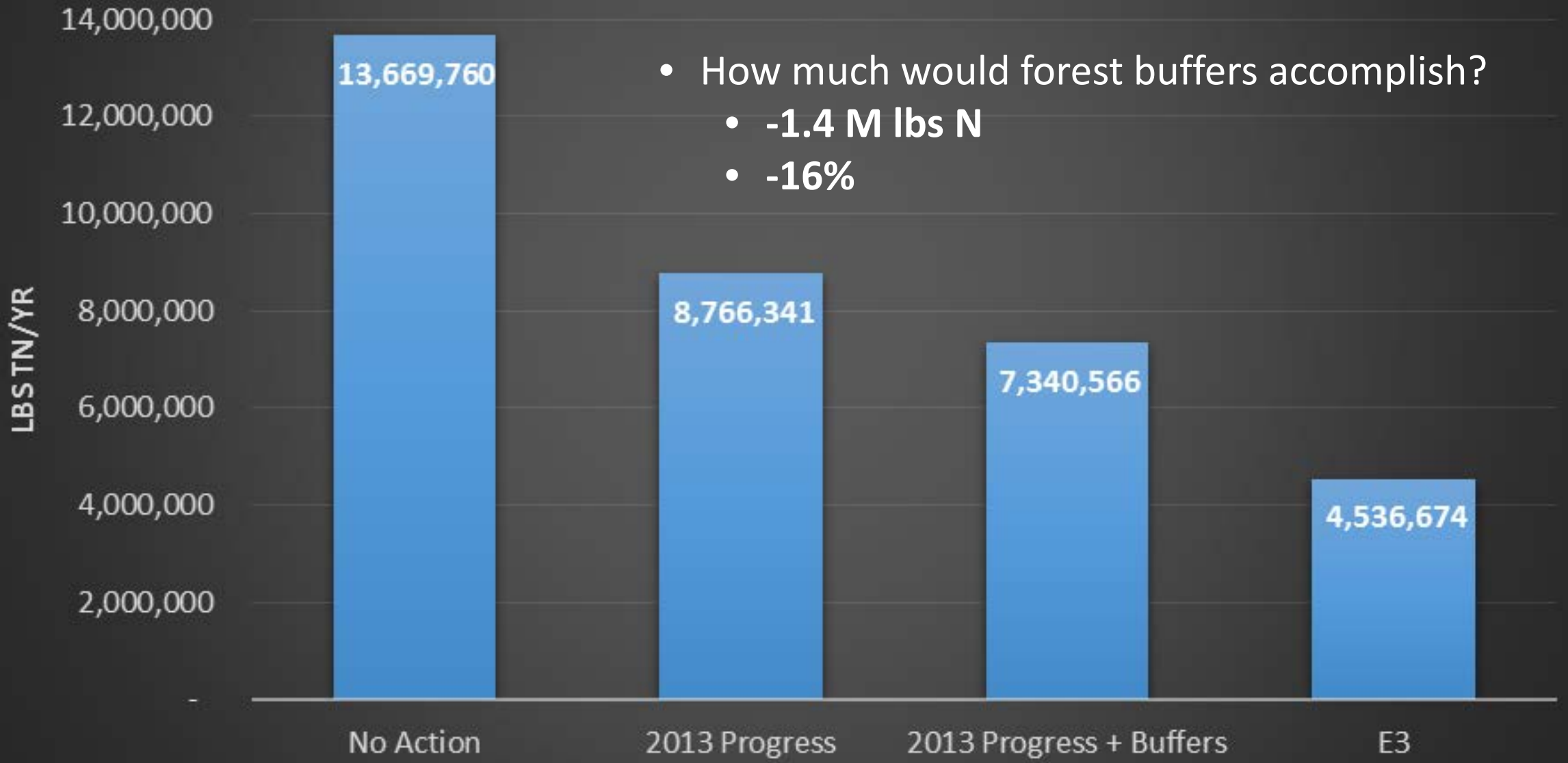

- No Action = No BMPs
- E3 = (Almost) Every BMP by Everyone Everywhere
- All other scenarios fall somewhere in between.
- At some point, there will be a goal added.

# Annual Lbs Nitrogen Delivered to Chesapeake Bay from York County




- Much has already been accomplished.
- How much would forest buffers accomplish?

# Annual Lbs Nitrogen Delivered to Chesapeake Bay from York County




- How much would forest buffers accomplish?
  - **-1.4 M lbs N**
  - **-16%**

# Costs

- CAST provides users with a cost breakdown of each practice.
- Users can create their own cost profiles to update costs based on local information.
- Current PA Forest Buffer Costs:
  - Capital Costs: $2,929.92/Acre
  - Total Annual Costs: $157.35
    - Total annual costs include capital, O and M and opportunity costs, and are broken out over the lifespan of the practice with an economic discount rate applied.
    - Details available at: http://cast.chesapeakebay.net/Documentation/BMPsModelsGeography
- Estimated Project Costs:
  - 21,000 Acres of Forest Buffers
  - Capital: $62 M
  - Annual: $3.3 M or $2.36/Lb N Reduced

# Summary

- High resolution land use analyses are available to provide stakeholders with information about where buffers do not exist.
- Potential reductions and costs can be developed for any geographic area.
- CAST is available for use by all stakeholders for free, and will provide the exact same results as the Phase 6 Partnership Model.
- CBPO support staff are ready to assist stakeholders in developing feasible scenarios to help advance implementation.