
Natural
Lands
land for life. nature for all.

Brandywine-Christina Cluster

➢ Cluster Team Partners:

- ✓ Brandywine Conservancy
- ✓ Brandywine Valley Association
- ✓ Natural Lands Trust
- ✓ Stroud Water Research Center
- ✓ The Nature Conservancy in Delaware
- ✓ Water Resources Agency – Univ. of Delaware

➢ Advisory Committee

➢ Stakeholders

GREAT SCIENCE

Healthy

streams are wider, shallower.

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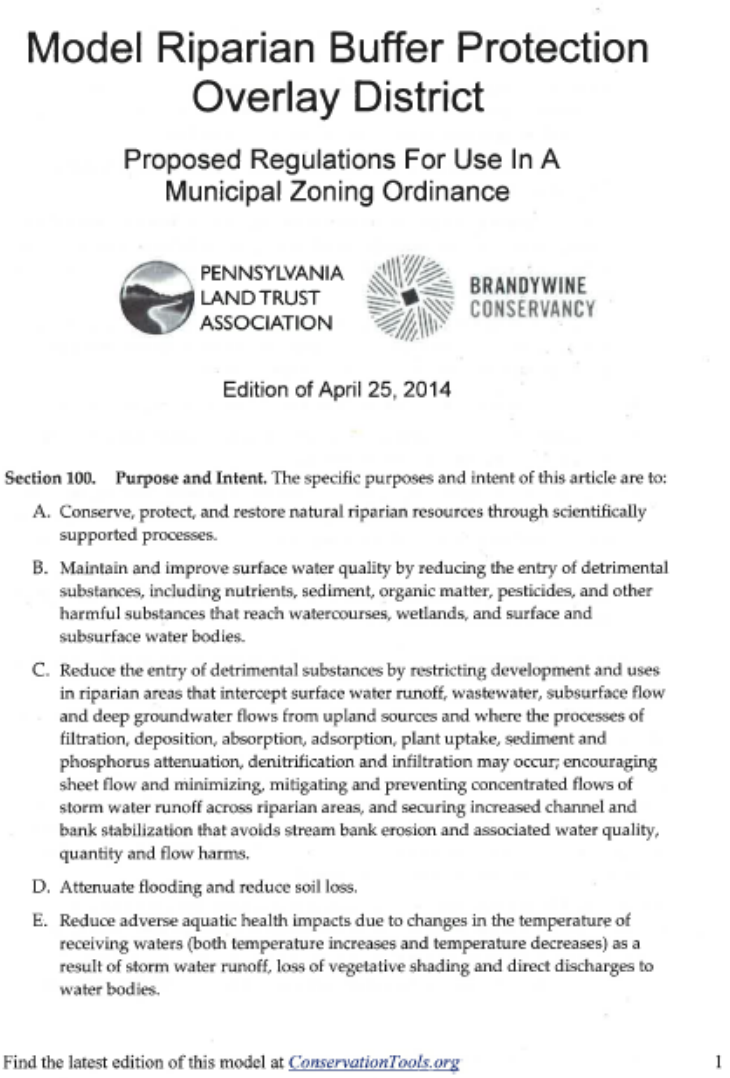
Model Ordinance:

- 100 foot forested buffer
- Restoration, in addition
- to setback



Model Riparian Buffer Protection Overlay District

Proposed Regulations For Use In A Municipal Zoning Ordinance

PENNSYLVANIA LAND TRUST ASSOCIATION

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Edition of April 25, 2014

Section 100. Purpose and Intent. The specific purposes and intent of this article are to:

A. Conserve, protect, and restore natural riparian resources through scientifically supported processes.

B. Maintain and improve surface water quality by reducing the entry of detrimental substances, including nutrients, sediment, organic matter, pesticides, and other harmful substances that reach watercourses, wetlands, and surface and subsurface water bodies.

C. Reduce the entry of detrimental substances by restricting development and uses in riparian areas that intercept surface water runoff, wastewater, subsurface flow and deep groundwater flows from upland sources and where the processes of filtration, deposition, absorption, adsorption, plant uptake, sediment and phosphorus attenuation, denitrification and infiltration may occur; encouraging sheet flow and minimizing, mitigating and preventing concentrated flows of storm water runoff across riparian areas, and securing increased channel and bank stabilization that avoids stream bank erosion and associated water quality, quantity and flow harms.

D. Attenuate flooding and reduce soil loss.

E. Reduce adverse aquatic health impacts due to changes in the temperature of receiving waters (both temperature increases and temperature decreases) as a result of storm water runoff, loss of vegetative shading and direct discharges to water bodies.

Find the latest edition of this model at *ConservationTools.org*

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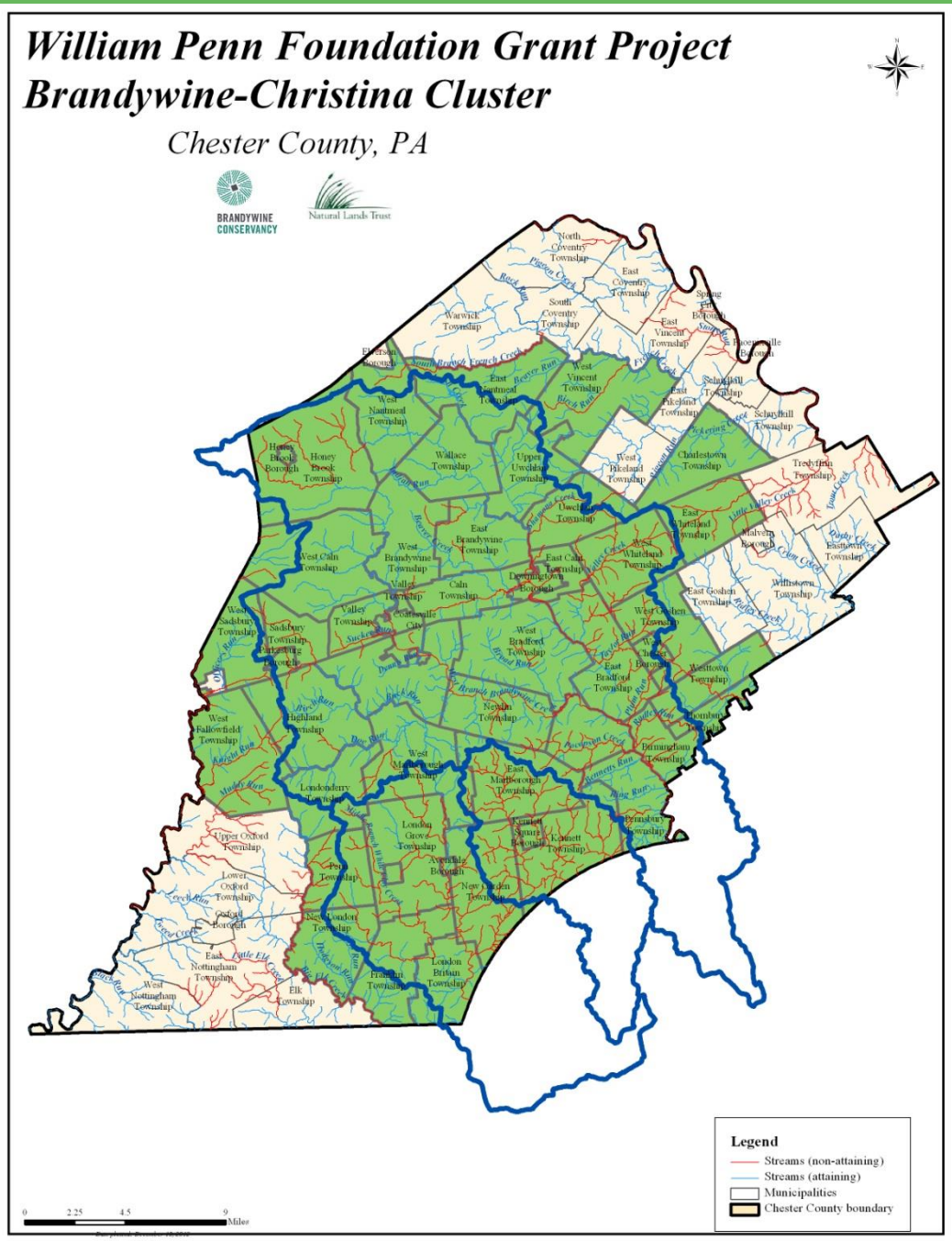
WPF Cluster Project Area

Initial Outreach:

- Breakfast meeting - all Chester County municipalities in the Brandywine Christina Cluster



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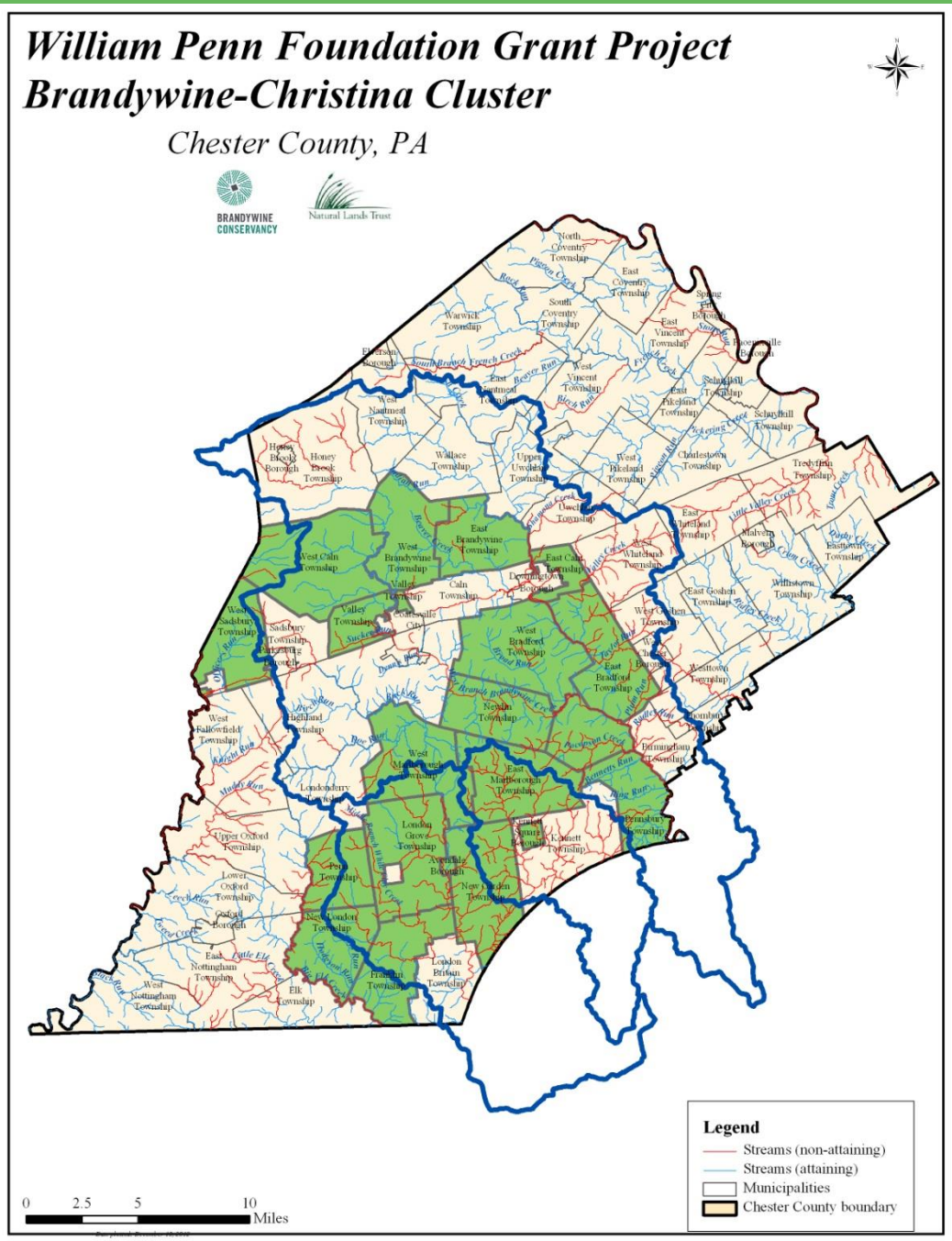
Additional Municipal Outreach

- Letters/mailings
- Info Flyers
- Phone calls
- Presentations
  - Board of Supervisors
  - Planning Commissions



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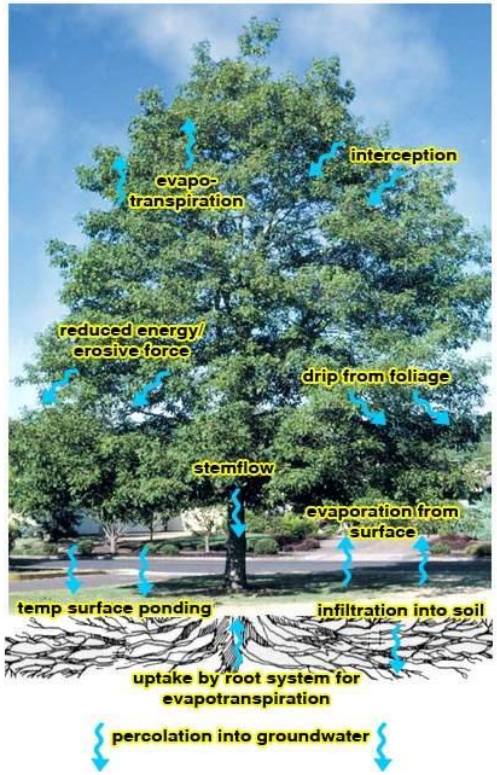
William Penn Foundation Project Process

- Step 1
  - Review/assess existing municipal buffer regulations: confirm need
- Step 2
  - Brandywine Cconsrvancy and Natural Lands work with Township to integrate new ordinance
- Step 3
  - Adopt new forested riparian buffer ordinance

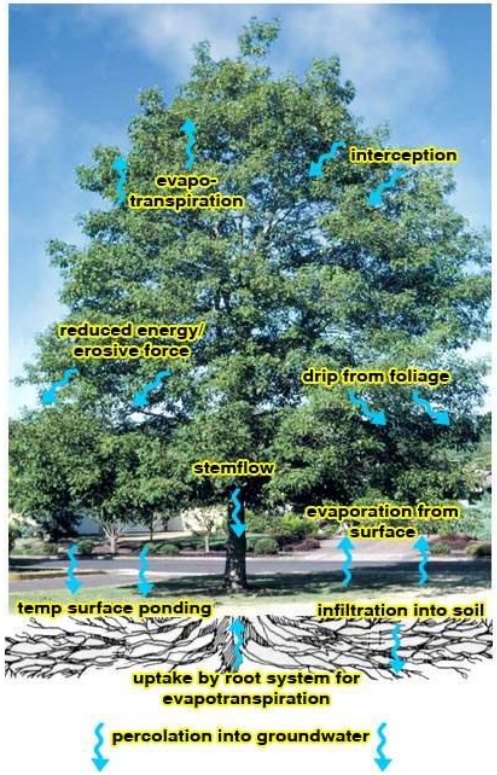
- Subsidize municipal costs, including free assessment

Trees as the Best Management Practices



Livestock herd health improvements – less bacteria, fewer black flies.

Trees as the Best Management Practices



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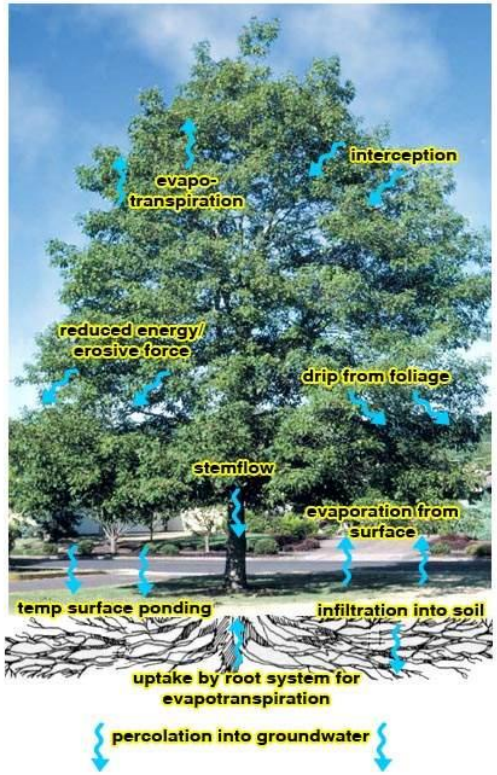
Critical for keeping pollutants and excess sediment out and improving water quality health -

Fives times better than unforested buffers at processing organic matter, nitrogen, etc.

Trees as the Best Management Practices



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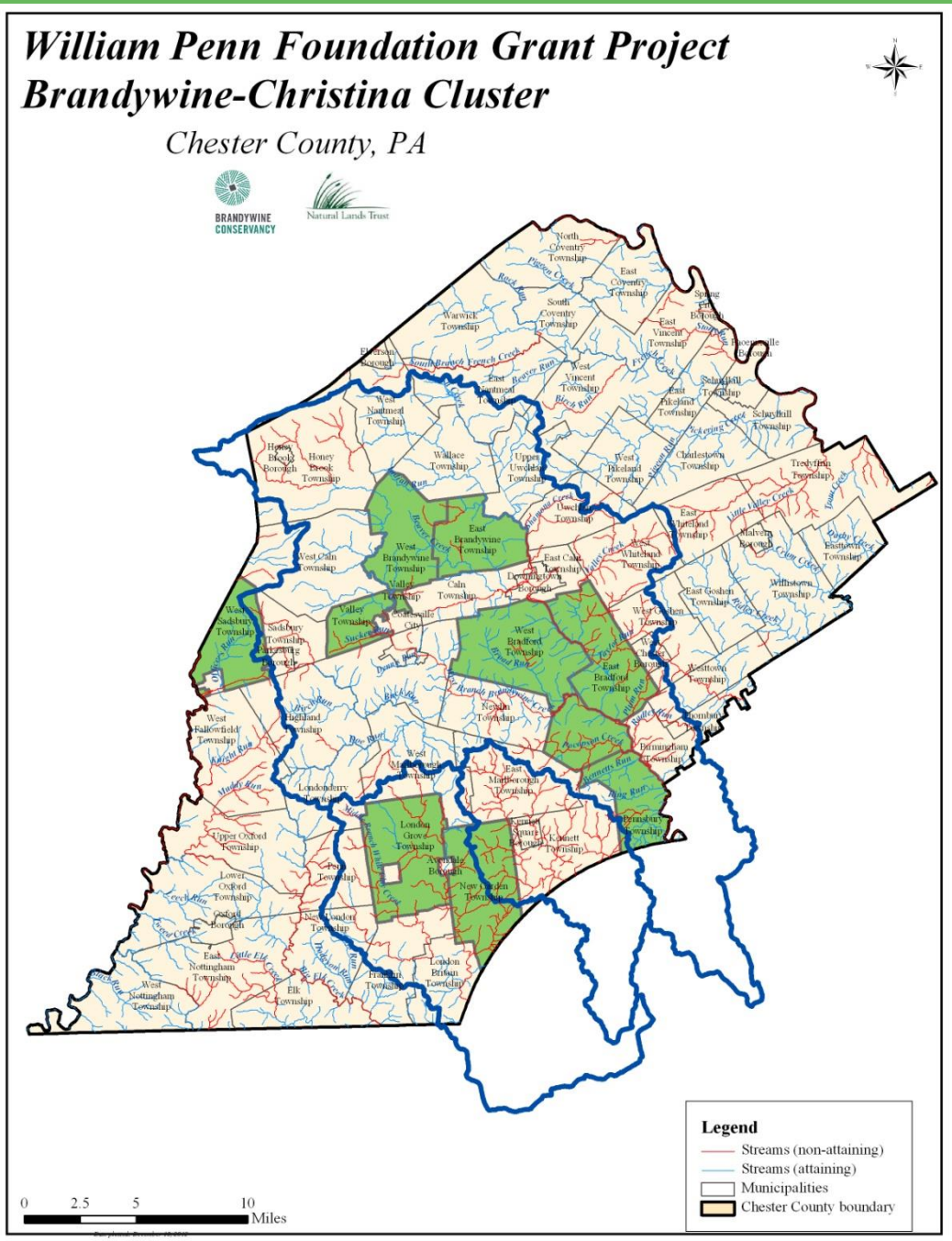
100 ft+ needed to adequately protect water quality and habitat in most watersheds.

- 30 ft = ~ 65% sediment removal, <u>but</u> limited removal of fine silts and clays.
- 100ft = ~ 85% sediment removal, additional 20% is mostly fine silts and clays.
- 100 ft maintains water temperatures within 2˚ for 60 ft – important for aquatic species.
- 120 ft removes 89% of nitrogen.

10 Municipalities for Assessments

Summary of Assessment Findings:

- General buffer widths
- Wetland margins
- Restoration requirements
- Covenants/ management plans



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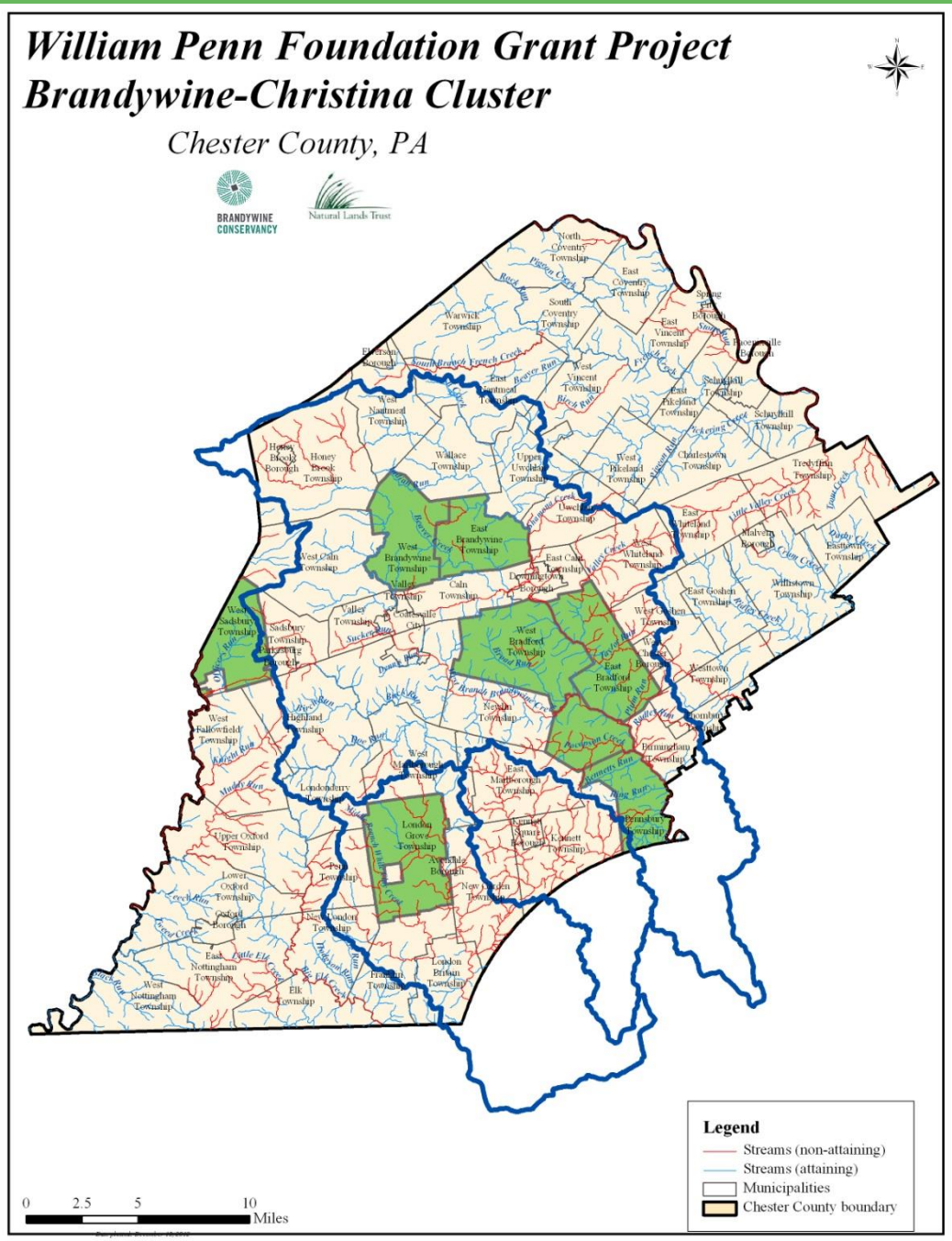
Potential Riparian Buffer Ordinance Adoption

7 potential adoptions



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Future Work 2/2018 – 2/2021

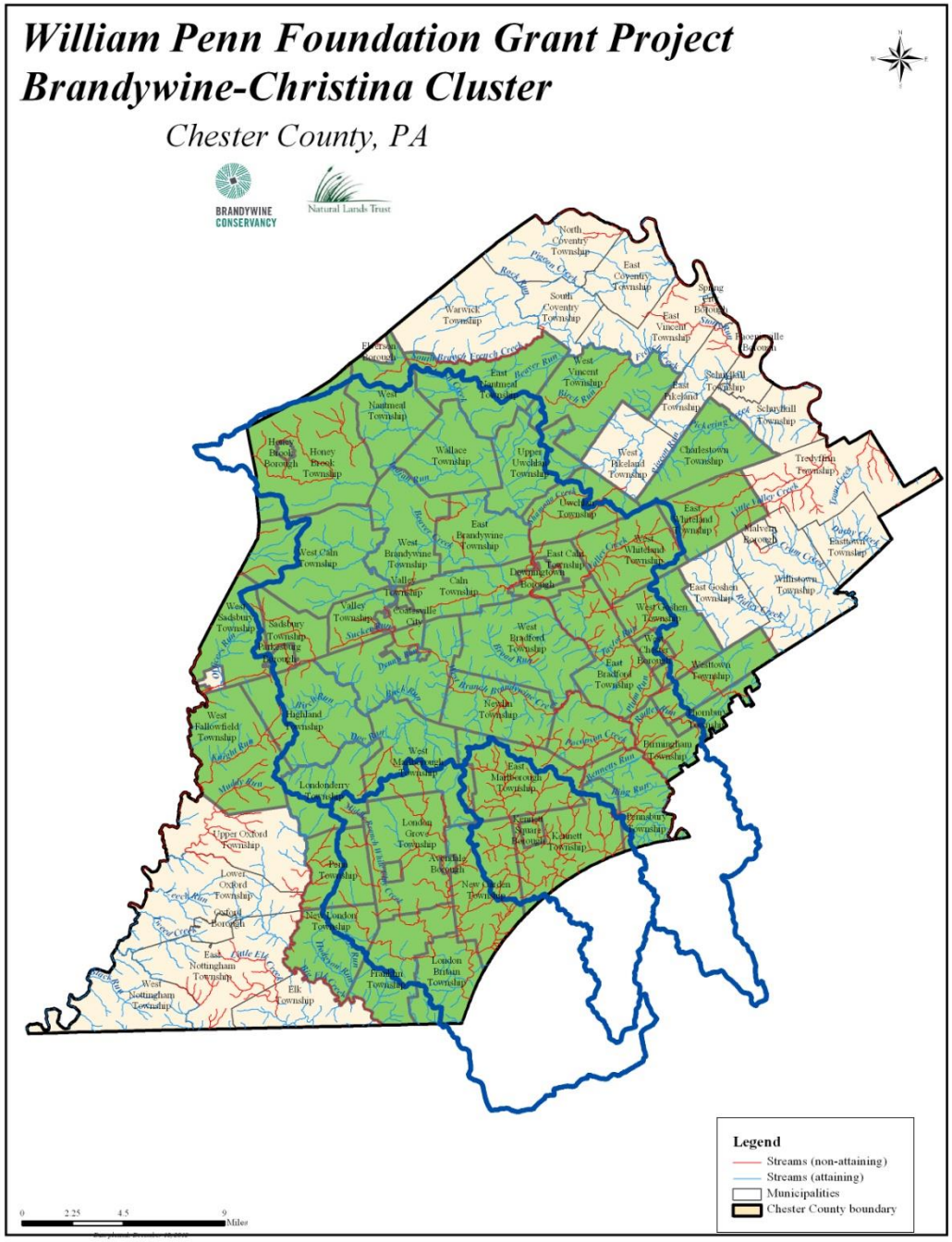
-Riparian buffer ords

-Open space plans

-Design of Green SW Infrastructure

-Commercial “greening” ords

-MS4 Polluntant Reduction plans



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thank you.
Natural
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meetup