





# THE BRANDYWINE-CHRISTINA HEALTHY WATER FUND

An Innovative Self-Sustaining Revolving Fund to Catalyze Farm-Based Conservation



REVOLVING WATER FUND

May 2018 Clean Water Conference

IN PARTNERSHIP WITH:















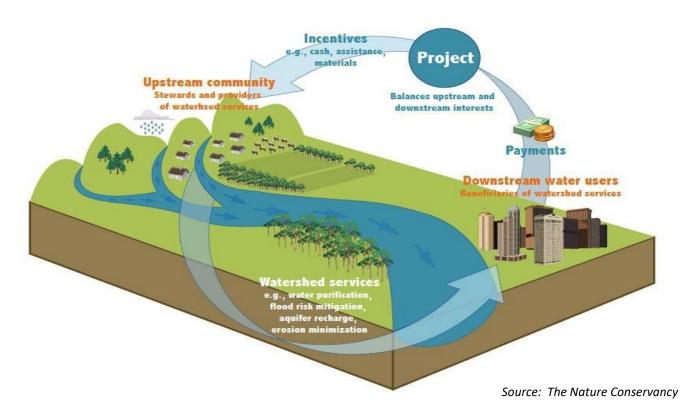








#### What is a Water Fund?



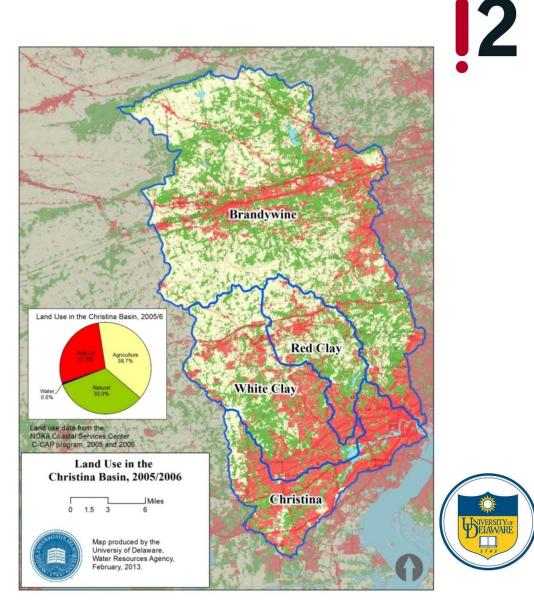
- Traditional Water Fund model developed in Latin America to align stakeholders and maximize environmental returns by driving upstream interventions.
- 34 water funds in operation globally + 30 under development; 8 in operation in North America + 10 under development. BCHWF only revolving-fund model in development.



### Applying the Water Fund Model to the Brandywine-Christina

- 565 square miles across PA and DE.
- From Amish dairy and produce farms to I-95 urbanized corridor.
- Highly productive small farms in major-metro food-shed with historical significance (founding farmers).
- Drinking water for 600,000 people

   six surface withdrawals.
- Majority of watershed "impaired" under CWA: TMDL and MS4s.
- Agricultural lands offer highest pollution reductions at lowest cost.





# The Solution: A Revolving Water Fund Model

• Funding. Coalescence of funding to • **Supply.** Installation of Ag-BMPs Supply: create, market and monetize based on potential to reduce **Agriculture BMPs** Implemented on pollution reduction units; market sediment and phosphorous from Farms mechanism creates revolving-fund. farm run-off into streams. Metric: Funding: Quantified, saleable unit of **Pooled Funding** pollution Vehicle reduction (EIU) REVOLVING WATER FUND **Demand:** Quantification and **Metric.** Computation of pollutant • Demand: ٠ alignment of municipal demand reductions from Ag-BMPs; Municipalities for regulatory for pollution reduction units to alignment with MS4 regulatory approvals; water achieve regulatory compliance; requirements to achieve co.s for cost savings water company demand. compliance with TMDL plans.



# Water Fund + Conservation Innovation Grant Teams



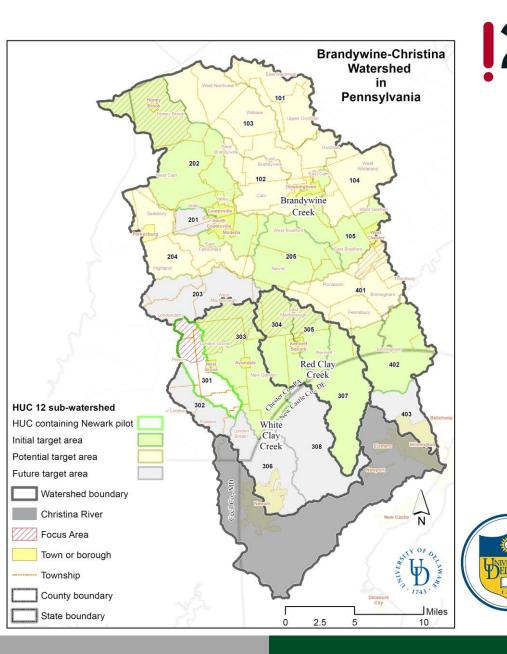
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Conservation Conservation Conservation Conservation **Demand / Regulatory Metrics & Evaluation** Supply Finance Jeffrey Larson **Richie Jones** Jenny Egan Evan Branosky The Nature W Environmental Incentives The Nature W The Nature Conservancy John Jackson Naomi Young Ashley Allen BRANDYWINE CONSERVANCY TROUD The Nature Conservancy WATER RESEARCH CENTE **Brandywine Red Clay Alliance Eric Letsinger** Jonathan Stearns Callan Walsh hed Conservation | Environmental Education 2 12 Quantified Ventures VATER RESEARCH CENTER Matt McKenna **Rob Wallace** McDonough School of Business **PROJECT TEAM** 



Connecting Supply and Demand:

- 22 PA munis with public works budgets > \$1 million
- Initially targeting 13 munis with most agricultural lands in HUC 12
- 2% public works budgets = \$1.4 million per year
- Projected savings to water suppliers = \$2.5 million/yr.
- EIUs standardize units of pollution reductions
- PA and DE regulators have been receptive to concept
- William Penn Focus Areas
   overlap
- Newark is first pilot

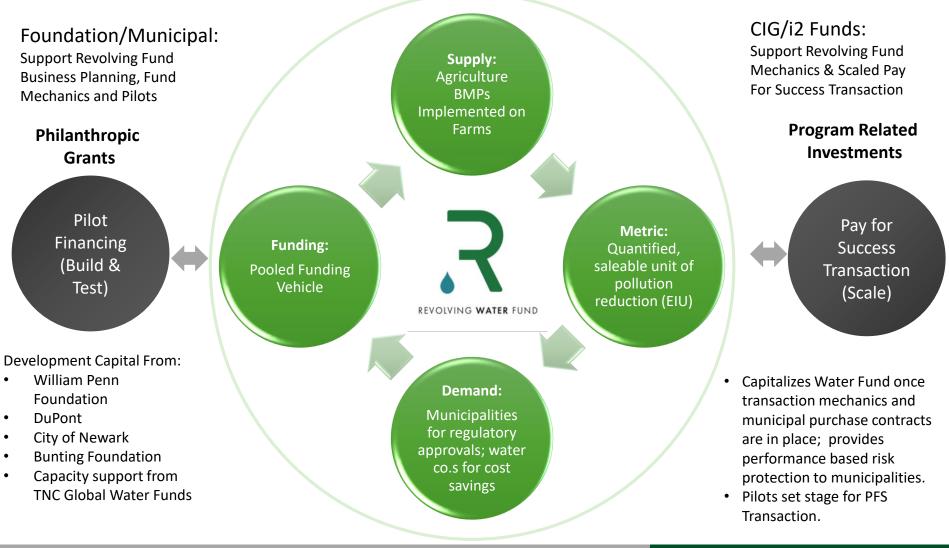


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### **Revolving Water Fund Conservation Finance**





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