

Crediting Protocol

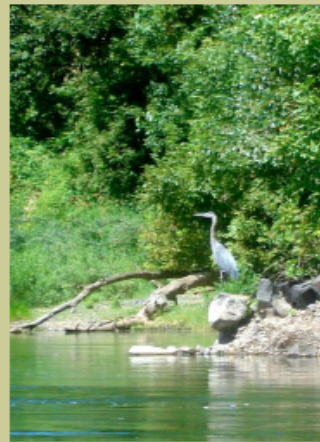
• *Standards, Metrics, and Process*



Ecosystem Credit Accounting

Pilot General Crediting Protocol:
Willamette Basin Version 1.0

September 1, 2009



Credit types

Wetland

Salmonid habitat

Upland prairie habitat

Water temperature

Water nutrients

Coming soon

Oak habitat

Floodplain habitat

Sagebrush habitat

Benefits of flow



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Ecosystem Services for Biodiversity

Project developer buys credits in exchange
for increased regulatory predictability



Incentive: Proactive
environmental risk
management



Conservation credits
for candidate
species



Incentive: Financial payments
for biodiversity outcomes

Landowner creates and sells credits through
land management practices



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Habitat Crediting for the Gopher Tortoise and Longleaf Ecosystem



Supply



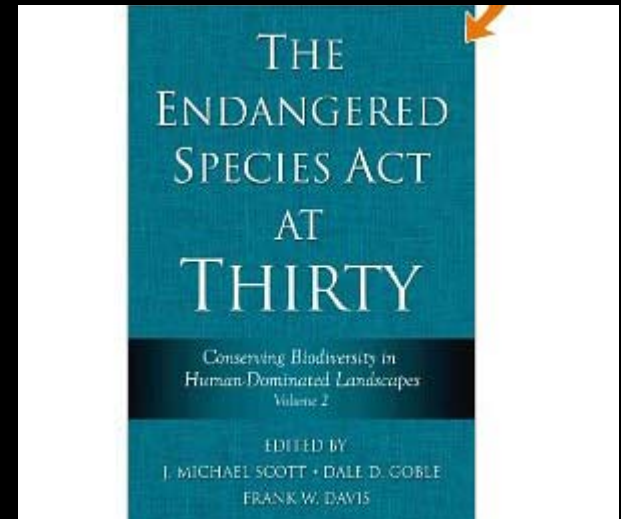
Demand



Infrastructure

5 benefits to pre-listing conservation program

- Incentives to act early - reduce cost and difficulty
- Improved habitat management, critical but not required for non-federal landowners
- Outcomes evaluated prior to impacts occurring
- Reduce and/or preclude need to list
- Mobilize new resources for conservation on private lands



Regulatory predictability is key

So is an anchor buyer



Demand



WAL★MART



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Supply - Landowner Eligibility

- Priority location
- Conservation easement
- Certified management plan consistent with program requirements
- Non-wasting endowment to cover management costs for the long-term
- Minimum 200 acres (aggregation encouraged)



*Buyers and sellers can have
different preferences*



Landowner Preference – Choice Model Survey

If given the opportunity to participate in a program where you maintain/restore gopher tortoise habitat and sell the “credits” generated on your land, which of these two agreements would you prefer (Program A, Program B, or Neither Program)?

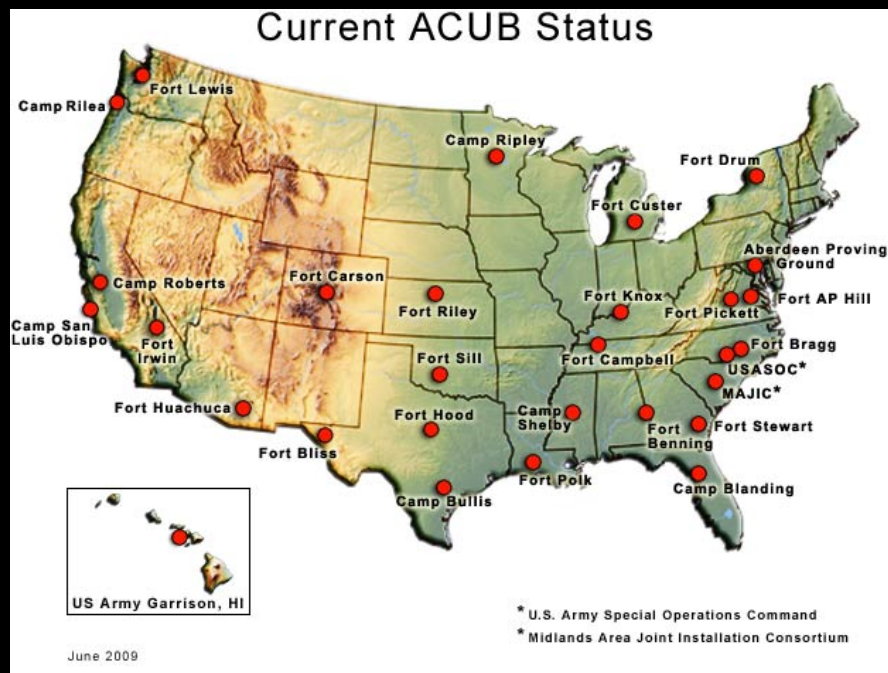
	<u>Program A</u>	<u>Program B</u>	<u>Neither</u>
Conservation Easement	Purchased permanent easement	Donated permanent easement	
Contract Length	10 years	70 years	
Profit Margin	\$100 per credit	\$400 per credit	
Payment Structure	75% paid upfront & 25% paid in year 5	50% paid upfront & 50% paid in year 5	
Administration Level	You have complete responsibility for land management decisions	You have complete responsibility for land management decisions	
Obligation	Full obligation	No obligation	
Tortoise Increase	Low increase (5%)	Low increase (5%)	

From the options above, I would choose:

- ☐ Agreement A
- ☐ Agreement B
- ☐ Neither Agreement

Layered Values

*Easements focus on what landowner can't do;
Ecosystem credits on what they can...*



*Getting those who need to
say "yes" to the table at the
outset is critical*



Stakeholder Engagement - Advisory Committee

David Blalock - Army Region 4

**Roger Clay - Alabama Department of Conservation
and Natural Resources**

**Matt Elliott – Georgia Department of Natural
Resources**

Susan Gibson – Military Services

Kent Gilges – Conservation Forestry, LLC

Shauna Ginger – U.S. Fish and Wildlife Service

Rick Gooch - U.S. Fish and Wildlife Service

Craig Guyer – Auburn University

Dot Harris - Georgia NRCS

Wade Harrison - The Nature Conservancy

Michael Jennings – U.S. Fish and Wildlife Service

**John Jensen - Georgia Department of Natural
Resources**

Rhett Johnson - Longleaf Alliance

NRCS/ USDA Office of Environmental Markets

Neil Letson - Alabama Forestry Commission

John McGuire - Westervelt Ecological Services

**Jim McHugh - Alabama Wildlife & Freshwater
Fisheries**

Deblyn Mead - U.S. Fish and Wildlife Service

Steve Musser - Alabama NRCS

**Tom Ostertag - Florida Fish and Wildlife
Conservation Commission**

Will Price – Pinchot Institute for Conservation

James Remuzzi – Sustainable Solutions, LLC

Joanna Silver – Markit

Kevin Thames – U.S. Army

Aaron Valenta– U.S. Fish and Wildlife Service



*Programs must be precise enough to
ensure conservation benefits but
practical enough to work at a
meaningful scale*

*Don't let the perfect be the enemy of the
good—adaptively manage instead*



Currency: Gopher Tortoise Habitat Credits

Weighted Acres

- **Ecological Attributes**
 - Canopy composition and structure
 - Understory quality
 - Invasive control
- **Landscape Context**
 - Connectivity
 - Adjacent land use and protection
 - Proximity to impact and mitigation sites

Population

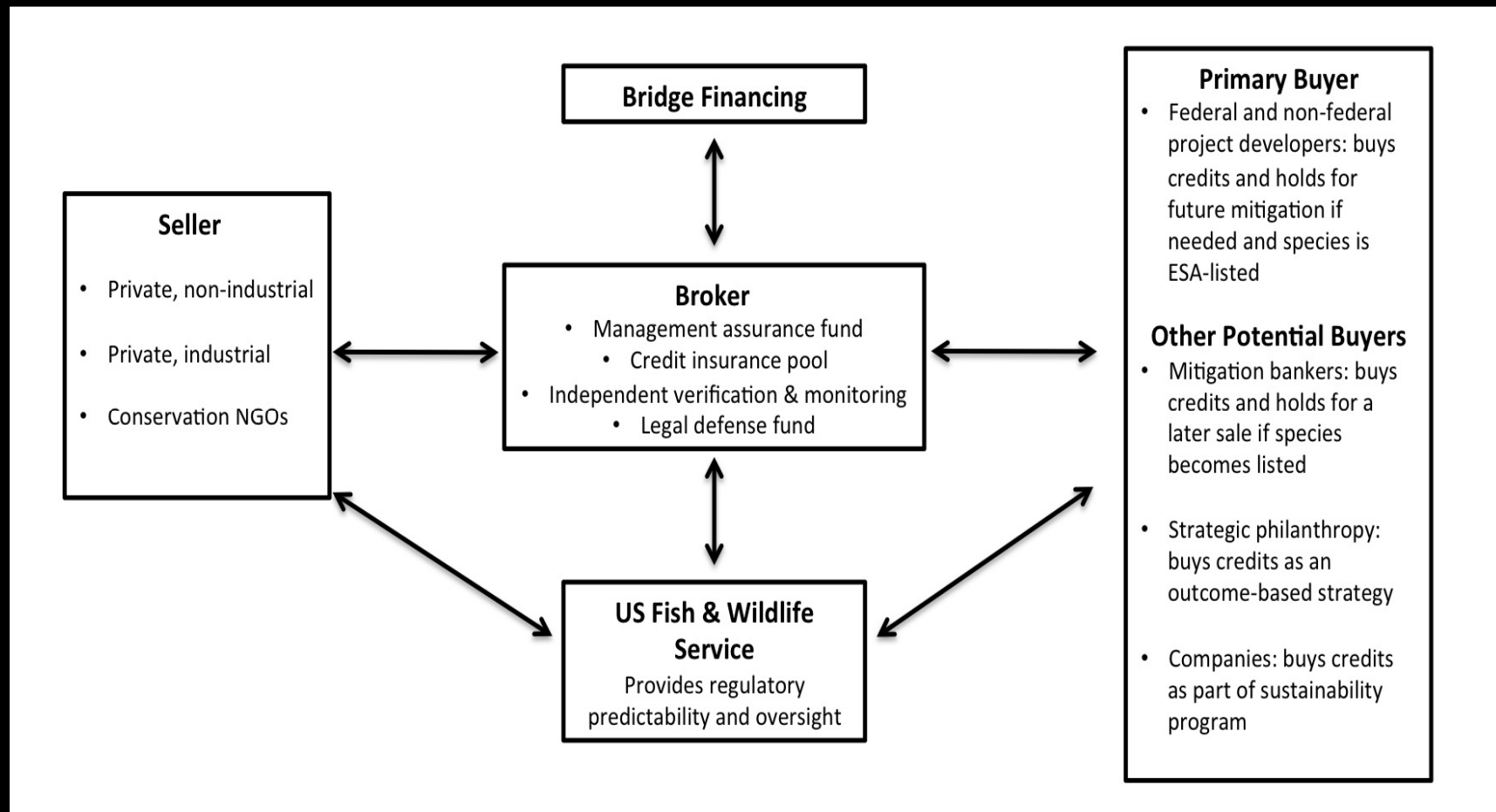
- Presence and abundance of species



*A variety of roles are needed
for program development and
operations to be successful*



Transactional Infrastructure



Credit Tracking and Accounting System:

Validate Eligibility



Calculate



Verify



Register



Track

markit[™] Biodiversity & Water Registry Public View

ACCOUNT HOLDERS		REGISTERED PROJECTS		HOLDINGS		RETIRED CREDITS	
Registry Search <input type="text"/>		Serial Number Search? <input type="text"/>		Display <input type="text"/> All categories <input type="text"/>		Page 1 <input type="text"/>	
Project Name	Project ID	Category(s)	Standard(s)	Project Type(s)	Status	Developer	Location
Rancho Vernal Pool Conservation Bank	10013	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Wildlands, Inc.	United States, California
Deadman Creek Conservation Bank	10008	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Wildlands, Inc.	United States, California
Evans Creek Instream Flow Restoration	10022	Water Quantity	BEP Flow Restoration Standard	Water Flow Restoration	Active	Bonneville Environmental Foundation	United States, Oregon
Gill Ranch Conservation Bank	10008	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Gill Ranch Conservation Bank	United States, California
Great Valley Conservation Bank	10014	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Wildlands, Inc.	United States, California
Half Mile Lane	10001	Species Habitat	COTE: Willamette: Salmonid	Salmonid	Active	Oregon Department of State Lands	United States, Oregon
		Wetland Habitat	COTE: Willamette: Wetland Habitat	Freshwater Wetland			
		Water Quality	COTE: Willamette: Water Quality (Temperature)	Freshwater Wetland			
		Wetland Habitat	COTE: Willamette: Wetland Habitat	Freshwater Wetland			
		Wetland Habitat	Oregon Wetland Regulatory (Ratio) Standard	Freshwater Wetland			
		Wetland Habitat	Oregon Wetland Regulatory (Ratio) Standard	Freshwater Wetland			
		Wetland Habitat	Oregon Wetland Regulatory (Ratio) Standard	Freshwater Wetland			
Kroyenlager Hills Conservation Bank	10009	Species Habitat	US Fish & Wildlife Service Conservation Banking	San Joaquin Kit Fox	Active	Wildlands, Inc.	United States, California
Laguna Terrace East Conservation Bank	10011	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Wildlands, Inc.	United States, California
Malibu BioBank	10002	Species Habitat	Global Biodiversity Conservation (Various)	Biodiversity & Habitat Conservation	Active	Boo Products Fund LP	Malaysia
Pickley Pear Creek Instream Flow Restoration	10005	Water Quantity	BEP Flow Restoration Standard	Water Flow Restoration	Active	Bonneville Environmental Foundation	United States, Montana
Ridge Cut Giant Garter Snake Conservation Bank	10007	Species Habitat	US Fish & Wildlife Service Conservation Banking	Giant Garter Snake	Active	Wildlands, Inc.	United States, California
Butler Basin Conservation Bank	10017	Species Habitat	US Fish & Wildlife Service Conservation Banking	Giant Garter Snake	Active	Watershed Ecological Services	United States, California
The Middle Deschutes Instream Flow Restoration	10004	Water Quantity	BEP Flow Restoration Standard	Water Flow Restoration	Active	Bonneville Environmental Foundation	United States, Oregon
Western Pioneer Schools Conservation Bank	10010	Species Habitat	US Fish & Wildlife Service Conservation Banking	Vernal Pool Preservation	Active	Wildlands, Inc.	United States, California

Please note this is not a complete listing of all Registered Projects, but only those that the account holder has requested be publicly available.

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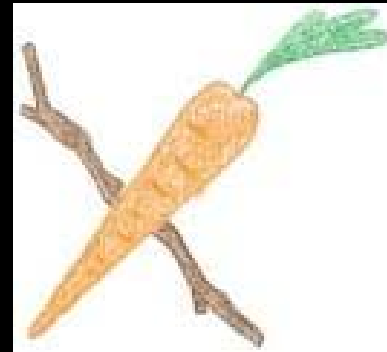
Source: Willamette Partnership, Counting on the Environment; Markit Environmental Registry



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Range of Payment Mechanisms

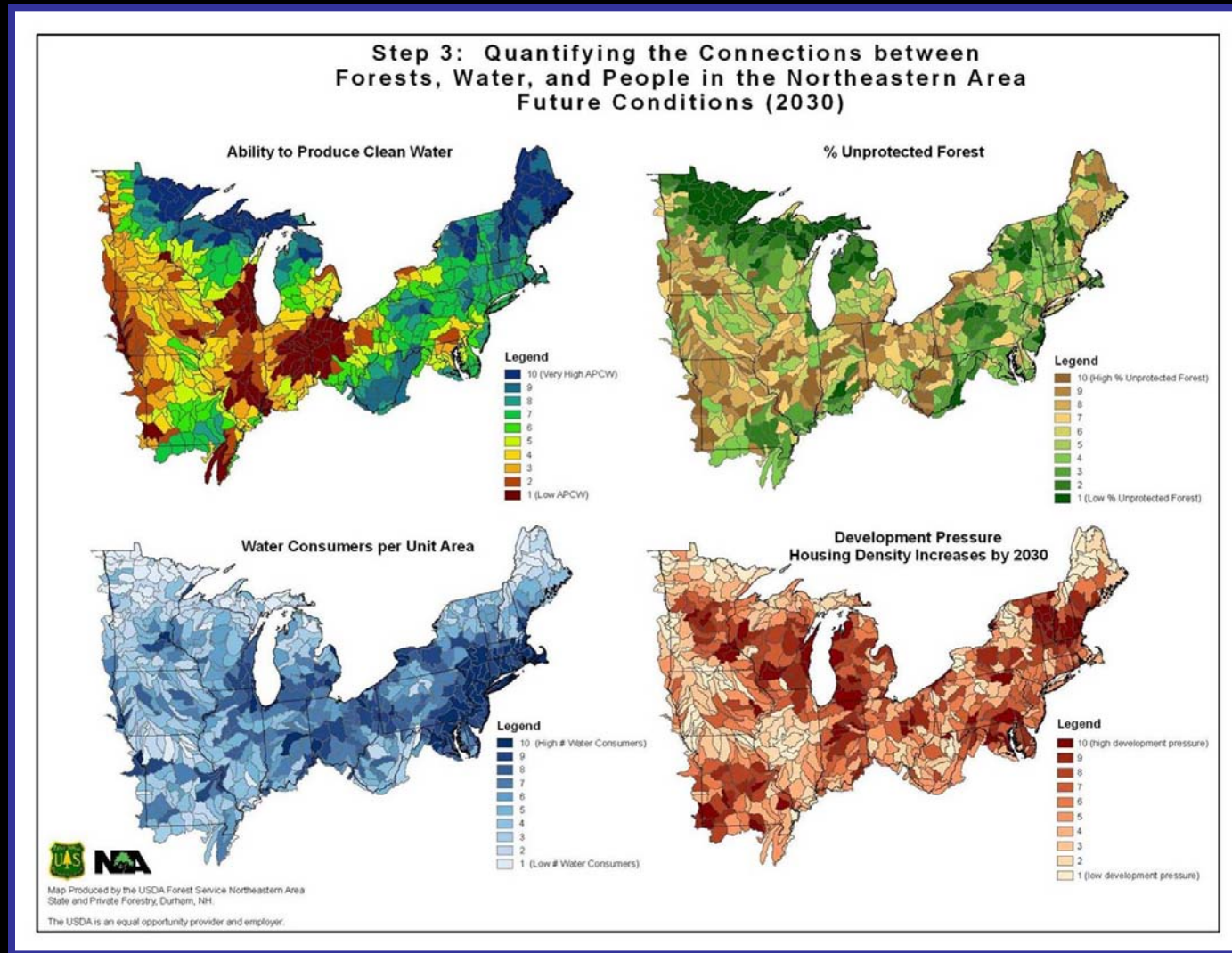
- 1. Public benefits-driven transactions
(Government or Philanthropic Payments)**
- 2. Market/Regulatory-driven transactions**
- 3. Privately negotiated business-driven transactions**



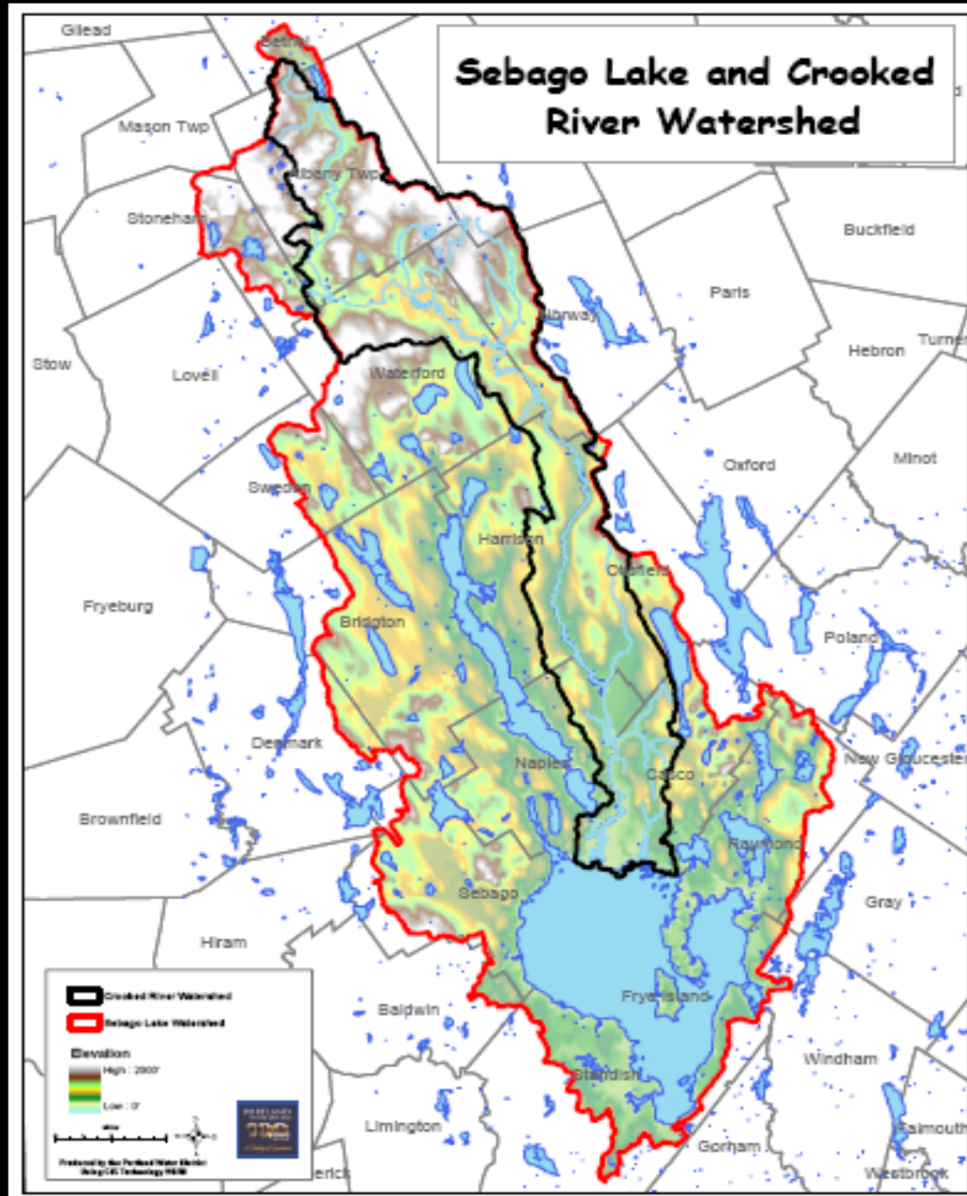
“The water we drink and utilize may be our most important connection to the land.”



GIS Threat Assessment Watershed Prioritization



Portland, Maine Watershed, USA

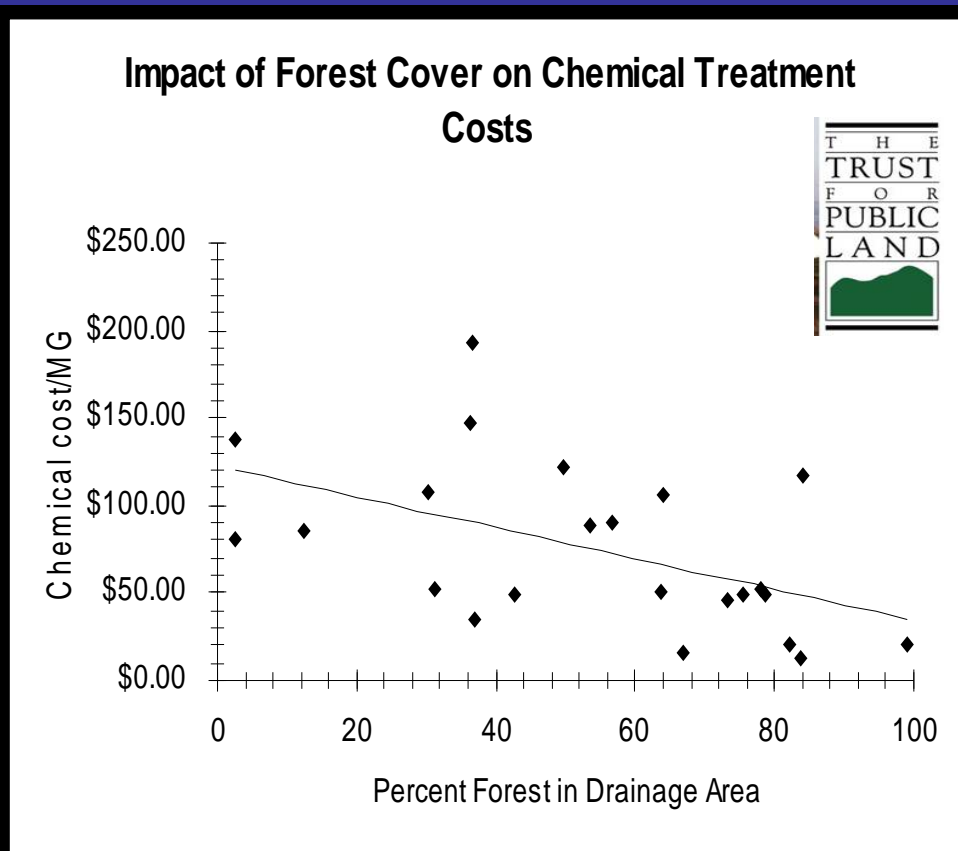


THE WESTERN
FOOTHILLS LAND TRUST



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Less Forest Cover = Higher Treatment Costs



Stakeholder Engagement – Goal Setting



Beneficiaries: Making the Business Case

Need to know:

- Who uses the water
- How they use it
- How they benefit from “clean” water
- How they fit into a broadly-defined market framework



Map and Engage Beneficiaries

First PMBus System Power Management and Protection IC



- Improves reliability
- Reduces power consumption

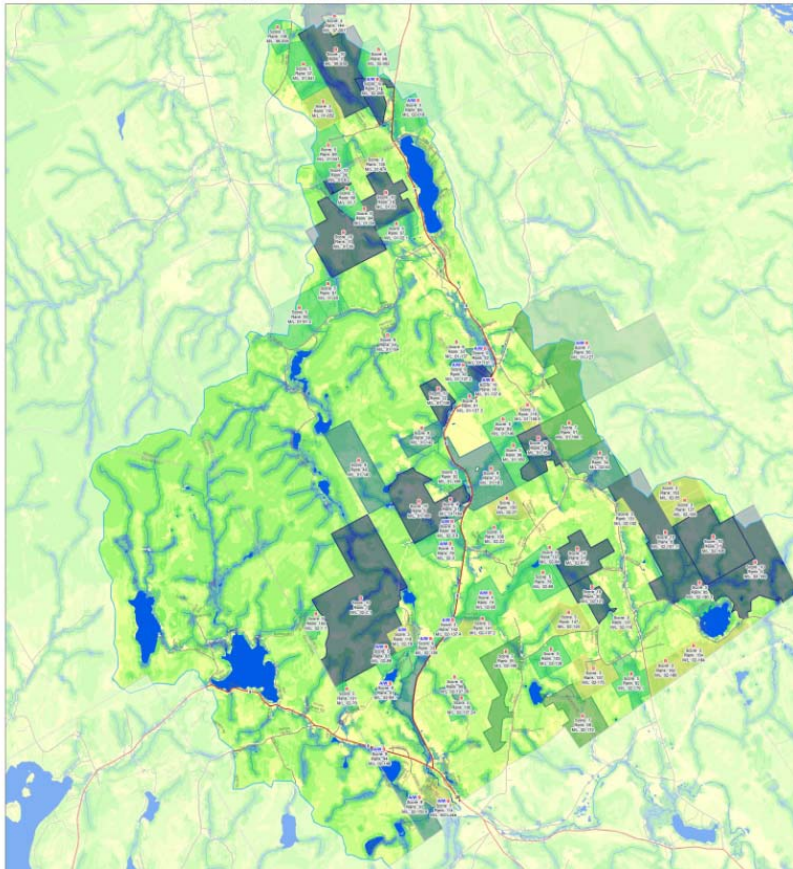


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Where should we focus our \$ and effort?

Priority Parcels for Source Water Protection

Part of the
Northern Forest Watershed Project
Albany and parts of Bethel, Mason and Stoneham



Soils (1/2 weight)	Landscape characteristic
	Land use
	Distance to streams (feet)
	Distance to ponds/wetlands (feet)
	Depth to water table
	Permeability
	Slope
	Water – Forest – Roads

Seller motivation	Percent of PWS projects	
	Primary motivation	Secondary motivation
Cash payment	41%	19%
Access to technical assistance	3%	22%
Non-cash financial benefits (e.g., increased farm yields or reduced input costs)	22%	22%
Land stewardship/ environmental ethic	28%	50%
Social/community interests	6%	0%

Increasing importance

3

2

1

Decreasing importance

0

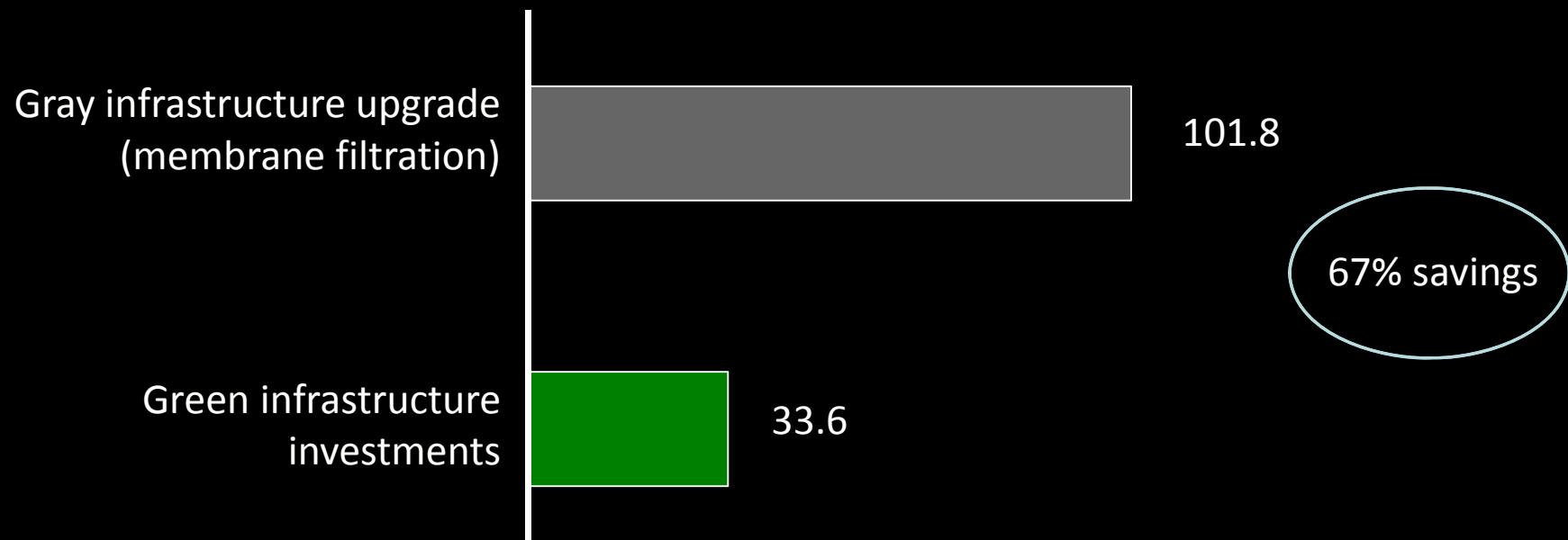
- Bill VanDoren, Craig Nicolson, and Paul Barten, Umass
- *Innovations in Market-Based Watershed Conservation in the United States: Payments for Watershed Services for Agricultural and Forest Landowners*, by T. Majanen, R. Friedman, and J. Milder (EcoAgriculture Partners, 2011).



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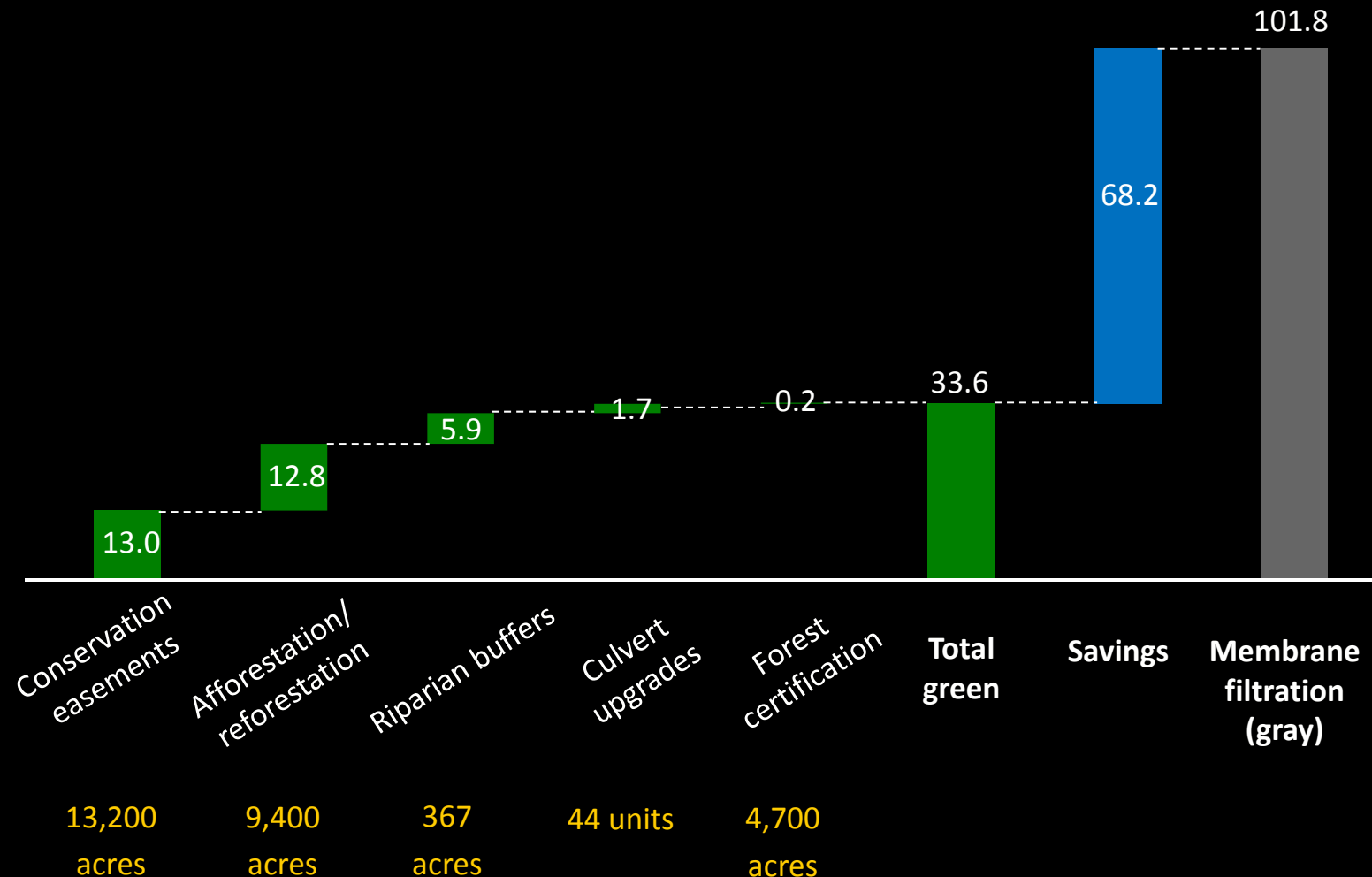
Summary financials of green vs. gray infrastructure approaches for securing clean drinking water (Portland, ME)

Present value of investments over 20 years, USD millions



Detailed financials of green vs. gray infrastructure approaches for securing clean drinking water (Portland, ME)

Present value of investments over 20 years, USD millions



Source: Talberth, J. et al. 2012. *Insights from the Field: Forests for Water*. Washington, DC: World Resources Institute



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Ancillary/Co-Benefits



- *Purchasing Credits*

- Direct negotiation
- Single-party Contract
- Reverse Auction



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Questions and Discussion



**Todd Gartner, Senior Associate,
Conservation Incentives & Markets
World Resources Institute
410-790-4070
tgartner@wri.org**



What is the Partnership Working For?

Increasing the Pace, Scope, Effectiveness of Conservation



- Investing in what Mother Nature would invest in.
- A fair and transparent way for people to **measure, track, report, buy and sell** the benefits of restoration.
- Rules and tools that make restoring things that matter a practical business decision.



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\$1 for Tap Water?





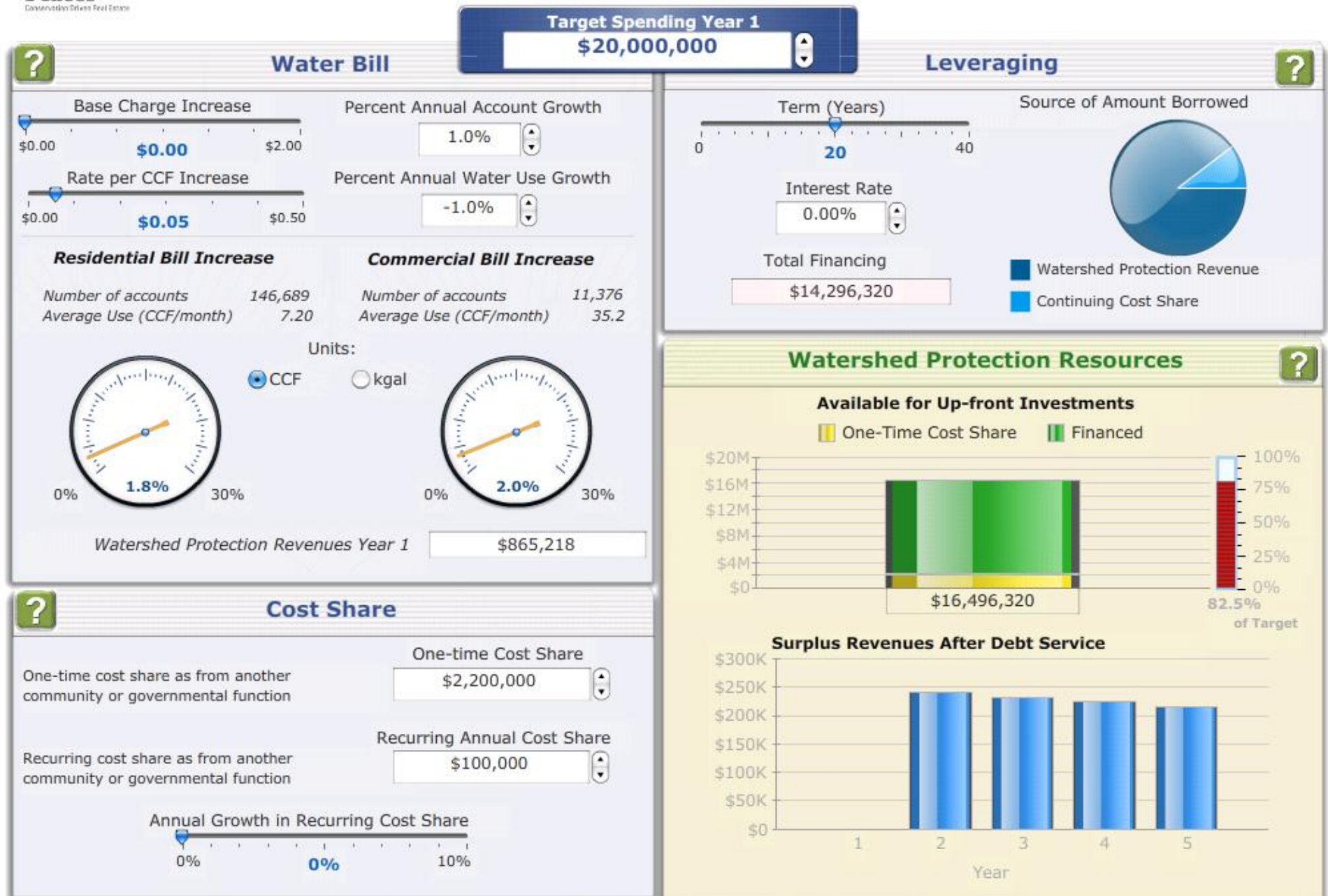
COMMITTEE FOR
CLEAN WATER

VOTE **Yes** on
Ballot Question 2A!



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Watershed Protection Revenues: Raleigh





CLEAR WATER
CARBON FUND

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Plant Trees.
Protect Water.
Buy local.

*Strengthen your community
and offset your CO₂ >>*

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Clear Water Carbon Fund brings you offset options in the form of local reforestation and water restoration projects. Our [local projects](#) allow you to [offset your activities](#) in a way that benefits your [local community](#) and economy, giving you the ability to buy local and reduce your carbon footprint. We have offset options for [individuals](#), [businesses](#) and [schools](#), as well as [calculators](#) to help you determine the emissions you want to offset.

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