



# Introducing the Colorado River Basin Water Scarcity Challenge

## 1 Water Scarcity in Focus

## 2 About Quantified Ventures

## 3 Solution Case Studies

## 4 Colorado River Basin Water Scarcity Challenge Process

## 5 Questions and Discussion

# Water Scarcity in the Colorado River Basin



## Key Opportunities:

Targeting environmental and resilience initiatives that:

- Prioritize cost-effective solutions for water demand management and supply enhancement
- Promote the leveraging and pooling of environmental funding and financing
- Provide scalable, equitable solutions

## Quantified Ventures Delivers ROI + Impact



- Design
- Capitalize
- Scale

## Quantified Ventures Areas of Practice



Forestry and  
Land Use



Agriculture

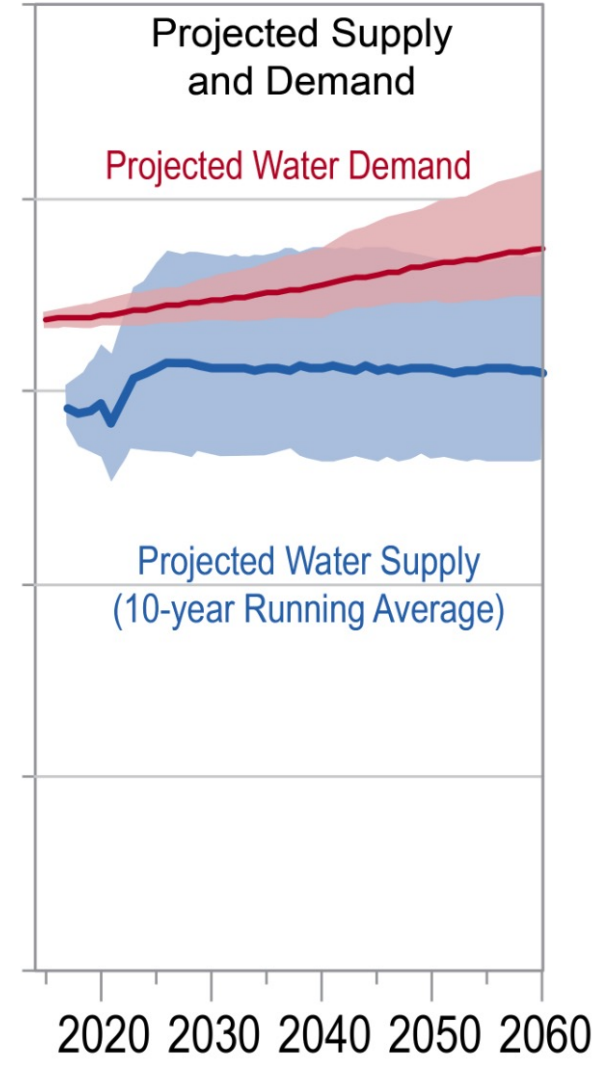
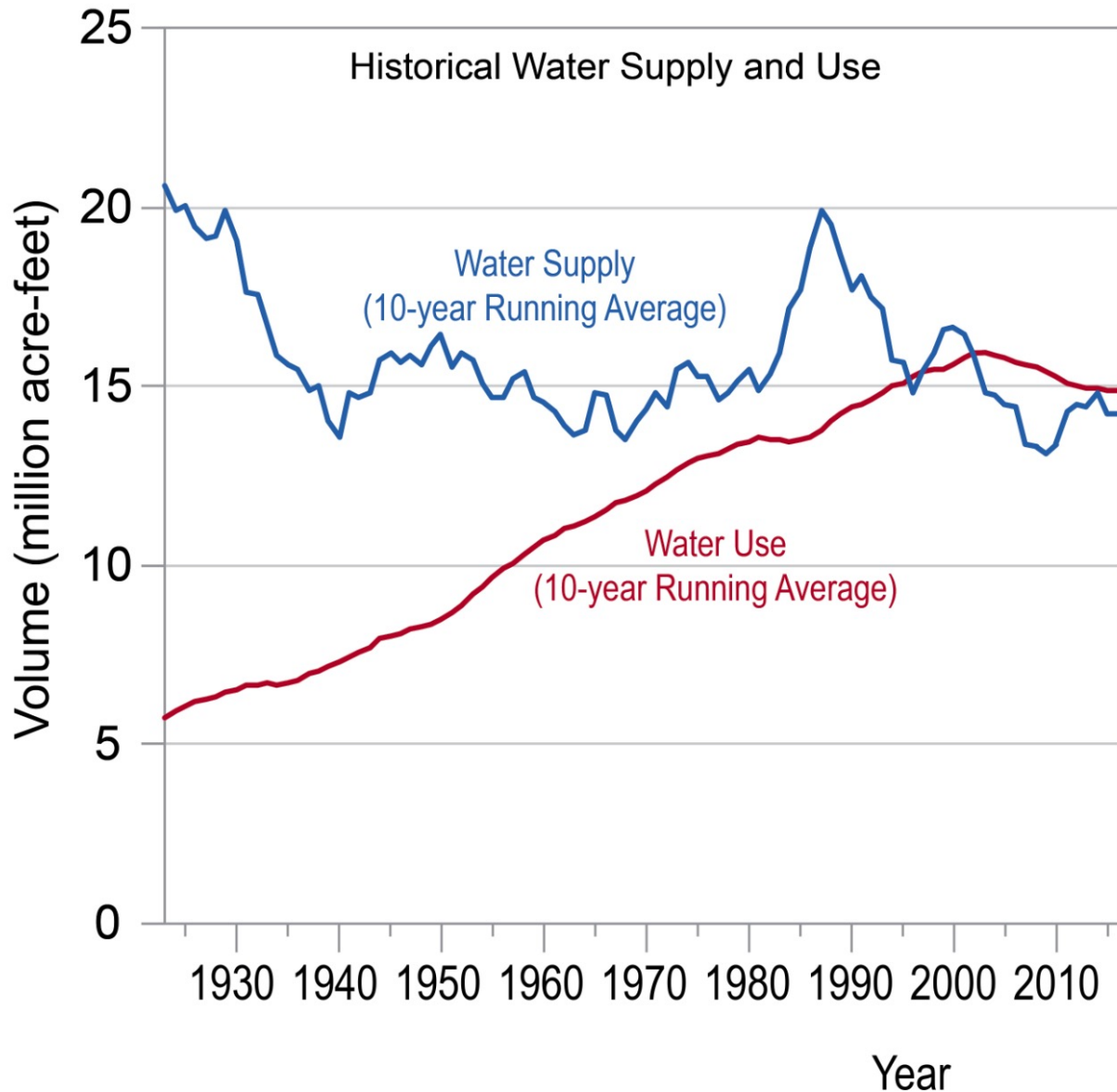


Urban and  
Coastal  
Resilience



Health and  
Human  
Services

# Colorado River Basin Water Supply and Demand



Source: U.S. Bureau of Reclamation Colorado Basin Supply and Demand Study 2012

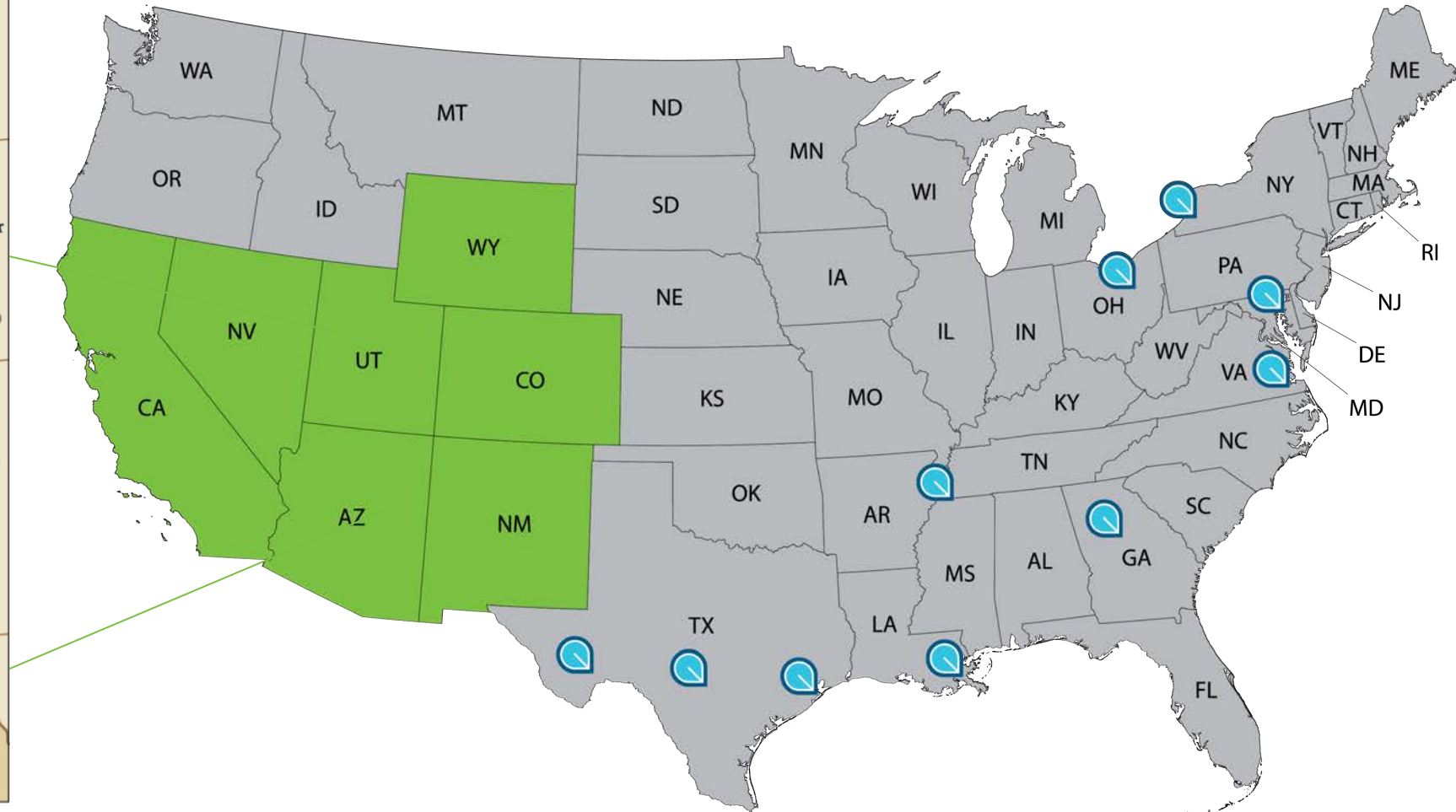


## Colorado River Basin Water Scarcity Challenge

- Will catalyze cost-effective, scalable solutions to water demand management and supply enhancement that address environmental and community challenges.
- Competitive selection process will result in collaborations with multiple organizations in the CO River Basin.
- Grant funding will cover Quantified Ventures' costs to work for ~12 months with selected organizations to design, capitalize, and scale an outcomes-based solution.
- Support from the Gates Family Foundation and the Walton Family Foundation.



# This Represents Our Sixth Regional Challenge



Colorado River Basin map  
source: U.S. Geological Survey

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**Quantified Ventures works with pioneering organizations to design, capitalize, and scale investible solutions that improve the wellbeing of people and planet.**



We are proud to be a certified B Corporation, doing business for good, and good business.





# Our Solutions



## Design

- From idea to action + implementation
- Feasibility analysis
- Identify problem to solve in outcomes-based framework
- Outcomes valuation



## Capitalize

- Partner + investor engagement
- Transaction structuring
- Outcomes-based financing and funding
- Value-based payments
- Transparent, verified outcomes



## Scale

- Grow and replicate verified outcomes
- Solutions can be scalable financial products, programs, funds, or businesses

# We Work With Innovators, Risk Takers, and Optimists

## Governments



## Environment and Resilience



## Health and Human Services



## Foundations



## Corporations



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# Designing: Edwards Aquifer Authority's Next-Generation Aquifer Program: Groundwater management tool with innovative financial features



## Project description

- New Edwards Aquifer Authority program that enrolls agricultural water permit holders using a groundwater easement
- Enrollees paid a lump sum with potential for ongoing payments from lease revenue sharing
- Water users retain ownership, but control reverts to EAA when aquifer conditions approach drought

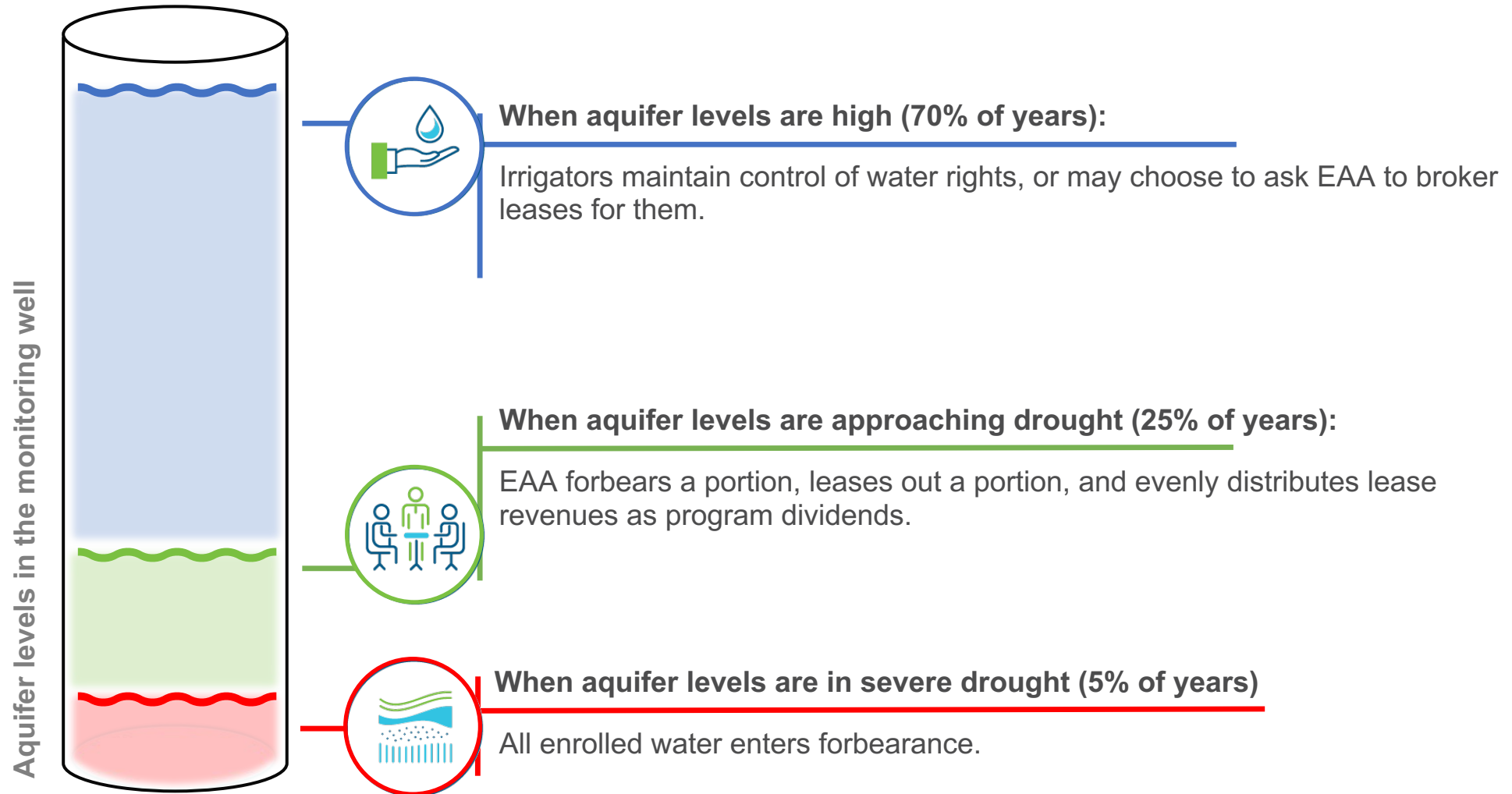
## Quantified Ventures' role

- Assisted EAA with clarifying program objectives and constraints
- Conducted stakeholder and subject matter expert interviews
- Developed aquifer-responsive, win-win transaction design
- Built financial model as both decision-making tool and easement price calculator
- Created and delivered presentation for approval from board of directors

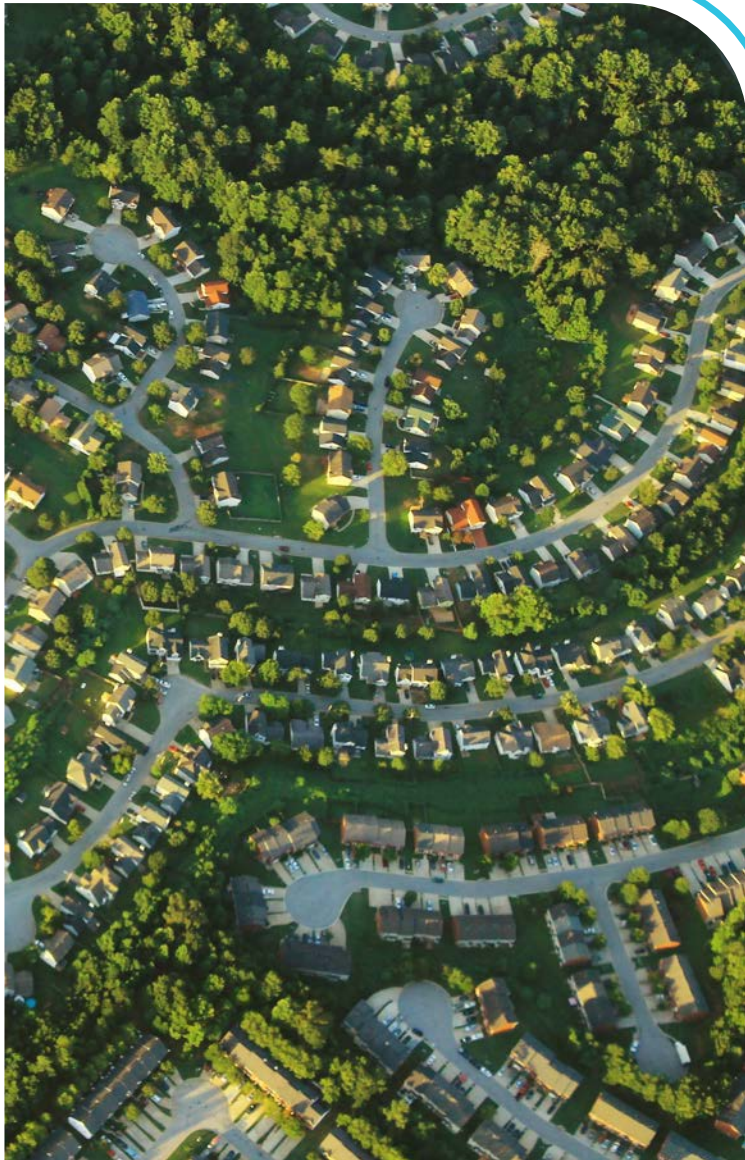
## Project results

- Expected to cost 75% less than fee simple acquisition
- Allows irrigators to retain control over water in majority of years, and receive financial compensation in forbearance years
- Provides groundwater management district additional tools to manage drought

# Easement terms describe program actions under each aquifer scenario



# Capitalizing: Environmental Impact Bonds: ESG-labeled bonds that open access for government issuers to impact-oriented investors



## Project Description

- ESG Label earned by a public financing that will predict, evaluate, and disclose achieved environmental and/or social outcomes of funded projects
- Issuer aims to increase investor demand, build stakeholder + public trust, and news coverage on innovative initiatives (NYT, Bloomberg, Bond Buyer, Barrons)
- Some EIBs include pay-for-performance features that share performance risk with investors

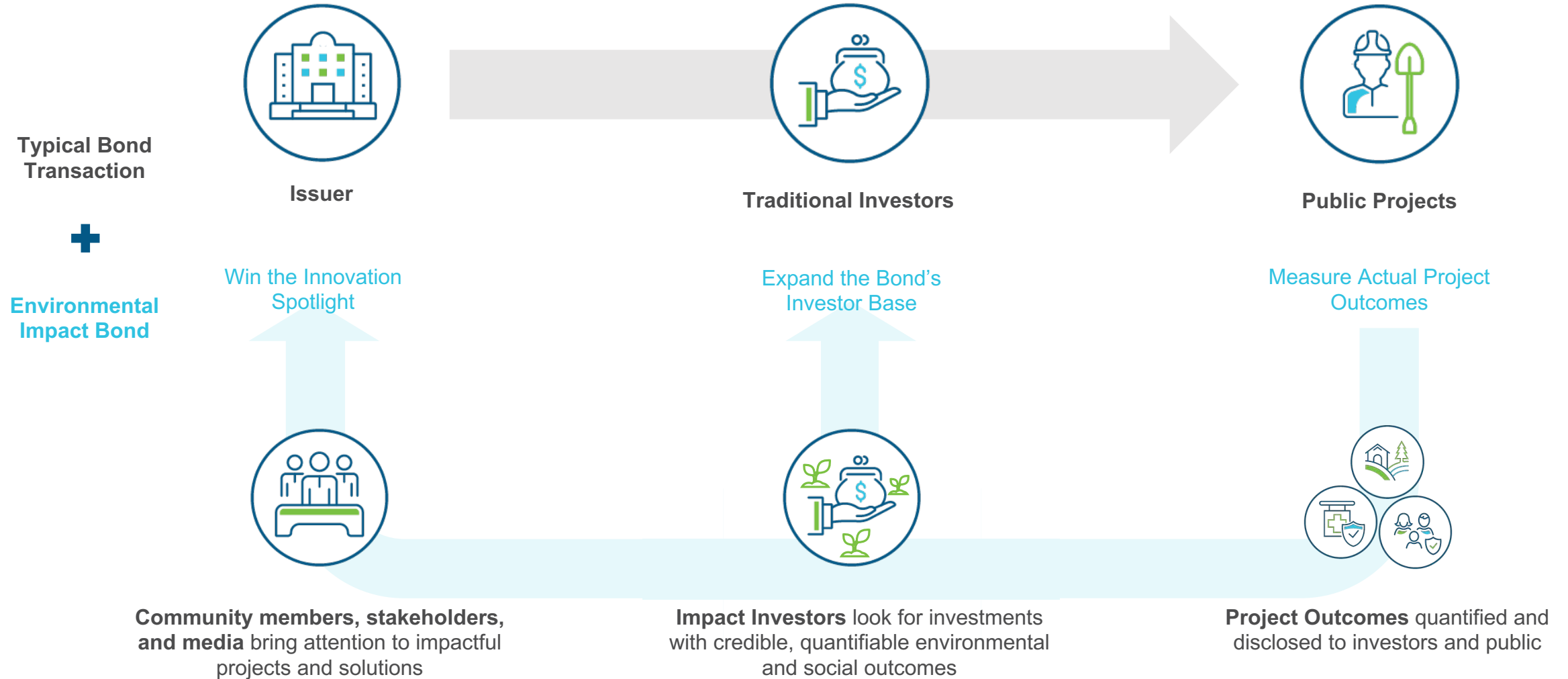
## Quantified Ventures' role

- Technical consulting services to generate customized metrics, evaluation protocols, quantitative analyses, and technical memoranda through streamlined processes
- Work with issuer's bond financing team on impact investor marketing strategy
- Support impact investor marketing with presentations, graphics, technical documentation

## Project Results

- \$225 MM+ in capital closed or in structuring as EIBs around the country, including:
  - \$54M: Buffalo, NY
  - \$25M: Washington, DC
  - \$15M: New Orleans, LA
  - \$14M: Atlanta, GA
  - \$8M: Hampton, VA

# In becoming an EIB, a bond gains outcomes quantification, investor attention, and stronger relationships



# Scaling: Soil & Water Outcomes Fund: Impact Fund that unites joint interests of public and private actors through transactions



## Project description

- Private-sector revolving fund to provide incentive payments to private agricultural landowners that implement conservation practices
- Outcomes are quantified and verified using USDA-approved models, soil and water sampling, and remote sensing
- Verified outcomes are sold to outcomes payors in both public and private sectors

## Quantified Ventures' role

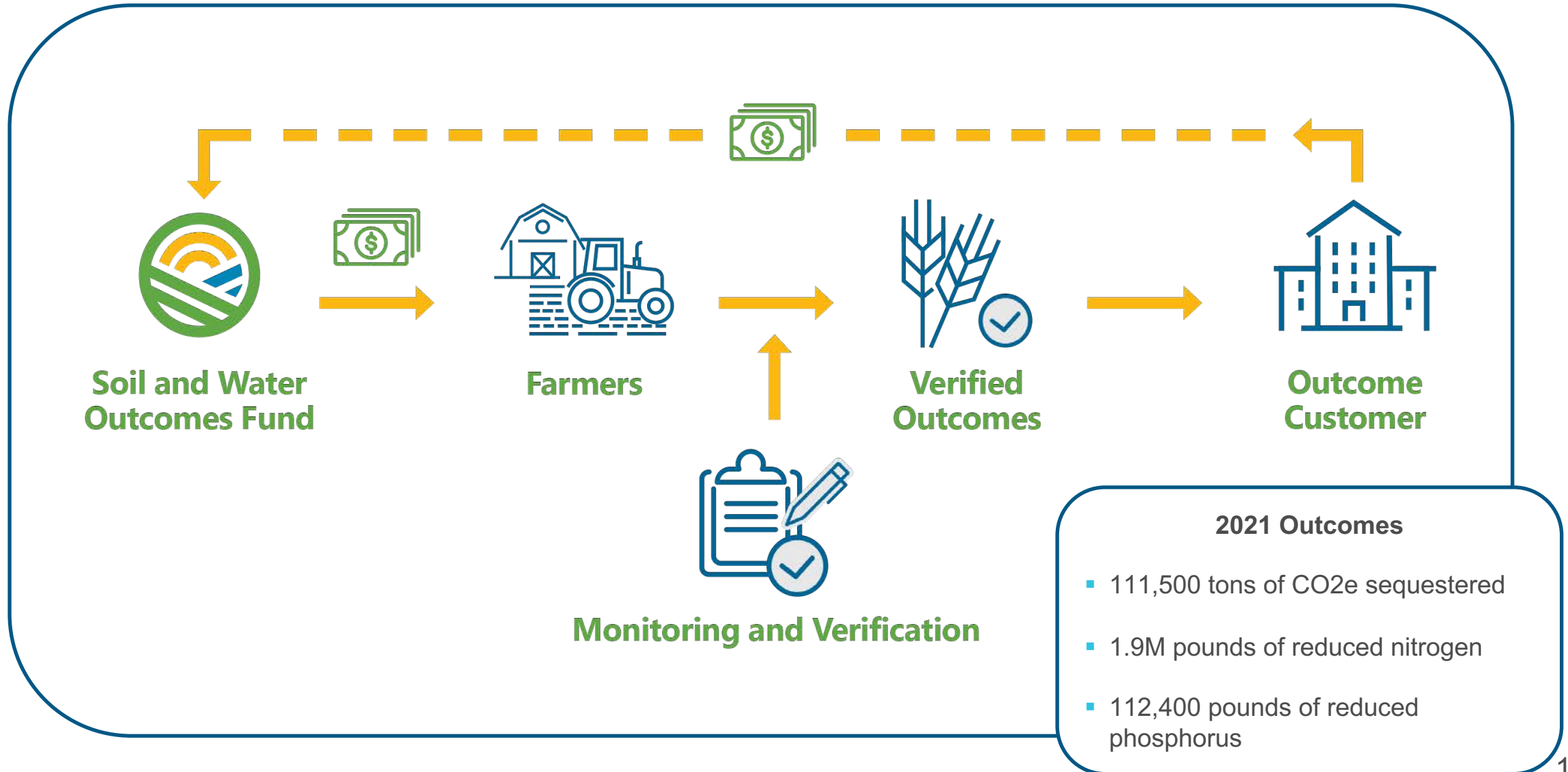
- Conceptualized pilot projects
- Created organizational and financial structures to scale
- Raised blended stack of public and private capital
- Negotiate outcome purchase agreements, enroll customers, procure contractors

## Project results

- Scaled from 2020 pilot of 10,000 acres in two watersheds to 200,000 acres in 10 states in 2022
- Outcomes customers for water quality and carbon sequestration include municipalities, multinational corporations, federal and state agencies, and environmental nonprofits
- Recognized with a 2022 EPA PISCES award for innovation in SRF utilization



# Soil and Water Outcomes Fund Structure and Outcomes



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## Water Use Dynamics

- Urban population growth
- Increased pressure on groundwater sources
- Consistent shortfalls in CO River flows
- Historically low reservoirs

## Climate Change

- River flow potentially reduced by 31% by 2050
- Land use & ecosystem changes
  - Increased ecological variability
    - Aridification
  - Reduced snowpack
  - Hydropower reliability

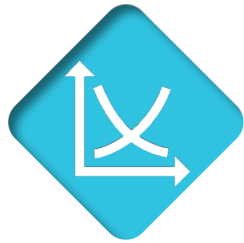
## Policy

- Law of the River
- Colorado River Drought Contingency Plan
- Federal legislation (WRA)
- State legislation
- County & municipal ordinances
- State water rights

## Funding & Financing

- State Revolving Funds
  - Federal Agencies
  - State Agencies
- Non-governmental organizations
  - Private investment
  - Impact investment

We are targeting environmental and resilience solutions that:



## Drive Measurable Outcomes

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Prioritize cost-effective solutions for water demand management and supply enhancement



## Attract Blended Capital

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Promote the leveraging and pooling of environmental funding and financing



## Are Equitable and Replicable

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Provide scalable, equitable solutions that address community needs

Design, capitalize, and scale investible water scarcity solutions, including:

- Validate size, scope, and objectives of the project
- Engage with experts and stakeholders to shape or refine project features
- Develop/validate economic cost-benefit and/or financial models
- Design transaction or program, such as structure, outcome metrics, and pricing and payment terms
- Coordinate and mediate internal and external stakeholders
- Undertake partner, funder, and investor outreach
- Develop technical memoranda and/or presentations to facilitate diligence by decision makers, investors, and stakeholders

## Representative Applicants

- Local governments
- Utilities
- Agencies
- Conservancy districts
- Water boards
- Special districts
- Companies and new ventures
- Other organizations serving in a function related to agriculture, infrastructure, water, forestry, or land management in the Colorado River Basin

## Organizational Characteristics

- Appetite for innovation
- Financing and/or fundraising capability
- Buy-in from relevant stakeholders
- Identified pathways to investible solutions / projects in late 2022 or early 2023

## Sample Practices

- Water renewal
- Water efficiency
- Optimization of water flows to achieve ecological outcomes
- Alternative farm practices
- Groundwater recharge
- Land management
- Habitat conservation
- Watershed restoration
- Evaporation or water loss control

# Statement of Interest Components + Criteria



## Submission Components

- Executive Summary
- Project Scope and Fit with Investible Solutions Addressing Water Scarcity
- Organizational Capabilities
- Impact
- Appendix

## Evaluation Criteria

Category	%	Sub-Category	Points
Eligibility and Compliance	15%	Payor and project eligibility screen	Y/N
		Payor's resources to support the project	15
Project Scope and Fit	55%	Size / scope of proposed solution (potential water scarcity impact, geographic footprint, potential transaction size, replicability)	10
		Current status of proposed solution to be funded; technical readiness to begin implementation/deployment ASAP	15
		Expected outcomes tied to water scarcity, and any co-benefits relating to equity and resilience issues	20
		Scalability of project and financing approach	10
Payor Capabilities	30%	Financing and fundraising capability	15
		Stakeholder buy-in and established decision-making process	15
<b>TOTALS</b>	<b>100%</b>		<b>100</b>

# Timeline and Key Dates



**July 15:** Notice of Intent to Apply Due (optional)



**August 19:** Proposal Submission Due (ask us for help!)



**September 19:** Selected Organizations Notified by Quantified Ventures



**Fall 2022:** Selected Organizations Begin Work With Quantified Ventures



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**Questions?**