



What if?

Agricultural
Water Optimization
Task Force



What if we could optimize water and agricultural management practices to maintain or increase viable agriculture while minimizing negative impacts upon water supply, water quality and the environment?

Can we optimize ag water use and how?

Task Force Members

- Ron Gibson— Ag Producer; co-chair
- Jay Olsen— Department of Ag and Food; co-chair
- Mike Adams— Ag Producer
- Dustin Christensen— Ag Producer
- Jordan Nielsen— Environmental Interests
- John Mackey— Division of Water Quality
- Paul Monroe — Water Conservancy Districts
- Jim Reese— Division of Water Rights
- Kyle Stephens— Division of Water Resources
- Ken White— Higher Education
- Brandon Yardly— Ag Producer



Legislature passed House Bill 381 in 2018 (\$1.3M)

Agricultural Water Optimization Task Force

1. The task force...shall:

A. Identify critical issues facing the state's longterm water supply, particularly in regard to how the state should optimize agricultural water supply and use in light of future population growth, and the future water needs of Utah agriculture;

Objective

Identify critical issues and initiate research that identifies how Utah can:

1. Optimize agricultural water supply and use
2. Improve quantification of agricultural water use

on of agricultural water use, and recommend means, methods, and means of agricultural water use on a basin level; and
potential to maintain or increase agricultural production while
option.

to study the issues identified in Subsection (1), prioritizing

utilizing federal, state, and local grants as described

research on optimizing agricultural water use;

opportunities to improve water conservation practices, and local needs;

community level

behavior that

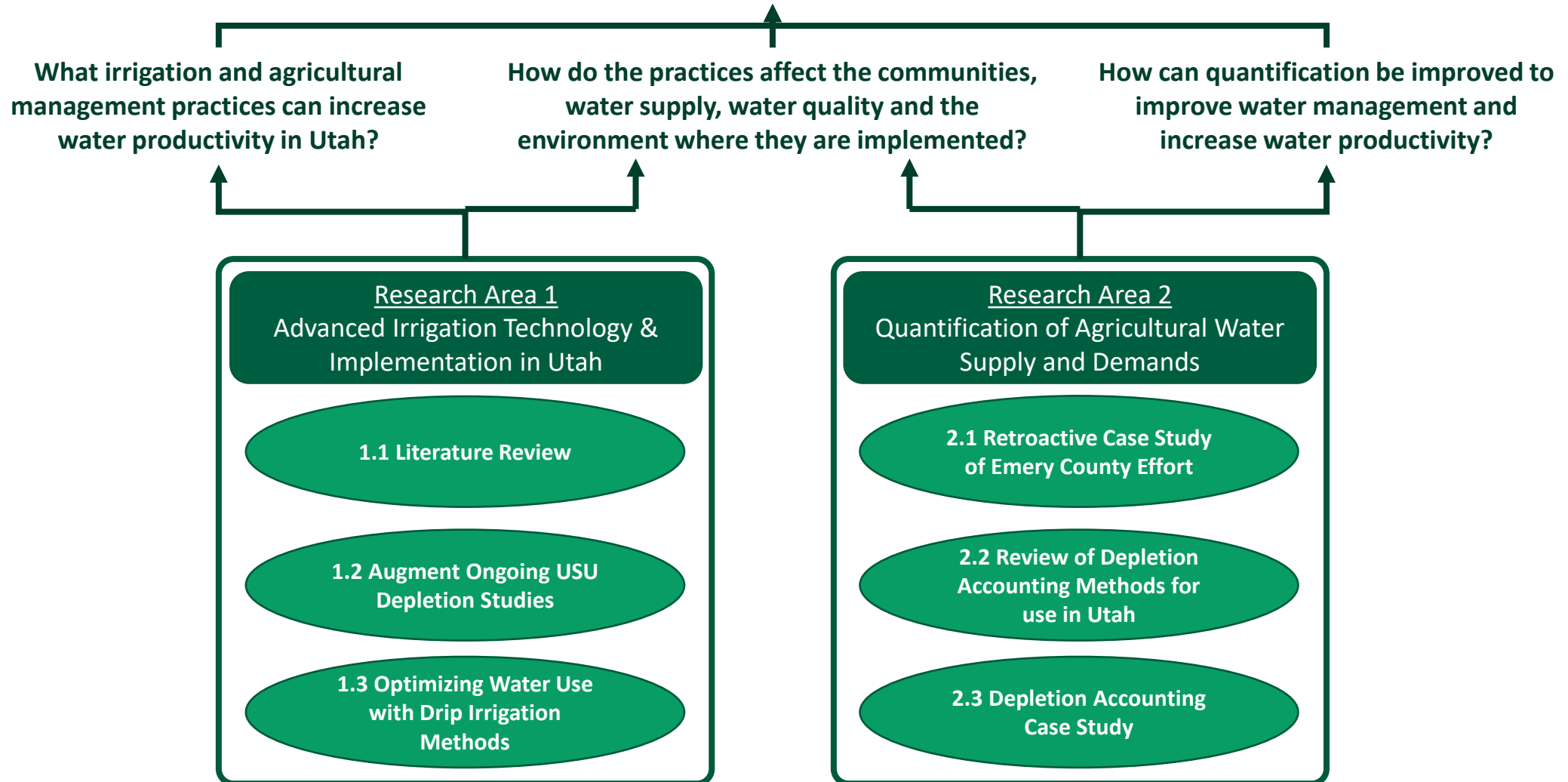
Assess the possibilities

g. Create meaningful benefits for farmers to optimize water use and protect

h. Monitor..projects, evaluate...efficacy, and disseminate research findings

2019 Research Plan

What water and agricultural management practices can maintain or increase viable agricultural while minimizing impacts upon water supply, water quality and the environment?



Advanced Irrigation Technology & Implementation in Utah

Research Area 1

Advanced Irrigation Technology & Implementation in Utah

1.1 Literature Review

1.2 Augment Ongoing USU Depletion Studies

1.3 Optimizing Water Use with Drip Irrigation Methods

1. Literature Review

- Proven technologies and methods for optimizing irrigation, cropping, and tillage already exist that can reduce water consumption and maintain agricultural production.

2. Augment USU Depletion Studies

- Field testing has proven the feasibility of reducing water consumption and maintaining agricultural production in Utah.

3. Optimizing Water Use with Drip Irrigation

- Drip irrigation works, is less consumptive, requires less diversion, and maintains yield vs. surface irrigation.

Quantification of Agricultural Water Supply and Demands

Research Area 2

Quantification of Agricultural Water Supply and Demands

2.1 Retroactive Case Study of Emery County Effort

2.2 Review of Depletion Accounting Methods for use in Utah

2.3 Depletion Accounting Case Study

1. Case Study of Emery County Effort

- Quantification of diverted and applied water provides significant benefits to everyone. The Emery County experience is proof positive that this works in Utah.

2. Depletion Accounting Methods

- The technology exists to provide water users and water managers with the water diversion, application, and depletion information they need.

3. Depletion Accounting Case Study

- Preliminary results indicate it is feasible and can help reduce consumptive use.

Summary of Critical Issues



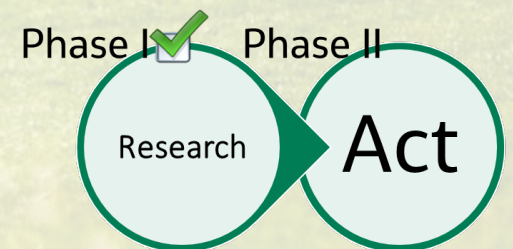
- Acute droughts are a significant threat to the viability of our farms and ranches.
- Agriculture is facing relentless pressure from growth that is transforming ag lands and increasing demands on a limited water supply.
- Long-term climate trends have decreased and will likely continue to decrease the available water supply.

Key Conclusions from the Research

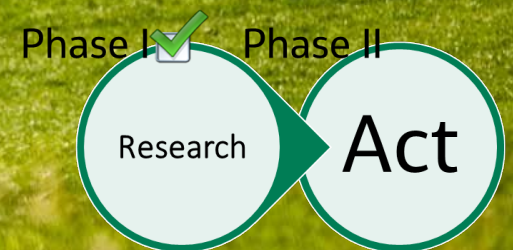


1. Utah must innovate and adapt to address acute drought and chronic water supply and demand challenges
2. There are readily available and proven tools and approaches that can be implemented to incentivize and make progress toward agricultural water optimization and resiliency
3. The State of Utah must invest now to both preserve agriculture in Utah and enable the growth that is envisioned.

The question is no longer what if... but how?



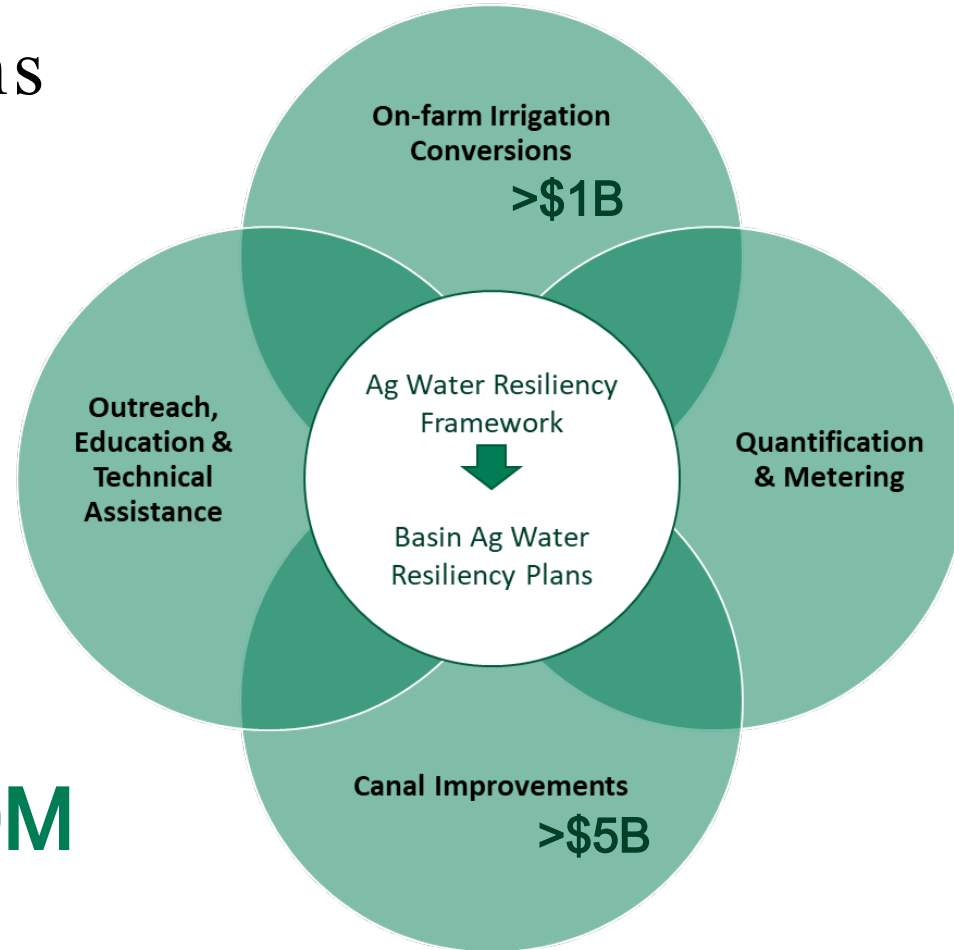
How can we pivot from Research to Action?



A New Objective—To Act

- Develop local basin plans that focus upon four areas:
 - On-farm irrigation conversions
 - Quantification
 - Conveyance conversions
 - Outreach, Education and Technical Assistance

**The 2022 Legislature
responded by investing \$70M
into ag water optimization**

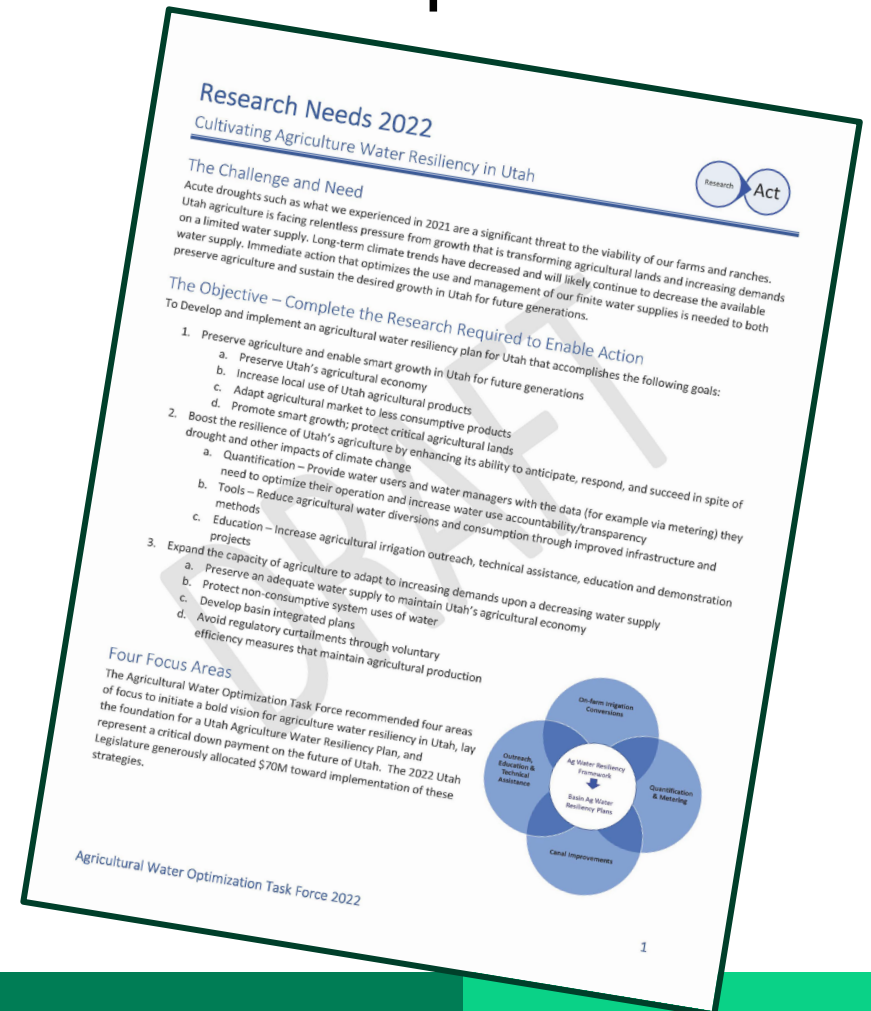


How do we inform and enable action?

In addition to the November 2021 recommendations, the Task Force recommends additional research to accomplish the following three objectives:

- Preserve and enhance Utah agriculture
- Plan for a resilient water supply
- Focus upon implementation

➤ Upcoming 2022 Research Plan



Thank you!

Agricultural Water Optimization Task Force

<https://water.utah.gov/agwateroptimization/>