

# California Water Institute

## *Water and Sustainability Initiative*

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### California Partnership for the San Joaquin Valley

*Connect, collaborate, and advocate around issues facing the eight-county San Joaquin Valley.*

June 15, 2018

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Executive Director, California Water Institute

# Commission Findings/Recommendations

## Water and Sustainability (May 2014)

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1. Water is essential for agricultural productivity
2. Create campus/industry task force to redefine Fresno State as the recognized leader in water
3. Promote findings of task force to industry, academia, and government
4. Utilize the Water and Energy Technology (WET) Incubator for student success and faculty development
5. Align Water Cohort faculty with research programs, science, and engineering being conducted at WET, ICWT, and CITI.

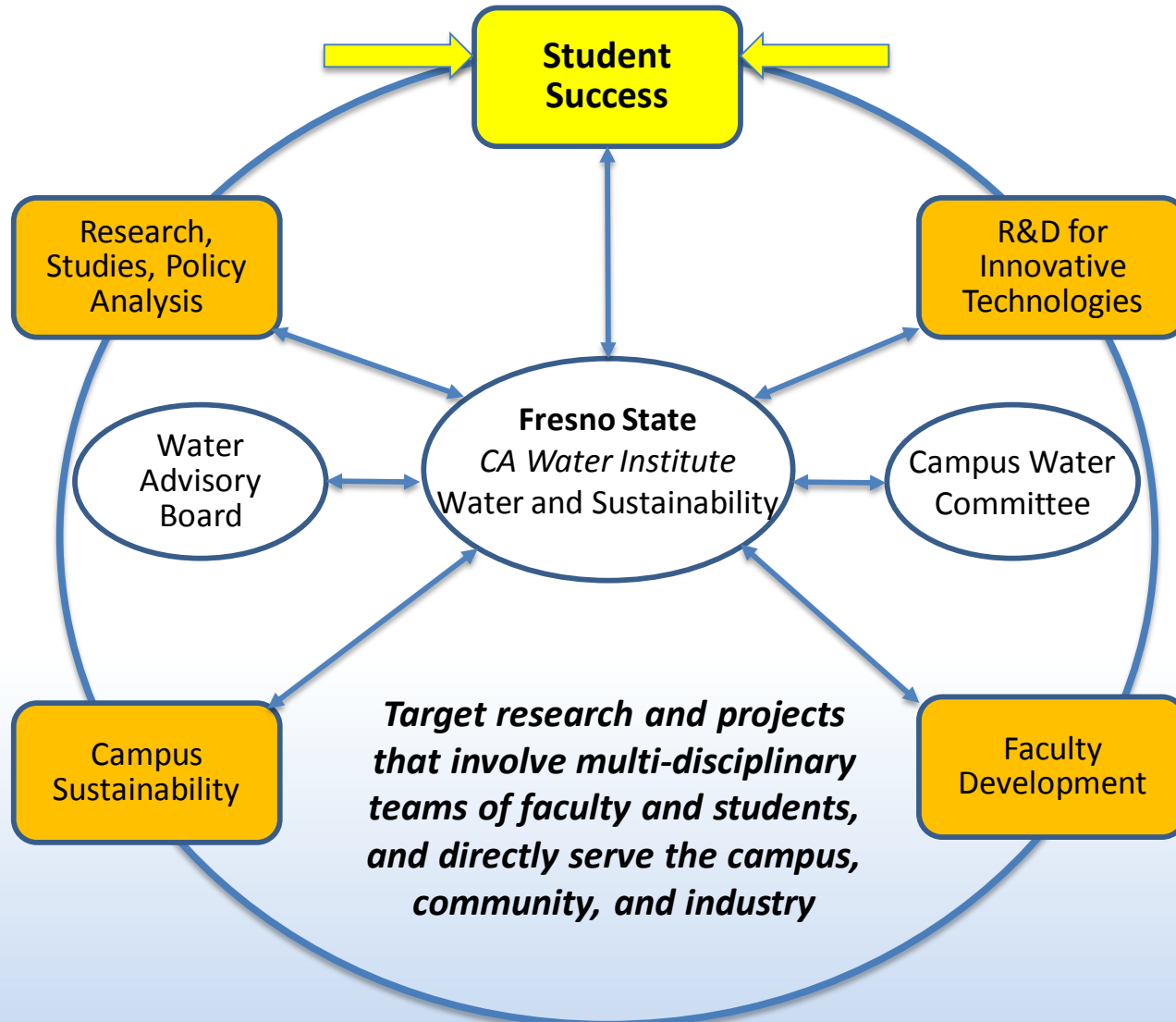
# President's Water Task Force Recommendation No. 3 (May 2015)

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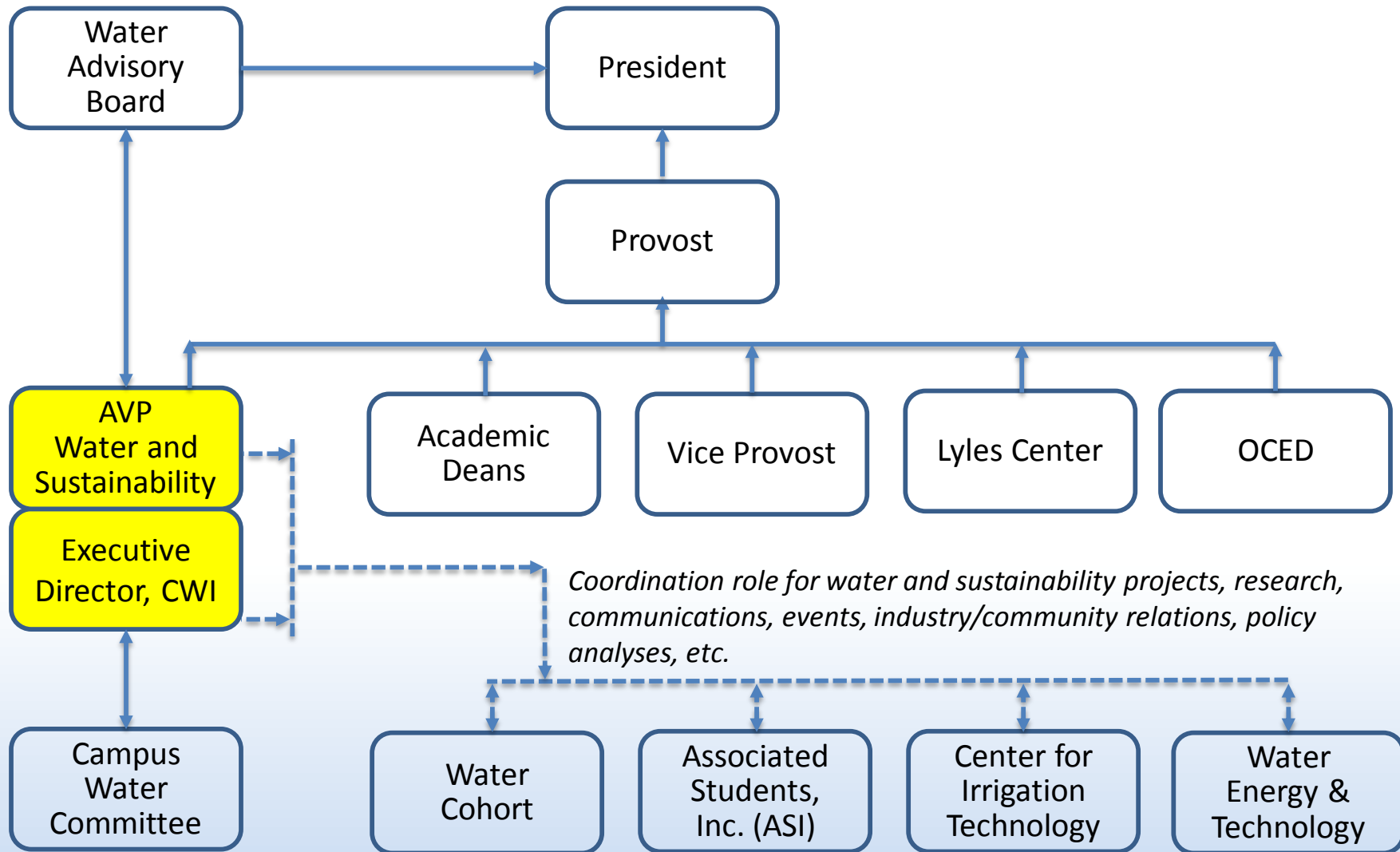
Recommendations on making sure University programs are as coherent and effective as possible:

1. Establish the position of Associate Vice-President for Water and Sustainability, which will also serve as the Executive Director of the California Water Institute
2. Establish a Water Advisory Board
  - a. Regional leaders
  - b. Assist with implementation of Task Force recommendations
  - c. Set direction for the future
3. Establish Executive Committee for Water and Sustainability
  - a. Deans, faculty, and other Fresno State staff
  - b. Assist with implementation of Task Force recommendations
  - c. Set direction for the future

# Fresno State Water and Sustainability Organizational and Operational Plan



# Fresno State Water and Sustainability Organizational and Operational Plan



# Community Comments and Suggestions

## Opportunities for Fresno State Engagement

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1. Comments and Suggestions Received from a Variety of Sources
  - a. Growers
  - b. Trade Associations
  - c. Regulatory Agencies
  - d. Water Agencies
  
2. Comment and Suggestion Topics
  - a. California Agriculture Messaging
  - b. Sustainable Groundwater Management Act (SGMA)
  - c. Disadvantaged Communities (DAC) Assistance
  - d. Technology R&D, Commercialization, and Deployment
  - e. Water Allocations for the Environment
  - f. Salmon Protection and Restoration for San Joaquin River
  - g. Certified Water Professional Training
  - h. Regulatory Compliance Requirements
  - i. Deep Think on Water
  - j. Product Development and Marketing
  - k. Other Research, Studies, and Policy Analysis

# Fresno State Engagement Opportunities

## California Agriculture Messaging

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1. California agriculture has established a worldwide product brand founded on high quality, diversity, reliability, and resiliency.
2. California agriculture cannot be duplicated anywhere in the world.
3. California agriculture respects labor, water, and the environment.
4. California agriculture continues to invest in advanced technology R&D to optimize farming inputs to protect the environment, reduce water use, increase crop yield, and maintain financial viability.
5. California agriculture uses water efficiently.
6. California agriculture contributes to the food security system for the U.S.
7. California agriculture uses water as an input to generate \$46 billion in gross revenue on agricultural food products each year (*Caterpillar is No. 65 on Fortune 500 at \$45.5B annual revenue*)

# Fresno State Engagement Opportunities

## Sustainable Groundwater Management Act (SGMA)

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1. Identify alternative strategies and methodologies (*menu of options*) for
  - a. Measuring, or estimating, groundwater extractions from private irrigation wells on private property
  - b. Establishing cost and credit values for groundwater extractions; groundwater recharge; use of recycled water; water purchases, transfers and exchanges
  - c. Addressing SGMA non-compliance (extractions, reporting, payments, etc.)
  - d. Collecting, storing, managing, and archiving the volumes of data required for SGMA regulatory compliance monitoring and reporting
  - e. Managing “white areas” and DACs, located within groundwater sustainability agencies’ jurisdictions, that lack access to sufficient surface water supplies
2. Develop Fallowed-Land Strategy
  - a. Define the economic impact of fallowing or retiring land for SGMA compliance
  - b. Identify alternative uses (*revenue opportunities*) for fallowed or retired land (*wildlife habitat corridors; solar power generation; stream and floodplain restoration; urban buffers with recreation; groundwater recharge; other*)
  - c. Develop a financing plan and management strategy



# Fresno State Engagement Opportunities

## Disadvantaged Community (DAC) Assistance

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### 1. Technical and Professional Assistance

- a. Governance, personnel management, administration, operations and maintenance, capital program management, financial planning, water resources management
- b. Identify SGMA compliance requirements, evaluate compliance options, and define compliance costs
- c. Identify corrective action options available to address water and sewer system failures (technical, financial, administrative, operational, etc.)

### 2. Long-Term Consideration for DACs

- a. Can more rural development, of the type that currently does not have access to safe water, continue to be approved for development under current law?
- b. What, if any, impacts can be associated with letting the current legal model for rural land development remain in place?
- c. What changes in regulations would be required to ensure that all new rural developments have access to a water supply that is safe, affordable, reliable, redundant and drought resilient (i.e. sustainable)?

# Fresno State Engagement Opportunities

## Disadvantaged Community (DAC) Assistance

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3. What options are available to provide safe water to DACs?
  - a. What are the range of innovative and creative solutions available to provide a safe, affordable, reliable, redundant, and drought resilient water supply for a DAC with a failed public water system?
  - b. What, if any, changes in regulations would be required to implement the most creative and innovative solutions?
4. What options are available to finance safe water for DACs?
  - a. What is the cost to provide safe water for a rural community? Which parties should participate in funding the implementation of the solutions?
  - b. What is an equitable distribution of costs amongst the participating parties?
  - c. What are the different financing methods available to fund the solutions?
  - d. What changes in regulations would be required to implement the various financing models that would be required to finance safe water for DACs?

# Path Forward – CA Water Institute

## Water and Sustainability Initiative

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1. **Stakeholder Engagement.** Continue to communicate with stakeholders to optimize Fresno State's role for engaging on water, energy, agriculture, environment, technology, and sustainability issues
  - a. Define Top 10 Action Items for water, energy, agriculture, environment, technology, and sustainability
  - b. Prepare Action Plan for each Action Items – Objective, Tasks, Resource Requirements, Performance Metrics
  - c. Implement Action Plans and Issue Status Reports
2. **Faculty and Student Engagement .** Coordinate with BOND Program (*freshman research program*), Water Cohort, Project-Based Learning, and ASI student clubs; target multi-disciplinary research and study projects, enhance conference participation by faculty and students
3. **Campus Sustainability Engagement.** Coordinate with ASI, Student Clubs, Facilities Management, and interested faculty to reduce water and energy consumption, waste generation, and transportation emissions at Fresno State
4. **Innovative Technology Engagement.** Create a Future Vision (22nd century) for agriculture, and foster investment in innovation, research and development, marketing, branding, and commercialization of advanced technologies that support the Future Vision

Student  
Success

R&D for  
Innovative  
Technologies

Campus  
Sustainability

Faculty  
Development

Research,  
Studies,  
Policy  
Analysis

# California Water Institute

## *Water and Sustainability Initiative*

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## QUESTIONS & COMMENTS

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