

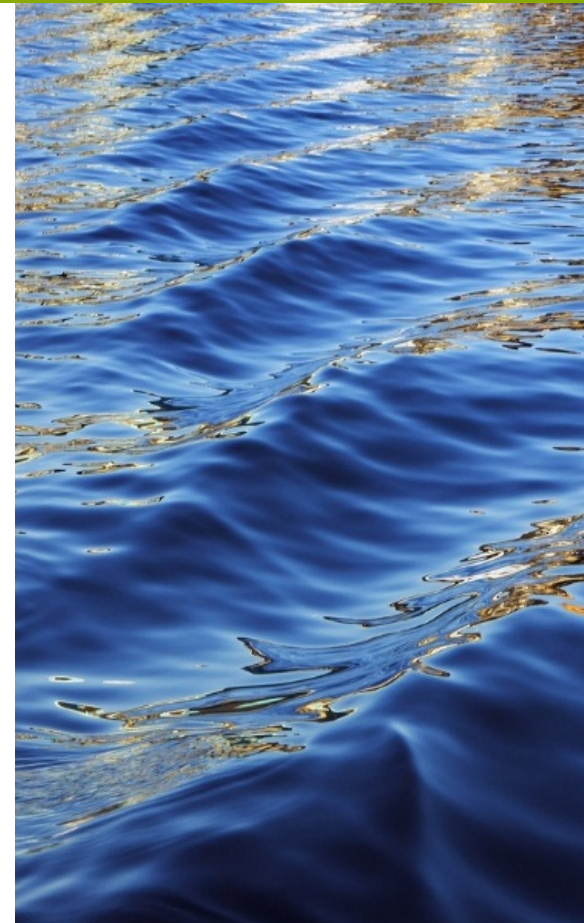
# CDFA WATER EFFICIENCY AND ENHANCEMENT PROGRAM

Public Stakeholder  
meeting

April 18, 2014



CALIFORNIA DEPARTMENT OF  
FOOD & AGRICULTURE



 CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
STATE WATER RESOURCES CONTROL BOARD

CALIFORNIA DEPARTMENT OF  
**WATER RESOURCES**

# PRESENTATION OUTLINE

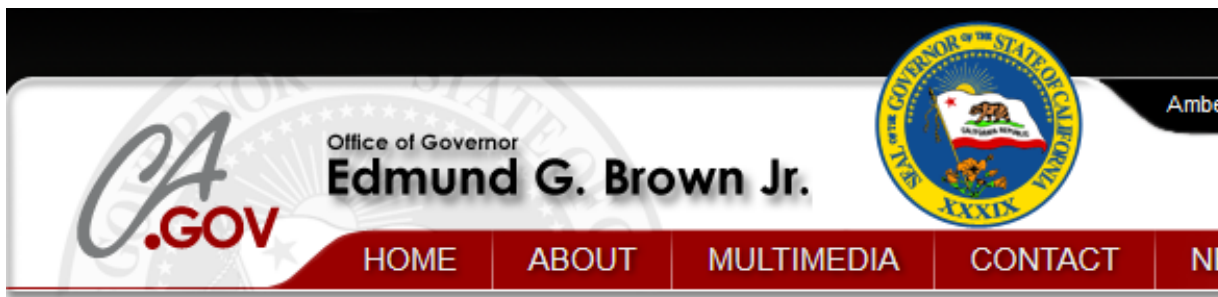
- BACKGROUND
- OBJECTIVES AND GOAL
- CONCEPT AND FRAMEWORK
- TIMELINE (attachment)
- GRANT FLOW SCHEMATIC (attachment)

**INFORMATION ON PROGRAM POSTED @ -**

[http://www.cdfa.ca.gov/EnvironmentalStewardship/H2O\\_EandE.html](http://www.cdfa.ca.gov/EnvironmentalStewardship/H2O_EandE.html)

# BACKGROUND

- Emergency drought legislation bill (SB 103) signed by Governor Brown on March 1, 2014



## GOVERNOR BROWN SIGNS DROUGHT LEGISLATION

3-1-2014

SACRAMENTO – As California grapples with the driest period in its history, Governor Edmund G. Brown Jr. today signed legislation to assist drought-affected communities and provide funding to better use local water supplies.

"Legislators across the aisle have now voted to help hard-pressed communities that face water shortages," said Governor Brown. "This legislation marks a crucial step – but Californians must continue to take every action possible to conserve water."

The legislation had broad, bipartisan support. SB 103 passed 34-2 in the Senate and 64-3 in the Assembly. SB 104 passed 33-3 in the Senate and 68-1 in the Assembly. The bills provide \$687.4 million to support drought relief, including money for housing and food for workers directly impacted by the drought, bond funds for projects to help local communities more efficiently capture and manage water and funding for securing emergency drinking water supplies for drought-impacted communities.

**\$10 million from the Greenhouse Gas Emissions Fund for the California Department of Food and Agriculture to invest in irrigation and water pumping systems that reduce water use, energy use and greenhouse gas emissions**

# BACKGROUND

The bill language for CDFA as the lead agency states;

“\$10,000,000 shall be available for encumbrance until June 30, 2015, for consultation and coordination with the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB), to establish and implement a program, on or before July 1, 2014....”

“...to provide financial incentives to agricultural operations to invest in water irrigation treatment and distribution systems that reduce water and energy use, augment supply and increase water and energy efficiency in agricultural applications.”

“Incentives shall be ranked and distributed based on financial need, immediacy of water supply increased and efficiency gained to address water shortages, and reduction in water pumping or treatment that uses energy causing greenhouse gas emissions.”

# BACKGROUND

Fits well under the Environmental Farming Act of 1995.

Division 1, Part 1, Chapter 3, Article 8.5, Sections 560-568

Section 566. (a)

The department shall establish and oversee an environmental farming program. The program shall provide incentives to farmers whose practices promote the well-being of ecosystems, air quality, and wildlife and their habitat.

Act posted online at;

<http://www.cdfa.ca.gov/EnvironmentalStewardship/pdfs/CannellaEnvironmentalFarmingAct.pdf>

# SUMMARY AND GOAL

The money is intended to provide financial assistance to farmers to implement water and energy saving irrigation measures on farms

Water conservation will play an important role in helping the agricultural sector address current drought conditions and impacts on our food supply

Contribute to long term sustainability in agricultural water use in California

Short timeline to implement as associated with emergency drought funding

# OVERVIEW OF FRAMEWORK

- Grant program directly to growers
- Includes a proposed funding cap by Science Panel
- Grower assistance for design component (third party)
- Establishment of scoring and ranking system
- Verification component (third party)
- Quantitative reporting of water savings and greenhouse gas reductions

# FIVE MAJOR COMPONENTS

1. Application and design
2. Implementation (by grower)
3. Verification that system is working as specified
4. Financial accountability (invoicing)
5. Quantification of water savings/efficiency and greenhouse gas reductions



# GRANT PROGRAM FOR GROWERS

In process of developing application, timeline and workflow

- User friendly
- Electronic (FAAST)
- Assistance for greenhouse gas quantification
- Assistance for quantification for water savings/ energy efficiency
- Description of existing system and water use efficiency
- Description of proposed system and quantification of expected water and energy efficiencies/savings
- Budget
- Use of NRCS schedules for payment
- Location of project and crop
- Long term maintenance of project (15 years)
- Ensure irrigation scheduling can be accommodated.
- Funding cap is proposed at \$50,000 with at least 50% cost match as proposed by Science Panel...will fund 190 grants
- No overlap with NRCS EQIP financial assistance

Will have a application guidance document.

Working to establish review committee.

# USE OF THIRD PARTY FOR DESIGN

CDFA does not have resources for assisting growers with system Design

Key component of any Water Efficiency and Enhancement Program

Proper design = key to establishing water efficiency.

Assistance with baseline water use

Assistance with baseline greenhouse gas use

Examples:

- Need to determine effective distribution uniformity (DU) - Cited in May 2012 report to legislature;  $> DU = > \text{Water efficiency/savings}$

- Assistance with ET -

ET<sub>o</sub> (reference ET from CIMIS and K<sub>c</sub> is crop coefficient)

Use of a third party proposed

# CRITERIA FOR RANKING APPLICATIONS

See handout 1.

1. Largest water savings
2. Largest greenhouse gas reductions
3. Must be in D3 (extreme) and D4 (exceptional) drought designation areas (U.S. Drought Monitor) of California as of April 1, 2014  
<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA>
4. Use of soil moisture sensors with electronic data output for growers to ensure efficient irrigation scheduling (must specify if with new or existing system); new system gets higher ranking
5. Use of evapotranspiration (ET) based irrigation scheduling, such as the California Irrigation Management Information System (CIMIS), on existing or proposed projects to optimize water efficiency for crops.

# CRITERIA FOR RANKING APPLICATIONS

6. Reduction of greenhouse gases from water pumping (e.g., fossil fuel to electricity, solar, wind)
7. Use of micro-irrigation or drip systems to replace flood or furrow irrigation. Must follow NRCS Conservation Practices 441, 443, and 449
8. Use of low pressure irrigation systems to reduce pumping and energy use
9. Use of Variable Frequency Drives to reduce energy use and match pump flow to load requirements.

Also part of ranking will be those applications that have environmental benefits in disadvantaged communities. Will need to describe benefits.

10. Other.....your comments and feedback will be considered

# VERIFICATION COMPONENT

CDFA does not have the resources to verify irrigation systems have been implemented and work as specified in the grant application.

Recommended using third party.

# QUANTIFICATION OF DATA

Verifier should be able to assist in this task

Use of utilities to assist with this task (e.g., SCE, PGE)

CDFA will put together a final report on the quantified data  
Recommend that systems be implemented in six months to accommodate invoicing, emergency status of funding and reporting out of findings.

Timeline of activities is provided - handout 2

General schematic is provided - handout 3



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## QUESTIONS AND COMMENTS

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