Improving the Federal Response to Western Drought
Five Areas for Reform

USDA Agricultural Outlook Forum, February 24, 2017

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Supported with funding from The William and Flora Hewlett Foundation
### An interdisciplinary study team

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Report examines options for improving drought resilience

- Offers pragmatic solutions, not sweeping reforms
- Draws on:
  - Public information
  - Interviews with 40+ federal, state, local experts

In 2015, much of the West was in severe drought

Western challenges: Drier, more variable climate and growing population

Average Annual Precipitation (1981-2010)  Rainfall Variability

Left map source: Oregon State University (2015)
Right map source: Dettinger (2011)
The federal role is longstanding and evolving
Today, the federal government is a key partner

- Largest landowner, including headwaters
- Major irrigation supplier and hydropower generator
- Key provider of water information
- Chief environmental regulator
- Important source of funds

Federal funding for water and drought, $2.8 billion (FY 2014)

Source: Agency budgets
Modest federal reforms can boost drought resilience in the West

1. Leverage authorities
2. Coordinate actions
3. Change agricultural support programs
4. Improve headwater management
5. Improve water data and forecasting
1. Leverage federal authority

- History of federal capacity for resolving tough problems

- **Reforms:**
  - Use mix of support and regulatory programs (carrots and sticks)
  - Immediate need:
    - Colorado River
    - Sacramento-San Joaquin Delta
    - Klamath Basin
2. Coordinate federal actions more effectively

- Conflicting goals, mandates, regions
- “Wring every drop” vs. stewardship
- **Reforms:**
  - Coordinate, align at the basin or watershed scale
  - Develop drought biodiversity plans

Regional office boundaries vary greatly:

- US Army Corps of Engineers, regulatory boundaries
- US Bureau of Reclamation regions
- US Fish and Wildlife regions
- US Forest Service regions
- Environmental Protection Agency regions
- USDA Farm Service Agency and Natural Resource Conservation Services, state offices
2. Coordinate federal actions more effectively

- Conflicting goals, mandates, regions
- “Wring every drop” vs. stewardship
- Reforms:
  - Coordinate, align at the basin or watershed scale
  - Develop drought biodiversity plans

Major river basins are the appropriate scale for aligning many federal actions
3. Modify agricultural support programs

- Agriculture: 85% of water use
- USDA: 63% of federal water and drought funding
- Reforms:
  - Align conservation programs with basin goals
  - Use on-farm efficiency to build supply and ecosystem resilience
  - Promote innovation

Source: USGS

Western water use, 2010

Urban share of state water use
Agricultural share of state water use

Source: USGS
4. Improve headwaters management

- Drought is accelerating decline in forest health
- Fire suppression >50% of US Forest Service budget

**Reforms**
- Shift budgeting to promote prevention over suppression
- Implement large-scale restoration projects to show benefits

Source: USGS
5. Improve water data and forecasting

- Water information and forecasting is a vital service

**Reforms:**
- Reverse decline in monitoring networks
- Improve skill of NWS forecast models
- Support water-use monitoring
- Revisit research-observation-forecast budgets
These reforms are modest and pragmatic, but not necessarily easy

- Complex relationship between federal government and western states
- Deeply entrenched reliance on some federal programs
- Inherently conservative and risk-averse agencies
Latest drought provides opportunity to build resilience, prepare for an uncertain future
Notes on the use of these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

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Thank you for your interest in this work.

For more information, see www.ppic.org/water