

SCOPE OF WORK

AWE OUTDOOR WATER SAVINGS RESEARCH INITIATIVE

Phase 2

Use and Effectiveness of Municipal Irrigation
Restrictions during Drought

August 25, 2015



Overview

Drought conditions prompt dramatic action by water utilities to curb customer demands. These actions are typically focused on limiting the frequency of lawn watering, but which actions or levels of implementation are most effective? This research will compare the drought response approaches implemented by different water providers and the impact and water savings achieved through different measures and levels of implementation. This research will examine the impact of varying levels of mandatory and voluntary watering restrictions as well as different messaging and information. The final report will discuss which measures and messaging provide the most significant drought water demand reductions.

Research Questions

- 1) What mandatory and voluntary irrigation restrictions are being implemented by North American water providers?
- 2) How do mandatory and voluntary irrigation restrictions vary across water providers?
- 3) What demand reduction impacts can be achieved through different levels of mandatory and voluntary irrigation restrictions?
- 4) During times of drought, what can water providers do to maximize outdoor irrigation demand reductions?
- 5) How does media coverage impact drought response and what are the comparative impacts of local vs. state and regional drought messaging?
- 6) What is the longevity of demand reductions during and after a drought?

Scope of Work

Goals

The goal of this project is to conduct new empirical research on the practice and impact of varying levels municipal irrigation restrictions during drought.

Research Approach

The specific research approach and locations should be developed by the applicant research team. An excellent example of the type of research AWE is seeking to fund can be found here - *Kenney, Douglas*

S., Roberta A. Klein, and Martyn P. Clark, 2004. Use and Effectiveness of Municipal Water Restrictions During Drought in Colorado. Journal of the American Water Resources Association (JAWRA) 40(1):77-87.

Research methods should include:

- Review of drought conditions faced by water providers and irrigation restrictions implemented by a distinct set of water providers.
- Comprehensive analysis of the varying levels of irrigation restrictions imposed and the timing of implementation.
- Comprehensive analysis of media coverage of the drought and the timing of media coverage.
- Statistical analysis of the changes in water use brought about by varying levels of irrigation restrictions and/or media coverage, state proclamations, etc.
- Exploration of the differing impact of varying levels of voluntary and mandatory irrigation restrictions and what appears to me most effective for maximizing and maintaining savings.

The research team should propose to work with at least five separate water utilities that have responded to drought conditions over the past 10 years by imposing (voluntary and/or mandatory) irrigation restrictions.

Deliverables

The key deliverables for this project are:

- Final report describing research methods and findings (to be published by AWE).
- Research database including water demand data and drought response information.
- Recommendations for ongoing and future research based on the findings.

Proposal Requirements

The following elements should be included in the body of the proposal which is limited to 15 pages:

- Executive summary
- Description of project team and qualifications (2 pages max.)
- Scope of work including research methods and study site locations
- Schedule (not to exceed 18 months)
- Proposed budget including clear delineation of the team members and anticipated hours assigned to each project task and hourly rates for each team member.

The following elements should be included with the proposal, but are not subject to the 15 page limit:

- Description of up to three similar projects completed by research team members (one page per project max).
- Statement of qualifications
- Resumes
- References

Project Budget

AWE has allocated \$150,000 - \$200,000 for this project.

Project Period
12 – 18 months.