



POSITION STATEMENT: DROUGHT & WATER SUPPLY EMERGENCY PREPAREDNESS

October 9 Draft Update for Members' Consideration on October 17, 2013

ICWP RECOMMENDS:

1. That all states and the federal government should develop and sustain the expertise needed to improve the collection of data and the methods for anticipating and alleviating the impact of water supply interruptions resulting from drought and other foreseeable emergencies (natural, accidental and deliberate).
2. That all states, water management districts and local water utilities should promote the preparation and maintenance of drought and emergency plans as part of broader water planning. This planning should occur at appropriate local and regional scales with the objective of identifying and supporting management decisions related to the reduction of demand and allocation of available supplies during water supply emergencies.
3. That each state should identify and sustain an effective, central point of coordinated planning, preparation and response. Among the coordination functions served by this agency, evaluating and supporting local capacity to plan, prepare and respond effectively will continue to be essential.
4. That regional approaches, utilizing interstate organizations and agreements among the states where interstate waters are involved, should be assessed and refined to facilitate a coordinated response to water supply interruptions and scarcity consistent with existing water laws, river basin compacts and court decrees.
5. That state and federal agencies should promote measures to increase water availability including, but not limited to, conjunctive management, aquifer storage and recovery, and new reservoirs.
6. That state and federal resource agencies should improve research programs to increase the accuracy of drought predictions; earlier warnings will enhance drought preparation, response and mitigation.
7. That water supply contingency planning should be designed using reliable and appropriate information, ready for implementation and tested periodically by the agencies involved to assure their ability to accommodate reasonably foreseeable demands, shortages and system failures.
8. That federal support should be sustained for national and regional centers (Regional Integrated Sciences and Assessments (RISA)) for assistance to states in developing effective drought and water supply emergency preparations and in understanding the impacts of climate variability.
9. That the Congress should fully fund NOAA National Weather Service and RISA programs and USGS Water Programs as essential national responsibilities, and consider combining them within the Department of the Interior.
10. That the Congress should reauthorize and fund full implementation of the National Integrated Drought Information System (NIDIS) implementation plan to enable the NOAA to provide better information to

decision makers at every level of government so that they can make more timely decisions leading to reduced impacts and cost recovery.

11. That the USGS Water Census design should dedicate sufficient expertise to providing the science needed to support water supply planning that anticipates drought and other emergency water supply interruptions.

BACKGROUND

Drought and emergency water management, planning and response are indispensable elements of water supply management, where reliability is essential. Water supply emergencies are caused by a range of natural, accidental and deliberate factors. The failure of a water supply, whether due to engineering failure, disruption by earthquake, flood, pollution, climatic conditions, regulatory requirements, sabotage or terrorist activity, strikes a blow at the confidence and vitality of the community and its economy. While the risk associated with each factor varies, their occurrence is foreseeable and the adverse consequences for water allocation and distribution can be reduced through advance understanding, preparation, and planning.

Drought is a useful example because it will occur at some time every year in the United States and each time drought occurs, many of the same issues are raised. State water managers expect freshwater shortages in the near future, and the consequences may be severe.

During the past decade, with help from the NOAA/National Service and USGS, water officials in the US have begun making significant progress in the anticipation and preparation for emergency interruptions. Increased awareness of water supply variability and vulnerabilities at the regional scale has been combined with greater involvement of local water government and water providers.

Drought conditions can last for years, making it difficult to estimate losses accurately, and the compilation of drought impact statistics at the national level is inconsistent. Nonetheless, even the most conservative estimates of the impacts of drought are substantial. According to the USDA, about 80% of American farms experienced drought in 2012, affecting the national food supply and the local economy in over 2000 counties¹. The cost of drought impacts in 2012 may be greater than the damage caused by Superstorm Sandy, making it one of the three costliest disasters since 1980².

Pipeline failure/spills provide another useful example. Hazardous liquid pipelines cross inland water bodies at more than 2,800 locations, and the USDOT has identified at least 20 pipeline ruptures since 1991 that discharged hazardous liquids into America's inland waterways; flood damage was a factor in 16 of those accidents³. These spills discharged various quantities of crude oil, liquefied petroleum gas, gasoline, diesel fuel and anhydrous ammonia into America's inland waters, none of which are compatible with water supply, recreation, ecological quality or other valued uses.

The most uncertain risk that water managers and planning agencies must begin contemplating and preparing to reduce and respond to is "cyber war." The internet "hacking" and "disruption of service" attacks that many American banks, news media and government agencies have reported already provide cause for an assessment of defensive options. While our communities and water utilities have been attentive and responsive to this risk, there is much to be learned about the magnitude of these risks and the means for reducing them.

POLICY CONSIDERATIONS

Water supply interruptions have already been caused by a variety of natural, accidental and deliberate events.

¹ USDA Economic Research Service website, "[US Drought 2012: Farm and Food Impacts](#)"

² 2012 [National Drought Forum Report](#)

³ December 2012 Report to Congress, US Dept of Transportation's Pipeline and Hazardous Materials Safety Administration

Even under normal conditions, water managers in 36 states have been anticipating shortages in localities, regions, or statewide during the past 10 years.⁴

Inadequate design or maintenance of our water diversion, storage, treatment and delivery infrastructure expose our water supplies to vulnerability or failure due to fatigue, flooding, earthquakes, sabotage, unconstrained demand and other foreseeable risks.

Drought conditions can jeopardize water supplies in several regions of the US simultaneously at varying degrees of severity and may require a coordinated effort among the states in the affected region(s). Unfortunately, the onset and scale of droughts continue to be very difficult to predict.

Public and private investment across the US is driven by many factors, including recreation, education, public safety and basic infrastructure. The social and economic disturbance caused by every significant shortage of water supplies will limit the vitality and weaken the reputation of a community as surely as polluted air, congested roadways, failing schools, electric power interruptions and crime.

Our public safety and the welfare of our communities depend upon the availability of reliable water supplies. Recent experience in responding to emergencies demonstrates the importance of advance planning, preparation and coordination. These preparatory efforts should be focused on improving the reliability of water supplies through all feasible means in coordination with specific and immediate means to reduce water demand the longevity and severity of water shortages are minimized.

Leaders in local government, the business community, non-governmental organizations and individual citizens often perform practical and indispensable roles. Federal agencies also contribute invaluable expertise, data, research, supplies, equipment and funding. However, our nation relies heavily on state governments for emergency preparation and response due to their legal authorities, geographic scale and regional relationships.

The success of advance planning and response preparation depends upon adequate design, communication and training. These efforts may be complicated by the necessity of distributing responsibility and resources among multiple agencies. Additionally, the fiscal constraint of public budgets further complicates these efforts.

Our planning should anticipate potential conflicts among water rights and between state and federal laws, and points of vulnerability, such as the reliability of communication systems and the action of other agencies. Any provision for alternative means of supply and distribution (structural and non-structural) that may be necessary during severe or long-term water supply shortage should be identified, evaluated and agreed upon as quickly and clearly as possible to avoid unnecessary confusion, delay and conflict during emergency response efforts.

To be successful, our communities need to identify and understand the interdependency among critical infrastructure systems such as levees, floodways, reservoirs and detention basins, treatment plants and distribution lines. This understanding (not just among officials and experts, but including a large portion of the community) is essential in reducing the vulnerability of our critical infrastructure and restoring it to serviceable condition in the event of a disaster. Public understanding and awareness of the priorities, restrictions and reallocation measures and the role that key agencies will serve in an emergency can most effectively be enhanced during periods when water supplies are plentiful and secure.

National and regional centers of drought management serve as clearinghouses and as sources of technical expertise and assistance in developing effective programs for anticipating and mitigating the impacts of drought and other serious water supply emergencies.

EFFECTIVE DATE: This position was initially proposed by the ICWP Legislation & Policy Committee and adopted by the ICWP Board of Directors in February 2007 and updated in October 2008. This revised version was approved by the ICWP Membership on **October 17, 2013**. It will continue in effect until December **2016** unless revised or archived at an earlier time by the Board of Directors or by the Membership.

⁴ GAO report ‘Freshwater Supply –States’ Views of How Federal Agencies Could Help Them Meet the Challenges of Expected Shortages, July 2003. The GAO is updating this report in 2013.