League of Women Voters of Oklahoma
Water Study Committee
Discussion and Consensus Questions
October 2012

The League of Women Voters of Oklahoma supports state policies and procedures that promote comprehensive long-range planning for conservation, management and protection of water resources. (from current Oklahoma state position on Water)

I. WATER AVAILABILITY

Resources:

***Oklahoma's Climate*, Excerpted from the Oklahoma Comprehensive Water Plan Supplemental Report, "Climate Issues and Recommendations," December 2012 (PDF)**

***Oklahoma Water Facts*, http://www.owrb.ok.gov/util/waterfact.php**

Climate may be roughly defined as the fairly consistent patterns of temperature and precipitation in a given area. The location and amount of precipitation are largely controlled by subtle interactions of the temperatures of air currents and bodies of water. We cannot know for sure exactly what climate changes will occur, but we do have sufficient scientific evidence to know that temperature can shift climate zones, particularly in ways that affect the availability of water.

The League of Women Voters of Oklahoma recognizes the basic human right for water. It further recognizes that water is a scarce resource which requires thoughtful and informed choices.

A civil society recognizes the interdependence of human needs with agriculture, energy, industry, recreation and wild life. This is a delicate balance.

While the state of Oklahoma currently is one of two states with a surplus of water there is a geographic disparity of water availability. Current trends in climate indicate that water resources will be increasingly challenged. In addition, water demands will continue to increase. The future availability of water will be in the hands of individual and policy makers alike.

Oklahoma has a history of droughts which appear to be cyclic in nature. The US Geological Survey lists the following statewide drought episodes in Oklahoma from 1923 to 1988:

1929-1941, 1951-1975, 1961-1972, 1975-1982, with a brief regional drought from 1984-1986.

Climatologic data indicates that the current drought conditions, which are nationwide, may have originated as early as 2007. In addition, there seems to have been a brief drought period in 2001-2002.

The best data for earlier periods come from tree-ring data and archeology bores from lake beds. These indicate two 10-year-plus droughts in the late 1700's, one in the mid 1800's, and another from 1905 to 1921, almost joining with the Dust Bowl drought. As you can see, droughts are frequent, roughly every 10 years, and tend to last around 10 years. Oklahoma appears to be dry much more than it is wet.

The collapse of the Anasazi civilization in the Four Corners region around 1200 AD is usually explained as probably caused by severe and/or prolonged drought. If this is true, it is likely that Oklahoma was not unaffected by the same weather conditions. It is provocative to realize that this event closely coincides with the onset of what is historically known as "The Little Ice Age," a worldwide climate phenomenon.

Discussion Questions:

1. What is the most critical issue facing your community relative to the availability of water and how is your community addressing this issue?
2. List three techniques best suited to your community to address water availability issues over the next 50 years.

Consensus Question:

Consensus Question:

How should this history and current climate concerns affect our decisions about water use and long term commitments for the use of our "excess" water?

II. WATER CONSERVATION

Resources:

***Conserving Oklahoma's Water*, Oklahoma Water Resources Board,**
http://www.owrb.ok.gov/news/publications/pdf_pub/consweb.pdf

DEFINE: Conservation of our water resources (activities designed to reduce water demand and improve efficiency of use) while ensuring the availability of fresh water for future generations involves: changing habits, using less water and using water more efficiently and economically.

Water shortages are happening more frequently due to many reasons including increasing and shifting population density, general personal habits that waste water, inefficient use and increasing demand by

industry, agriculture and municipalities more frequent droughts with increasingly extreme temperatures.

Consensus Question:

Rank in order of importance (1- highest level of importance, 7 - lowest level of importance) the best approach to maximize conservation of our water resources in Oklahoma?

a. Educating decision-makers, water managers and citizens realize their respective roles in staving off drought periods and easing or preventing hardships caused by these periods.

b. Reducing water demands in the home, in industry and in agriculture.

c. Use a tiered water rate structure based on water consumption levels.

d. Encourage agricultural practices such as furrow diking and Low Energy Pivot Systems center pivot sprinkler systems and low water crop selections.

e. Promote a statewide PR campaign of "Show by Example" in all communities statewide engaging the Governor, Legislators, Mayors and other notable personalities.

f. Create Conservation Programs geared to children at school and work to get this accepted into all school systems.

g. Utilize existing water conservation programs already developed by the Conservation Districts located statewide.

h. Other:_____
_____

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III. WATER QUALITY

Resources:

***Nonpoint Source Pollution: The Nation's Largest Water Quality Problem*,**
http://water.epa.gov/polwaste/nps/outreach/point1.cfm

***Non-Point Pollution*, drafted by LWVOK Water Study Committee, PDF**

POINT SOURCE POLLUTION

DEFINE: The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation (CAFO), or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

NON-POINT SOURCE POLLUTION

DEFINE: Nonpoint Source (NPS) pollution comes from many diffuse sources. It is caused when rainfall or snowmelt move over and through the ground. The runoff picks up and carries away natural and human-made pollutants depositing them into lakes, rivers, wetlands, coastal waters and our underground sources of drinking water.

The Clean Water Act in 1972 was enacted to protect our water supply in the U.S. from abuse to preserve its quality and ensure a usable supply into the future. In 2004 this law was amended to remove this protection for water needed for use by the petroleum industry.

Discussion Questions:

1. Congress has exempted the petroleum industry from the regulations associated with the Clean Water Act. Nationwide, owners of underground storage tanks at gas stations, etc. are required to have insurance or participate in a state trust fund that provides money for the cleanup of spills associated with leaking tanks, incidental spills, or failure of equipment. What other aspects of petroleum extraction and transportation (pipelines) need similar programs?

2. Another environmental issue related to petroleum production is the inability to determine the extent of contamination from that source. How should full disclosure of environmental effects

on soil, surface water, ground water, and drinking water wells from petroleum production and transportation be accomplished?

Consensus Question:

1. What steps should be taken to protect our water quality to ensure the maximum quantity of clean water is available for all uses? (Rank order, 1 - highest, 5 - lowest)

   a. Increase funding for state agencies for frequent oversight and enforcement of the Clean Water Act.
   b. Support the enforcement of strict regulations for projects that pose a strong potential for spillage, leakage or airborne contamination.
   c. Require strict enforcement of Concentrated Animal Feeding Operation (CAFO) regulations.
   d. Incentivize programs for trash pick-ups and recycling.
   e. Increase public information on reporting polluters.
   f. Other :

   _____

   _____

FRACKING

Resources:

***Hydraulic Fracturing: Legislative and Regulatory Trends*, by Adam Orford, NPDES Training Institute, http://www.npdestraining.com/fracking_regulations.html**

Unconventional Oil & Gas Development-Key Environment and Public Health Requirements http://www.gao.gov/assets/650/647783.pdf

Oil & Gas-Information on Shale Resources, Development and Environmental and Public Health Risks http://www.gao.gov/assets/650/647792.pdf

DEFINE: Hydraulic fracturing (commonly called "fracking") is a method for increasing output at oil and natural gas wells by breaking open gas-bearing rock formations using high-pressure fluid injection. *(A. Orford, "Hydraulic Fracturing: Legislative and Regulatory Trends," October 2011)*

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The hydraulic fracturing process of oil and gas extraction that uses millions of gallons of water per fractured well has had a dramatic increase in wells drilled across the US in every state. This process permanently removes massive quantities of water from our limited water supply due to the corrosive chemicals and sand that is used in the fracturing process that cannot be removed safely. Sixty percent of the water pumped into a well during this process is withdrawn and transferred to an injection well to be permanently sealed.

Some of this used well water that is not injected is beginning to be reused and piped to another well site to reduce using the supply of new water. This use of and disposal of reused water is not regulated at all. Truckers and pipeline workers are typically responsible for contaminated well water disposal

Another method to capture fossil fuels is tar sands extraction or mining used in Alberta, Canada and at one site in the states. This method threatens arboreal forests, which hold lots of pristine water, which is depleted this process. Pipelines then transfer tar sands crude to sites in the north and east US for refining and also to Cushing, OK waiting to transfer to Houston to be refined. Many of these pipelines are over 50 years old and the corrosive nature of this heavy dense mixture lead to spills and blowouts. The pipeline must be heated to 100 degrees to keep the tar sands mix flowing.

Underground gas storage tanks are required to have insurance coverage or use a state trust fund that provides money for clean-up of spills from these holding tanks or equipment failures.

Discussion Questions:

1. Since the process of hydraulic fracturing for oil and gas resources and the transport of extracted materials can pose a potential threat to water resources, the following questions deal with proposed methods of regulation of both fracking and transport methods.

   What methods could be used to further preserve our water resources and what monetary protections should be adopted to ensure our pristine water supplies?

2. About one-third of states have some kind of regulations covering this fracking procedure. The fracking process and the injection wells are exempt from the federal

Clean Water Act. A few municipal regulations have also been enacted with varying effectiveness. Regulations are exempted on public lands like national forests and parklands.

Discuss the need to have different regulating bodies, to have uniform regulations and how to enforce these regulations.

3. Water has become a huge commodity for the fracking process and new businesses are popping up everywhere to provide this huge demand for clean water. They must apply for a permit from OWRB before they can access public water supplies like streams and lakes.

   Some states have begun requiring reports, in varying detail, regarding withdrawal water volumes and sources; return flow volumes and disposition, and well pressures. Sometimes they have adopted more stringent technical requirements to ensure well integrity.

   Should this information be made available as easily accessible public information and how should it be reported so that regular citizens can understand the report?

4. Discuss the effectiveness of regulation of fracking by the Federal and State governments on public and private lands.

Consensus Questions:

1. The fracking fluid is made up of a chemical mix, sand and a surfactant. These chemical contents prevent the water from being returned to our water supply. Most of it goes into a lined surface pond forever or to an injection well (not the same as the fractured well) permanently.

A few states have required disclosure of these contents for safety reasons when well or pipeline accidents happen. It is important to know what chemicals a well worker or anyone who might come into contact with this contaminated water for medical treatment. This information is also important to know how to clean it from a spoiled water system and land from a spill.

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What requirements should be enforced regarding the disclosure of the chemical content of fracking fluids and pipeline contents?

2. *"Many state regulatory agencies familiar with oil and gas development appear largely to agree that increased environmental risks from hydraulic fracturing in deep shale generally arise from:*

   Greatly increased water withdrawals for this type of fracturing,

   Improper handling and disposal of chemical-laden return flows, and

   Underground releases due to well blowouts and other accidents or negligent operation

Some states have begun requiring submissions, in varying detail, regarding withdrawal water volumes and sources, return flow volumes and disposition, and well pressures and have sometimes adopted more stringent technical requirements to ensure well integrity.

Regarding withdrawals, a Michigan agency recently explained that 5 million gallons of water - necessary for a single fracturing operation - is roughly equivalent of the water necessary over a season to grow 8 - 10 acres of corn. "(A. Orford, "Hydraulic Fracturing: Legislative and Regulatory Trends," October 2011)

What provisions should be enacted in issuing water and drilling permits regarding the right to use water and the impact of the fracking process on water quality?

3. Should statewide oil and gas laws preempt the ability of towns and cities to regulate fracking within their own boundaries?

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IV. FUNDING, ENFORCEMENT AND LEGAL IMPLICATIONS OF WATER IN OKLAHOMA

ADEQUATE FUNDING AND ENFORCEMENT OF ENVIRONMENTAL (WATER) PROTECTION

Resources:

***Water Law Enforcement Poor, According to Study*, by Katie Morgan, Daily Correspondent, May 27, 2004, http://www.iowastatedaily.com/news/article_34978ee7-9b8e-5195-8dc4-5a0b3f3f68ef.html**

***U. S. Adopts Limits on Clean Water Law Enforcement*, by Lisa Lambert, Reuters, June 5, 2007, http://www.reuters.com/assets/print?aid=USN0531003820070605**

In many instances, the enforcement of existing law has not produced the level of compliance that was intended in the legislation. Where the existing level of compliance with current laws are not adequate to provide mandated protection of water quality or quantity, the effort expended to enforce the law should be increased until the level of compliance is adequate to meet the goals of expectation of the law.

Clean and adequate water supply has been the goal of much of the water policy in the last 50 years. However, good water law and regulation must be enforced to be effective.

In many instances, the enforcement of existing law has not produced the level of compliance that was intended in the legislation. Where the existing levels of compliance with current laws are not adequate to provide mandated protection of water quality or quantity, it is important to determine the most effective methods to insure that the level of compliance is adequate to meet the goals or expectation of the law

Consensus Questions:

For each question select one option:

1. The most effective method of enforcing clean water law is:
    a. Fines that are increased over time if the problem is not addressed.
    b. Allowing citizens or government agencies to sue entities causing pollution
    c. Allowing the market to work in enforcement of clean water laws as polluters lose market share

d. Providing public information about infractions (e.g., public data base, newspapers, media)

e. Other:_____
_____
_____
_____

2. The best method of financing regulation of water resources and enforcement of water law is:

   a. Appropriations based on budget requests from agencies charges with regulation and enforcement.

   b. Fees from water users to be used for regulation and enforcement

   c. Fines to be used exclusively for further regulation and enforcement.

   d. All of the above

3. Fines are the most common form of regulation in cases of non-compliance with water regulations. If fines are to be used, the fine should be tiered based on which of the following criteria? (Rank order: 1 - most effective, 4 - least effective):

   a. Seriousness of environmental damage (e.g., felony vs. misdemeanor)

   b. Number of incidents of non-compliance (e.g., Is this a first-time offense?)

   c. Cost to the tax payer (e.g., health, infrastructure damage, clean-up costs, disability costs)

   d. Other:_____
_____
_____

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OKLAHOMA WATER LAW

Resources:

***The Basics of Oklahoma Water Law: What Every Practitioner should Know*, Bar Journal Scholarly Article, Oklahoma Bar Association, by L. Mark Walker and Reagan E. Bradford, http://www.okbar.org/obj/articles 09/090509-walker-bradford-water-law.htm**

Water law in Oklahoma can be summarized by the statement: The more things change the more they stay the same. The "sameness" comes from the Oklahoma Legislature's inability to adopt policy changes or its unwillingness to provide adequate funding to implement policy if a change is made. The Oklahoma courts, concerning water rights, have only on rare occasions strayed from a strict adherence to common law and its heavily steeped tradition embodied in precedence that views water as a private property right. What is most interesting is that the actions of the Legislature and the courts may be an accurate reflection of the will of the Oklahoma electorate. As a result, the changes in the law that affect water have primarily come from external sources such as federal law, lawsuits seeking interpretation of water rights under treaties with Indian tribes, and interstate compacts. [1]

This sameness may also result from an electorate that is unaware and uneducated in various water policy alternatives that can be reflected in the law. Without such awareness and education the Oklahoma Legislature is without a clear directive from the body politic which it represents. As population grows and water becomes scarce in neighboring regions it becomes imperative that the electorate become versed in the current bifurcated system of water laws, its implications and alternatives so it can influence the Legislature to insure that the laws accurately reflect the will of the people. This is particularly true because the state of Oklahoma has an abundance of water and will be asked to supply water to populations not as fortunate.

As that eventuality of supplying neighboring regions evolves, the Legislature and the legal system will be asked to determine if water is yours, mine, theirs or ours. As those questions arise the current bifurcated approach will burden the legal system to determine if any given quantity of water is owned by the individual or the state. [2] In essence, who has the right to sell water in interstate commerce? The conflict arises because Oklahoma uses the common law riparian rights system and a legislatively created appropriation system.[3,4] The appropriation system starts from the premise that water is a resource that

[1] See "Politics – Economy, League of Women Voters of Voters of Oklahoma Water Study", 1995-1997.
[2] See "The Basics of Oklahoma Water Law: What Every Practitioner Should Know", L. Mark Walker and Reagan E. Bradford, Oklahoma Bar Journal, September, 2009.
[3] Ibid.

belongs to the "people" and its use should be regulated by the State of Oklahoma on behalf of the people. The riparian system emanates from the notion that the ownership rights to water are attached to the land, and as such, the private land owner may use the water, whether surface or subsurface in nature, irrespective of communal needs. (An approach that is analogous in many ways to the ownership of mineral rights.)

There are other forces at work that additionally complicate the ownership and allocation of water in the state of Oklahoma. Treaties between the various Indian tribes and the United States, insuring that the tribes in Oklahoma have access to and ownership of clean water, creates arguments concerning the quantity of water that should be under the control of the various Indian tribes in Oklahoma.[5] (This is particularly true as water is seen as a scarce commodity, readily marketable, and ripe for profit-taking.) Add to that the various interstate compacts to which the State of Oklahoma is a party and a complicated system of water ownership and allocation is created. [6]

The State of Oklahoma's complex system of water ownership and allocation leads to lengthy and expensive litigation. This delays the creation of an effective and unified policy that equitably allocates water for the various needs critical to human existence for Oklahoma and the nation. It also hampers the Oklahoma Legislature in understanding the financial resources needed by the Oklahoma Water Resources Board so it can gather relevant and comprehensive data. Such data is necessary to make water policy recommendations to the Legislature and for the Board to undertake its administrative duties.[7]

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[4] See also "The Oklahoma Water Law Handbook, E-1016, Oklahoma Cooperative Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University.
[5] See "Tribal Water Rights in Eastern Oklahoma – The Inapplicability of General Principles Concerning State Water Interests", L. Susan Work, Of Counsel, Hobbs, Straus, Dean and Walker, LLP, June, 2009.
[6] Supra. "Politics – Economy, League of Women Voters of Voters of Oklahoma Water Study"
[7] See "Oklahoma Water Law", Keith J. Klein, Ryan, Whaley, Coldiron, Shandy, PC, March 6, 2008.

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Discussion Question:

1. If it can be proven that Oklahoma has surplus water should such water be allowed to be sold outside of the state? What is the role of the public in this decision?

Consensus Questions:

1. Is it more important that Oklahoma protect the private ownership of water rights or is it more important that water be viewed as owned by the people and equitably distributed? Explain the basis for the view that you hold.

2. If it can be proven that Oklahoma has surplus water should such water be allowed to be sold outside of the state?

3. If it is determined that there exists surplus water in the state of Oklahoma should private individuals be allowed to sell that water outside the state? Explain the basis for the view that you hold.

4. Why do you believe the Oklahoma Water Resources Board should or should not be vested with the authority and power to allocate the use of all water available within the state of Oklahoma? What appropriate checks and balances should be applied to achieve accountability?