2012 Groundwater Protection Council Annual Forum

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Planning on Monitoring?
Do a Monitoring Plan!

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Beneficial Use Monitoring (BUMP)

Initiated in 1998. Physical, chemical and biological data collected from Oklahoma’s streams and lakes is used to:

- Support development of Water Quality Standards.
- Prioritize pollution control activities.

Specific Objectives Include:

- Detect and quantify long-term water quality trends.
- Document impairments to beneficial use (and identify sources) 303(d) & 305(b).
- Identify pollution problems before they reach a crisis point.
Lakes – 130 lakes across the state sampled on a 5-year rotating basis (an average of 3 stations per lake).

Streams – 103 river and streams sites with both fixed and rotating stations sampled each year (multiple times).
Existing Groundwater Level Sites in Oklahoma’s Major Aquifers

- Active Annual Groundwater Level Measurement Sites
Hydrograph of Irrigation Wells

> a 100 foot drop in 47 years.

Year to year water level changes that vary from 1 ft. to as much as 20 ft.
Wet/Dry Periods in Oklahoma 1895–2006

Annual Rainfall History with 5-yr Weighted Trends
Climate Division OK-ST (Oklahoma Statewide): 1895-2006
Update of Oklahoma’s Comprehensive Water Plan

- Five years in development including technical & public input meetings to establish a Water Plan to 2060.

- Adoption by the Oklahoma Legislature in February 2012.

- Importantly, the Legislature and the Governor approved funding ($1.5 million) for enhanced surface water monitoring and initiation of the state’s first comprehensive groundwater monitoring and assessment program.
Decisions don’t *require* data
But *GOOD* decisions do!

How do states acquire quality surface and groundwater data to facilitate good decision making?
So What About Groundwater?

- No baseline WQ monitoring
- Skeletal depth to water program w/o dedicated funding, scale limits its utility
- MAY/Basin studies occur
- No broad statistically sound quantity/quality program
OCWP GW Recommendation

OCWP Made 8 Priority Recommendations
OCWP 8 Priority Recommendations

- Increase infrastructure financing capabilities
- Create Regional Planning Groups
- Define “Excess & Surplus Water”
- Develop instream flow program by 2015
- Establish formal consultation process on Tribal Issues & resolution
- Incentivize voluntary Water Conservation initiatives
- Perform Water Supply Reliability studies
- Dedicate funding for Ground and Surface Water Quality & Quantity Monitoring
The State Legislature should provide a dedicated source of funding to enable the State of Oklahoma to accurately assess the quality and quantity of its water resources, thereby ensuring improved water quality protection, accurate appropriation and allocation, and long-term collection of data to make informed water management decisions. Such funding should be directed toward development and maintenance of a permanent statewide water quality and quantity monitoring program(s), specifically allowing for the following:

- Integration of all state surface and groundwater quality monitoring programs into one holistic, coordinated effort.

- Stable and dedicated appropriations for critical statewide monitoring programs, such as Oklahoma’s Cooperative Stream Gaging Program, Beneficial Use Monitoring Program, and Nonpoint Source Monitoring Program, as well as other agency efforts to monitor point source, agriculture, mining, and oil and gas impacts.

- Creation of an ambient groundwater quality monitoring program.

- Full implementation of a statewide program for the collection of biological data to provide a better indication of long-term water quality trends in Oklahoma.
OCWP GW Recommendation

Now OCWP has grassroots support for GW monitoring

- Strived for IMPLEMENTATION of the OCWP
- Strived to BRIEF the Legislative leadership
GW Monitoring a Reality

Ultimately received an ADDITIONAL $1.5 MILLION for Monitoring
Groundwater Monitoring Network
Primary Objectives

- Establish/delineate baseline conditions.
- Assess the spatial distribution, occurrence and magnitude (of chemical constituents and water levels).
- Analyze data trends.
- Identify water quality hot spots.
- Identify water deficient areas.
Network Implementation Schedule

Year 1 200 WQ
300 WL

Year 2 185 WQ
270 WL

Year 3 190 WQ
305 WL

Year 4 160 WQ
225 WL
GW Monitoring a Reality

Learning the Ropes

- Careful asking for comments on the Proposal – You may get some!
GW Monitoring a Reality

So Here’s What Worked for Us

- Foster the necessity of data for decision making.
- Get the Public to demand it (OCWP was the vehicle for us).
- Be honest about what you DON’T know.
- Find a Legislator that will Champion the project.
- Use caution when asking for input on your monitoring plan.
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