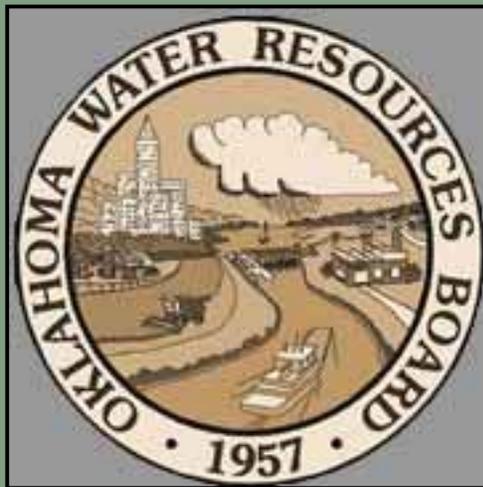


# *Oklahoma Water Law*

## *The Water Use Permitting Process*



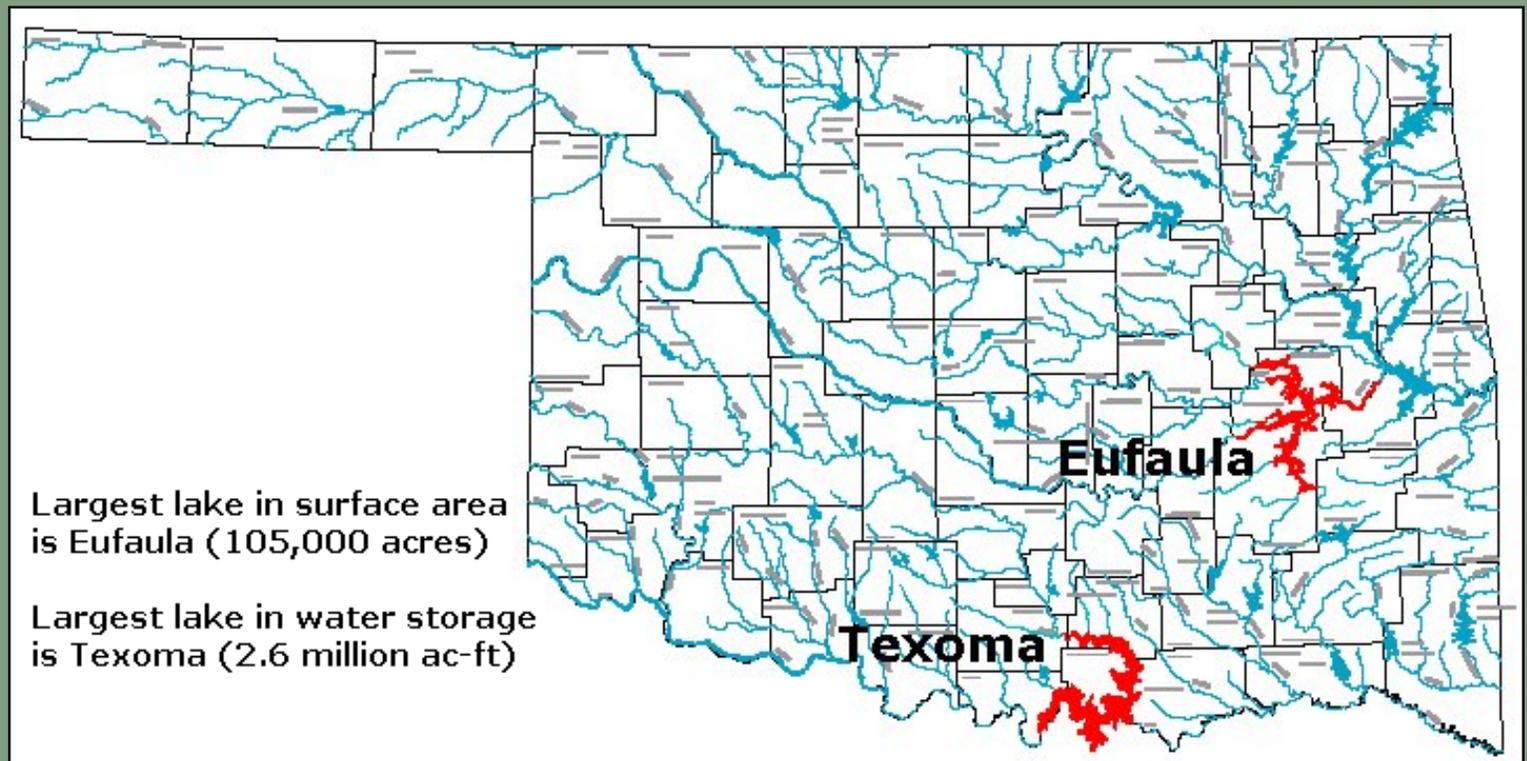
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# *Oklahoma's Water Resources*

## *Where is Oklahoma's Water?*

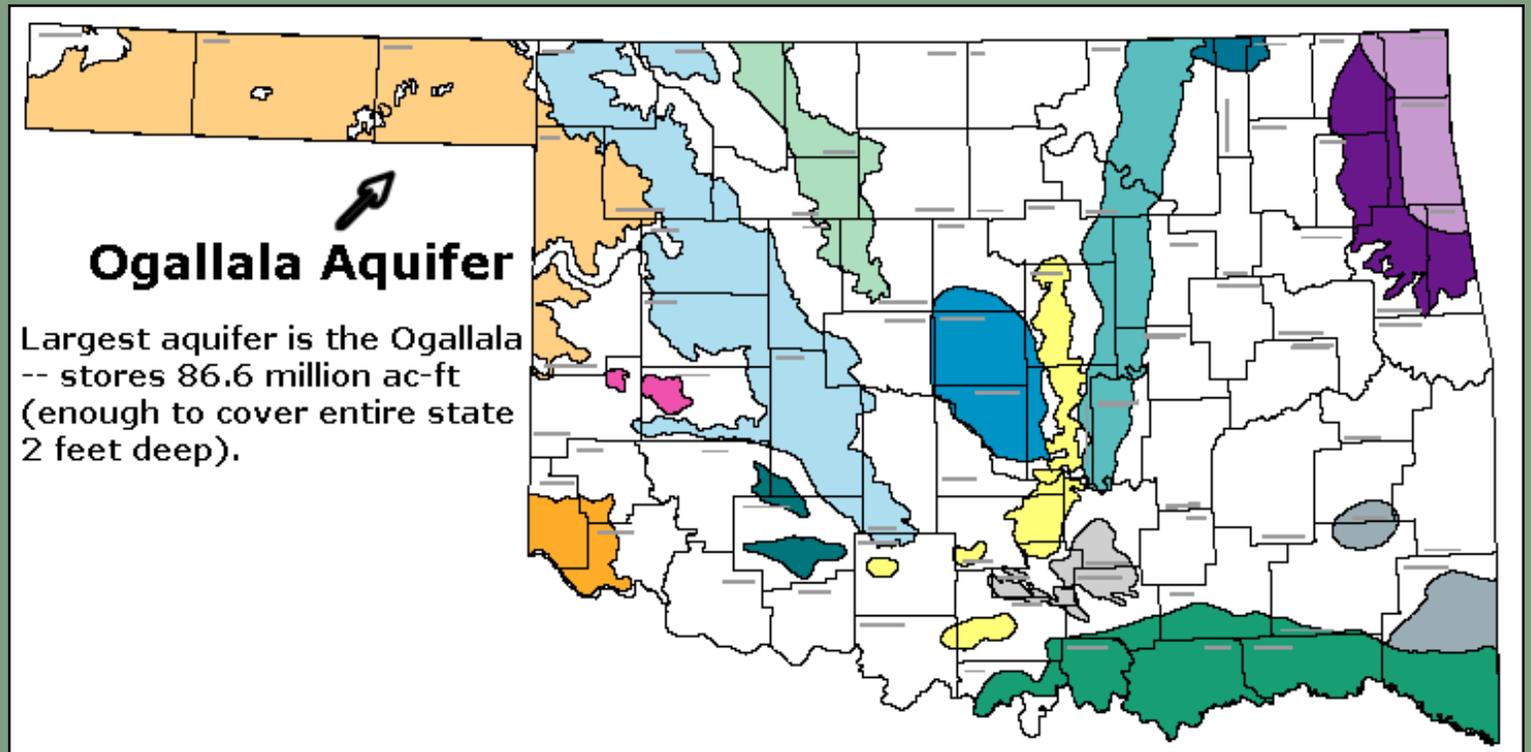
- ◆ In 34 major reservoirs storing 13 million acre-feet of water



# Oklahoma's Water Resources

## Where is Oklahoma's Water?

- ◆ In 23 major groundwater aquifers storing 320 million acre-feet of water



# *Oklahoma's Water Resources*

## *Who Uses Oklahoma's Water?*

- ◆ Irrigation is the #1 use of water in Oklahoma:
  - accounts for **49 percent** of total withdrawals:
    - water supply = 32 percent
    - stock watering = 8 percent
  - accounts for **80 percent** of groundwater withdrawals:
    - During a peak irrigation day (assuming 1,000 wells pumping at 1,000 gpm), Texas County uses as much water as New York City during an average day.

# *Oklahoma's Water Resources*

## *Who Uses Oklahoma's Water?*

- ◆ 2,600 stream water permits on file (OWRB):
  - appropriate 2.4 million ac-ft/year
- ◆ 9,500 groundwater permits:
  - allocate 3.2 million ac-ft/year
- ◆ City of Tulsa:
  - authorized = 324,778 ac-ft/yr
  - used (1998) = 138,654 ac-ft
- ◆ City of Oklahoma City:
  - authorized = 215,463 ac-ft/yr
  - used (1998) = 135,864 ac-ft
- ◆ 1995 Withdrawals:
  - Texas/Cimarron/Beaver Counties = 701,120 ac-ft (624 mgd)
  - State Municipal Water Supply = 636,160 ac-ft (566 mgd)

## *Overview*

# Oklahoma Stream Water Law

- ◆ Stream water is considered to be publicly-owned and subject to appropriation by the OWRB:
  - water use permits approved by 9-member Water Board.
- ◆ “First in time, first in right”:
  - first person to apply for the water right establishes a right superior to later appropriators.
- ◆ “Beneficial use is basis and limit of the appropriation right”

## *Overview*

# Oklahoma Stream Water Law

### ◆ *Five Points of Stream Water Law:*

- unappropriated water is available in amount applied for;
- there is a present or future need for the water;
- the use is beneficial;
- use will not interfere with domestic or existing uses; and,
- use will not interfere with uses within stream system of origin.

## *Overview*

# Oklahoma Stream Water Law

### ◆ *Domestic Use of Water:*

- ...for household purposes, for farm and domestic animals up to the normal grazing capacity of the land whether or not the animals are actually owned by such natural individual or family, and for the irrigation of land not exceeding a total of 3 acres in area for the growing of gardens, orchards and lawns;
- ...for agriculture purposes;
- ...for fire protection;
- ...by non-household entities for drinking water purposes, restroom use, and the watering of lawns
- not to exceed 5 acre-feet per year.

## *Overview*

# Oklahoma Stream Water Law

- ◆ *Beneficial use is basis and limit*
- ◆ *Avoid speculation in Stream Water Rights (before permit is issued):*
  - Specify use in application
  - Present or future need (785:20-5-5)
  - Out of stream system use must protect reasonably foreseeable future use in stream system (50-year)

## *Overview*

# Oklahoma Stream Water Law

- ◆ *Beneficial use is basis and limit*
- ◆ *Avoiding speculation (after permit issued):*
  - Commence project (within 2 years);
  - Completion of works;
  - Forfeiture use-it-or-lose-it (7-year default):
    - requires full use of the annually authorized amount within 7 years of permit issuance and at least once in any continuous 7-year period thereafter;
    - Schedule of Use (exception for large projects) allows phased-in use over a specified period of time (lose if fail to keep schedule).

## *Overview*

# Oklahoma Groundwater Law

- ◆ Groundwater is considered private property that belongs to the overlying surface owner, although it is subject to reasonable regulation by the OWRB.
  - *Municipalities can dedicate platted lands.*

## *Overview*

# Oklahoma Groundwater Law

- ◆ The amount of groundwater apportioned is based upon the amount of land owned, generally two acre-feet of water per acre of land:
  - *slightly more or less in basins where detailed hydrologic surveys have been conducted.*

# Water Use Permitting Requirements

- ◆ Applications required (except for domestic use);
- ◆ Notice of application (hearing if protested):
  - mail notice;
  - publish notice;
- ◆ Administrative Procedures Act process.

# Stream Water Calculations

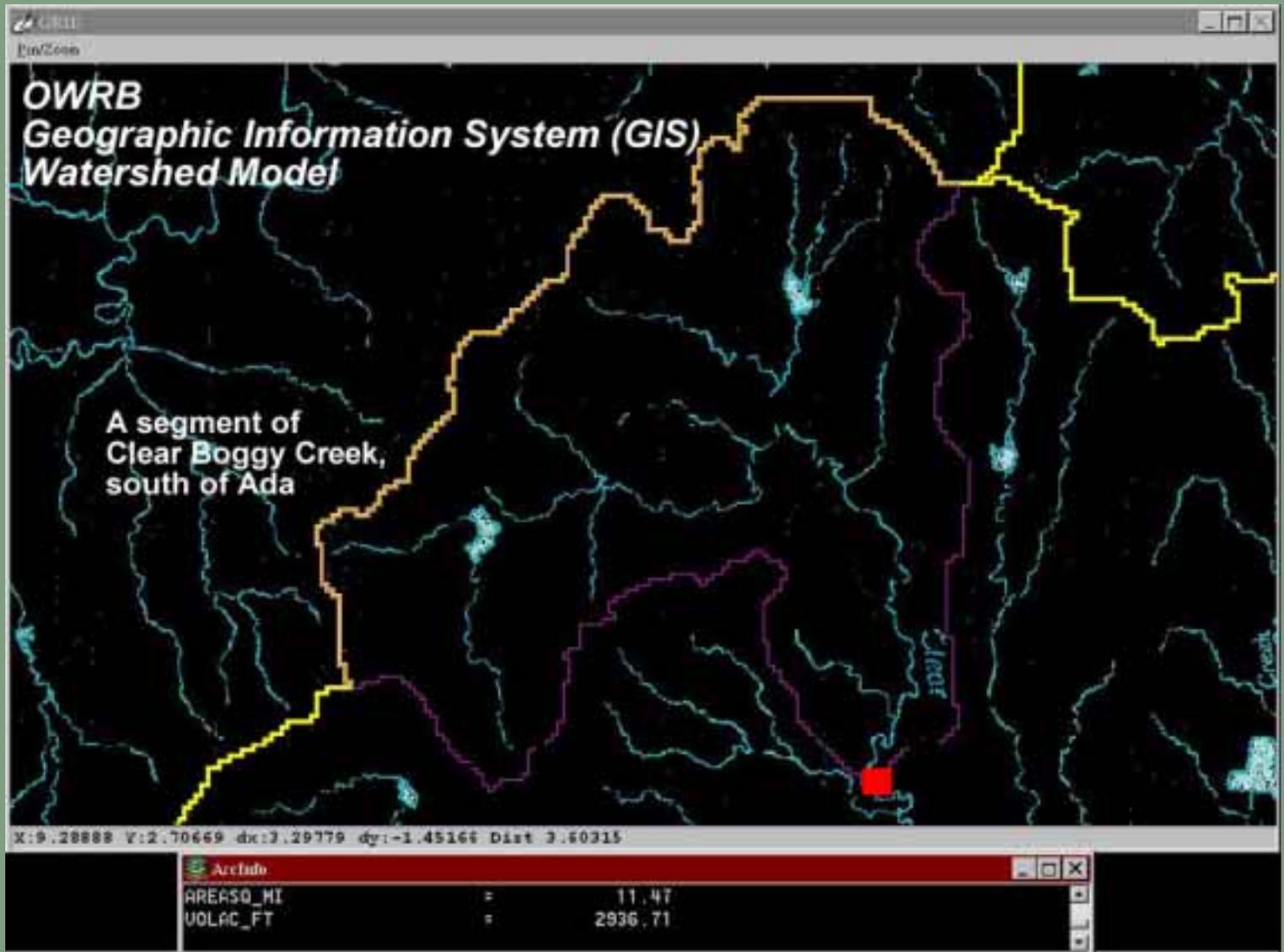
- ◆ Is there water available at the proposed diversion point in the amount needed?
  - Calculations based on average annual runoff over the watershed above proposed diversion point. (ArcInfo Watershed Model)
  - All appropriations, estimated domestic uses (6 acre-feet per 160 acres of drainage), and reservoir dependable yields are subtracted out.
- ◆ Will the proposed diversion interfere with downstream domestic uses and prior appropriations?
  - All downstream appropriations and domestic uses on the stream from the proposed diversion point to the next major tributary are subtracted off of the determined flow at the diversion point.
  - Additional drainage below the diversion point may be looked at if needed to determine if interference is likely<sub>14</sub> to occur.

# Stream Water Calculations

(cont.)

- ◆ Is there available water within the stream system?
  - Available water in the stream system in question is determined using the Estimated Available Water from either the “Hydrologic Investigation of the Arkansas River Basin”, January 1998, or the “Hydrologic Investigation of the Red River Basin”, July 1998 minus all appropriations in the stream system and reservoir dependable yields.

# Stream Water & Groundwater Availability Determinations



# Stream Water & Groundwater Availability Determinations

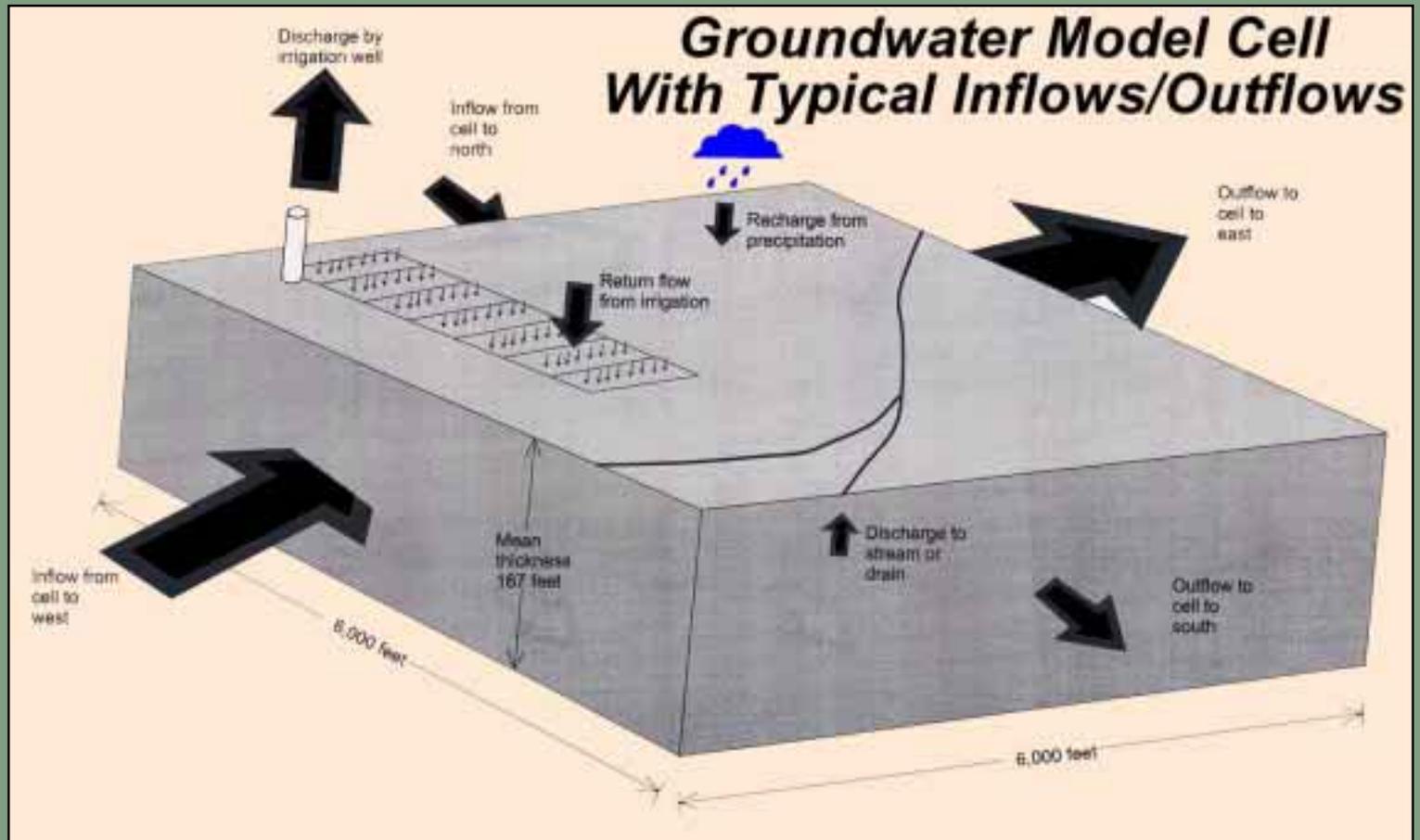
## *Groundwater:*

### *Hydrologic Surveys:*

- Major Basins:
  - Total Land Area Overlying the Basin
  - Amount of Water in Storage
  - Rate of Recharge and Discharge
  - Transmissivity of the Basin
  - Possibility of Pollution of the Basin from Natural Sources
- Minor Basins:
  - Present and Reasonably Foreseeable Future Use In The Basin
  - Total Recharge and Total Discharge
  - Geographical Region
  - Other Relevant Factors (I.e., area of basin, transmissivity, storage)
- Determination of Maximum Annual Yield

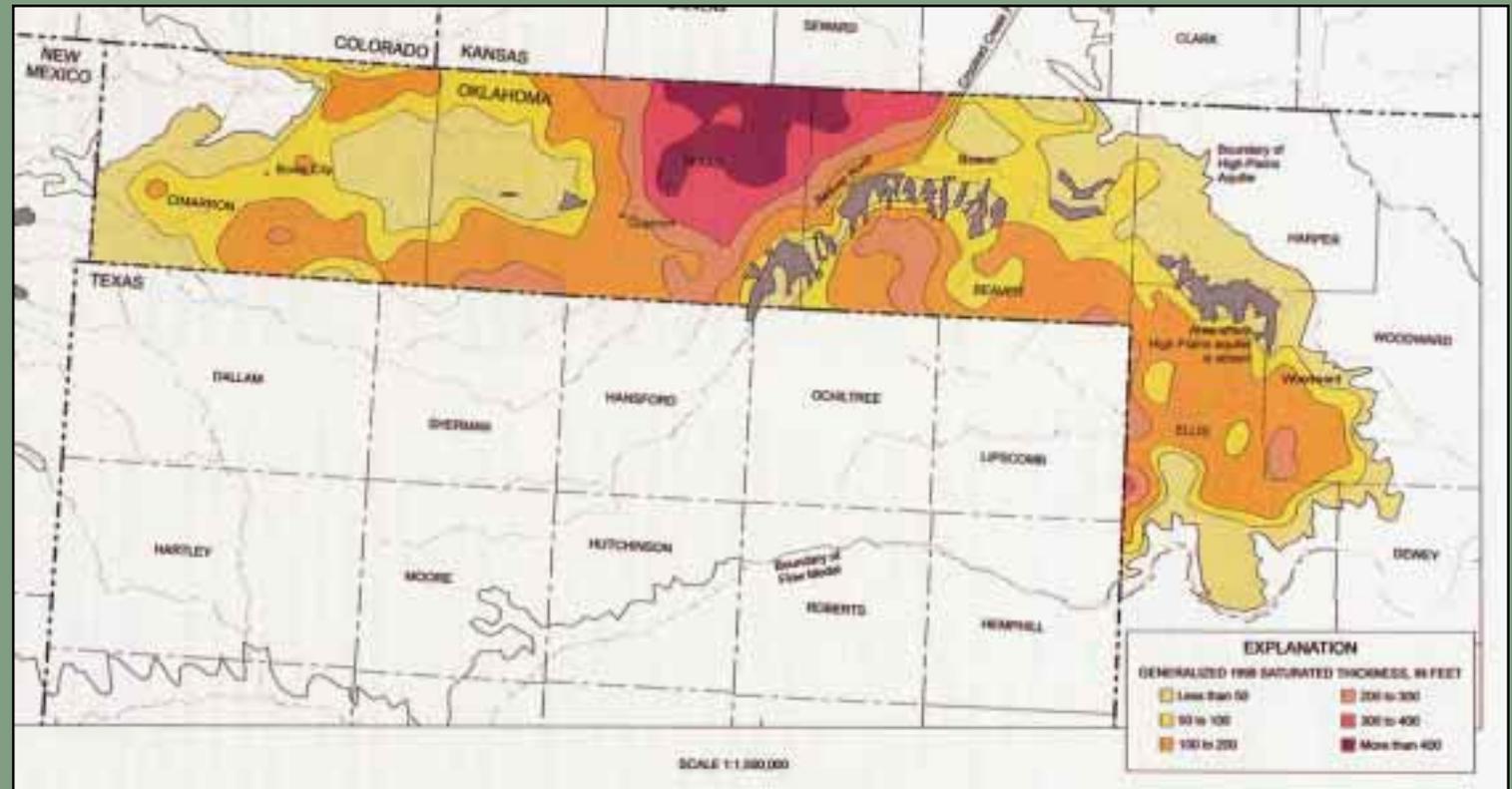
# Stream Water & Groundwater Availability Determinations

## ◆ Groundwater Flow Models



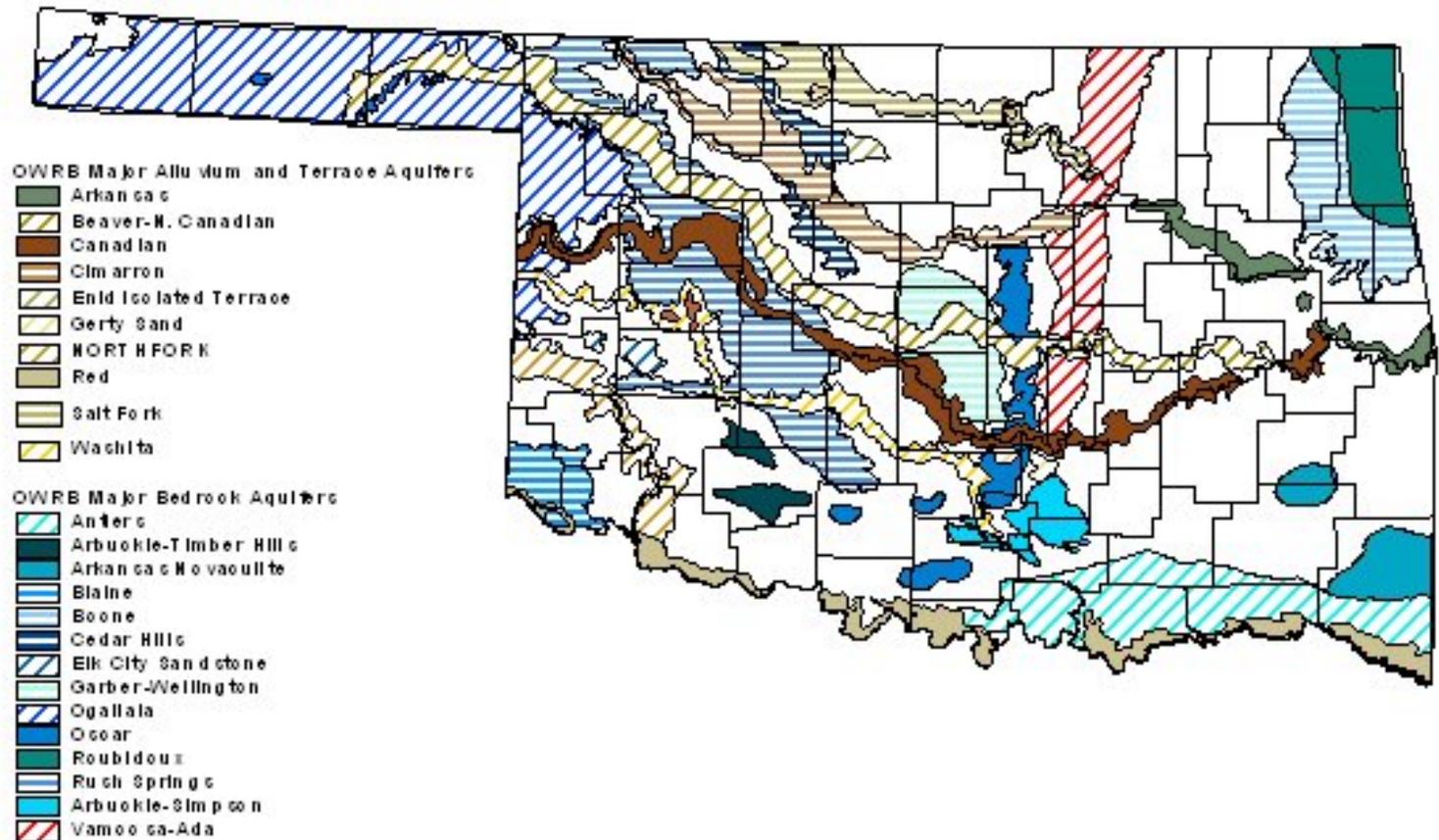
# Stream Water & Groundwater Availability Determinations

## ◆ Determinations of Saturated Thickness



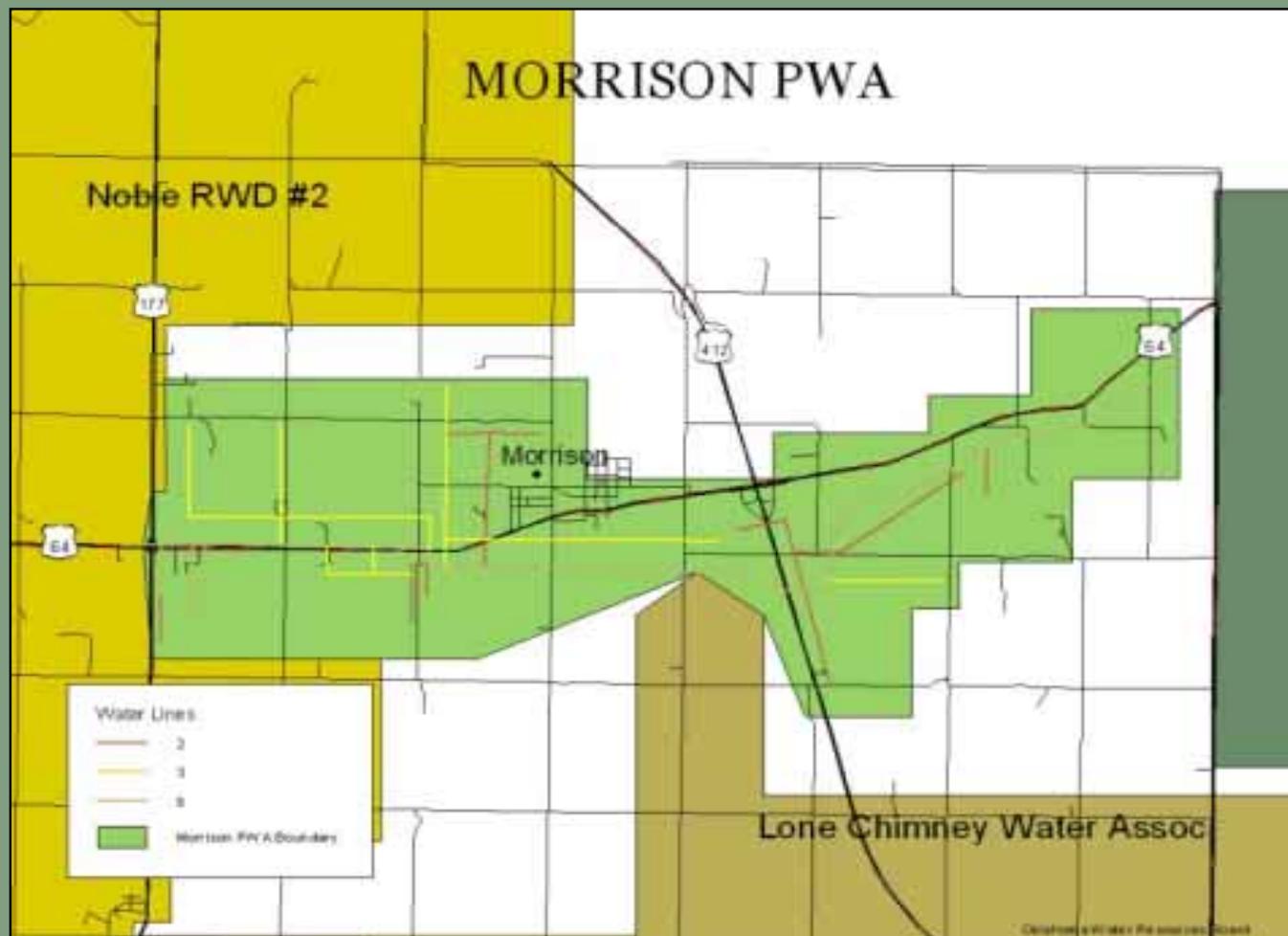
# Stream Water & Groundwater Availability Determinations

## Major Basin Hydrologic Studies Completed & In Progress



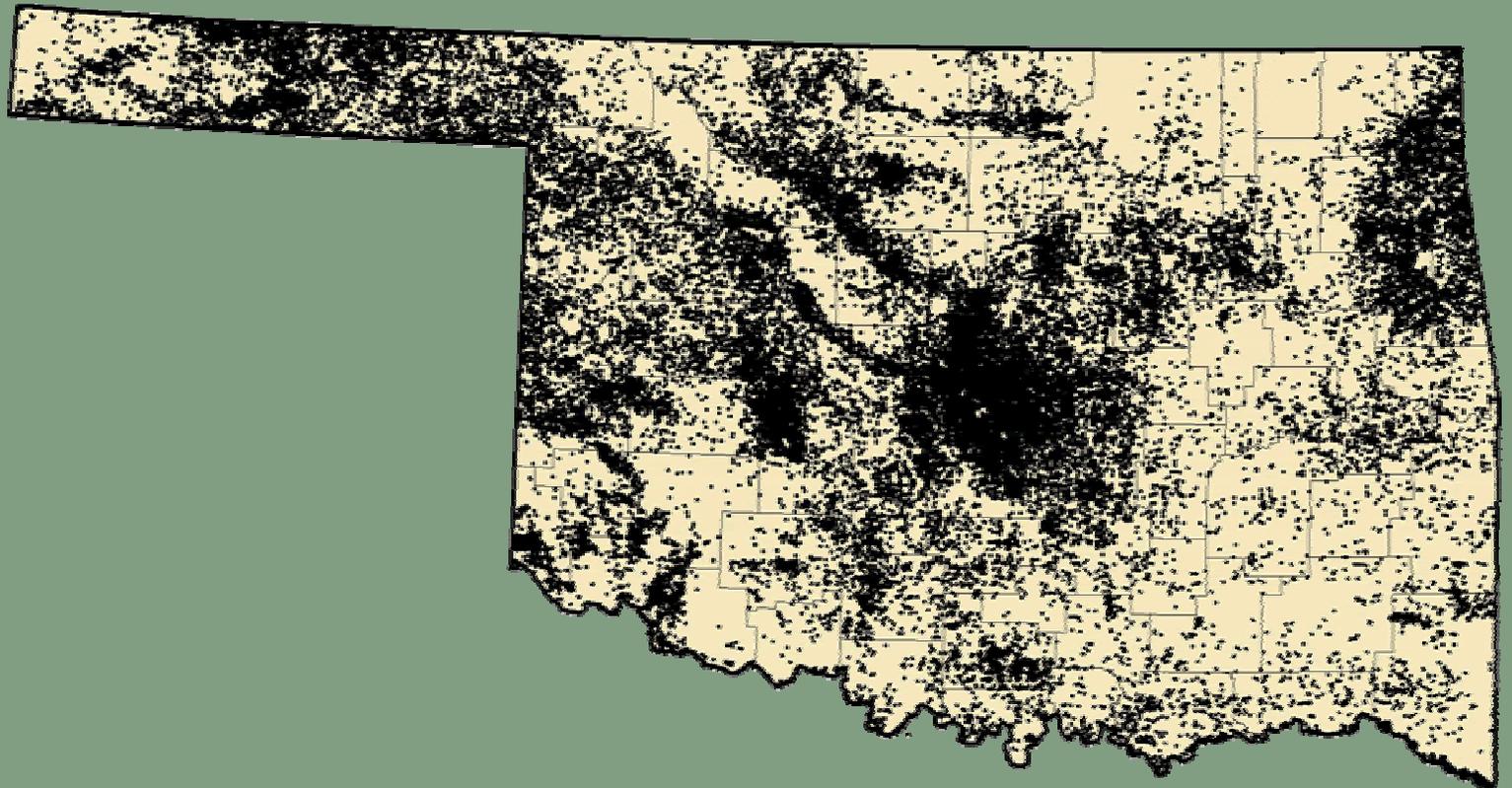
# Other Data Available from the OWRB

- ◆ Oklahoma Rural Water Survey



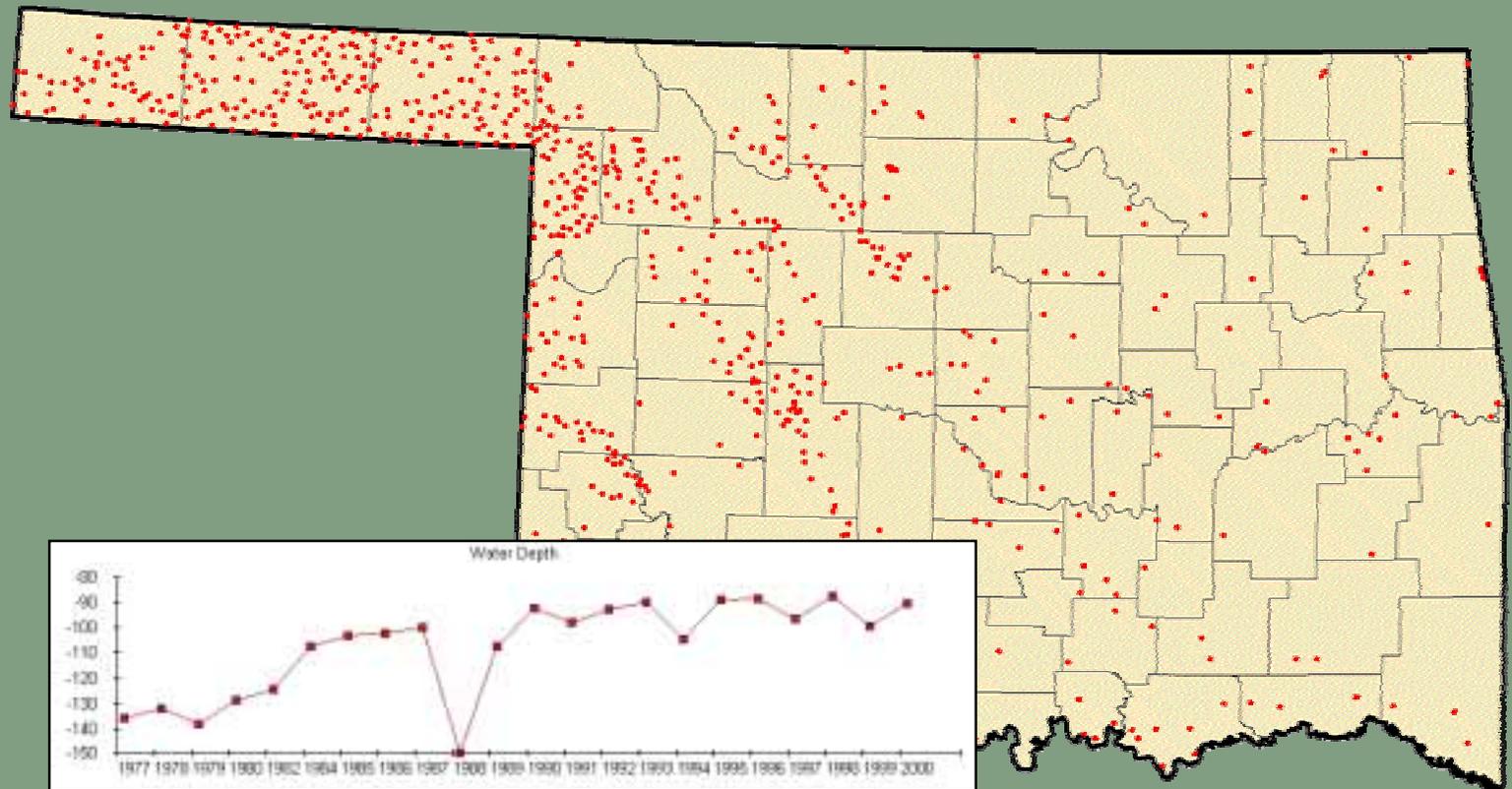
# Other Data Available from the OWRB

- ◆ Water Well Log Database



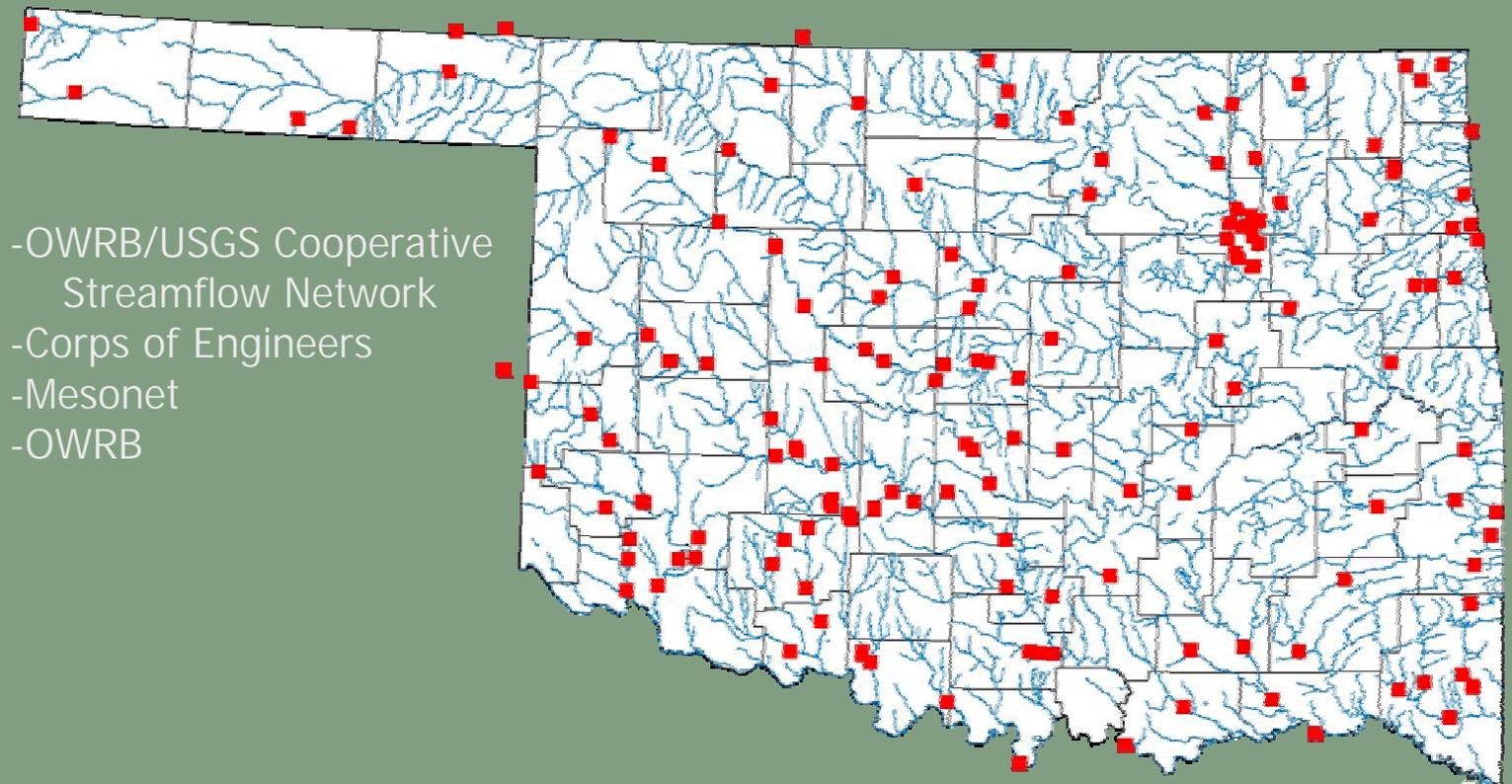
# Other Data Available from the OWRB

- ◆ Annual Statewide Water Well Measurement Program



# Other Data Available from the OWRB

## ◆ Stream/Lake Gages



- OWRB/USGS Cooperative Streamflow Network
- Corps of Engineers
- Mesonet
- OWRB

# *The Water Use Permitting Process*

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