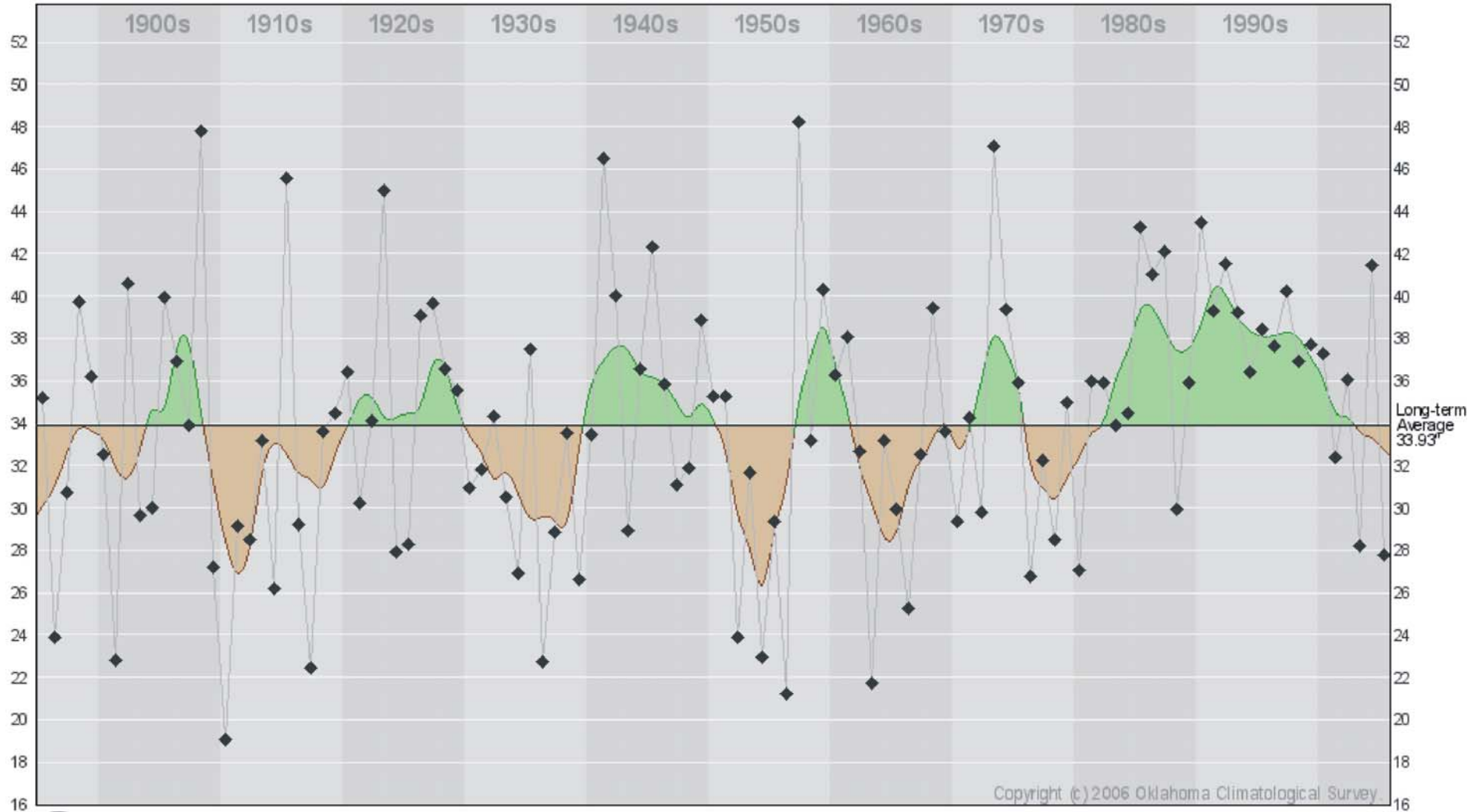


Water Use Permitting In Oklahoma

Duane Smith
Executive Director, Oklahoma Water Resources Board



Annual Trends in Statewide Averaged Rainfall (1895 Through 2005)





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OKLAHOMA
CLIMATOLOGICAL SURVEY

Annual Rainfall History with 5-yr Weighted Trends
Climate Division 10 (Statewide): 1895-2005

 Wetter historical periods
 Drier historical periods

Water Use Permitting in Oklahoma

- Stream Water:
 - water in a “definite stream” (a watercourse in a definite, natural channel, with defined beds and banks, originating from a definite source or sources of supply);
 - may be intermittent or irregular flow
- Groundwater:
 - fresh water under the surface of the earth regardless of the geologic structure in which it is standing or moving outside the cut banks of any definite stream
- Domestic/household uses exempt

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

Legal Requirements to Obtain a Stream Water Permit:

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

Overview

Oklahoma Groundwater Law (1972)

- Groundwater is considered private property that belongs to the overlying surface owner, although it is subject to reasonable regulation by the OWRB.
- The Oklahoma Groundwater Law is a utilization statute.

Overview

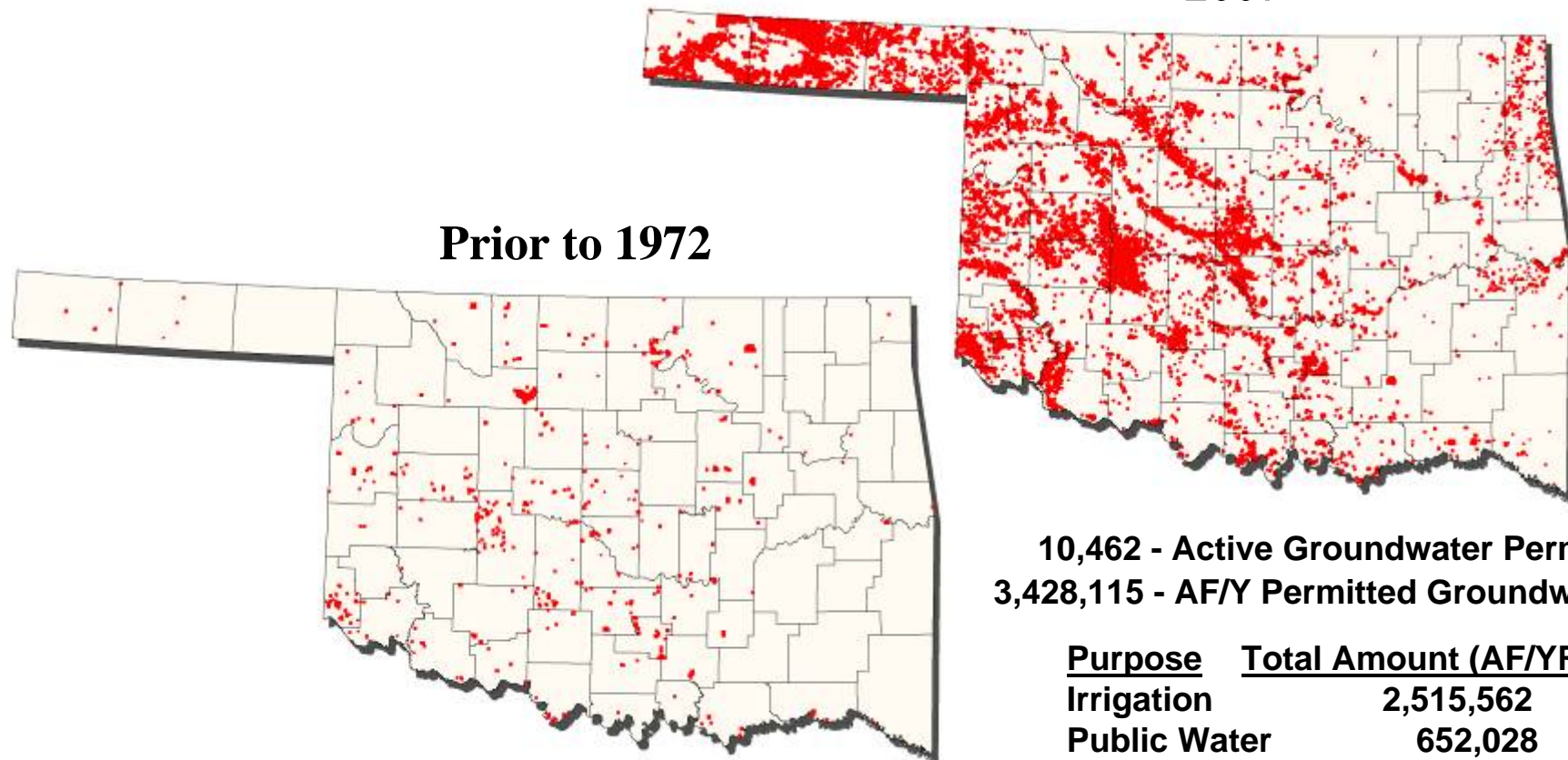
Oklahoma Groundwater Law

Legal Requirements to Obtain a Groundwater Permit:

1. the applicant owns or leases the land from which the water will be withdrawn;
2. the dedicated land overlies a groundwater basin;
3. the water will be put to a beneficial use; and
4. waste of the water will not occur.

Permitted Groundwater Rights

2007



Prior to 1972

10,462 - Active Groundwater Permits
3,428,115 - AF/Y Permitted Groundwater

<u>Purpose</u>	<u>Total Amount (AF/YR)</u>
Irrigation	2,515,562
Public Water	652,028
Other	260,984

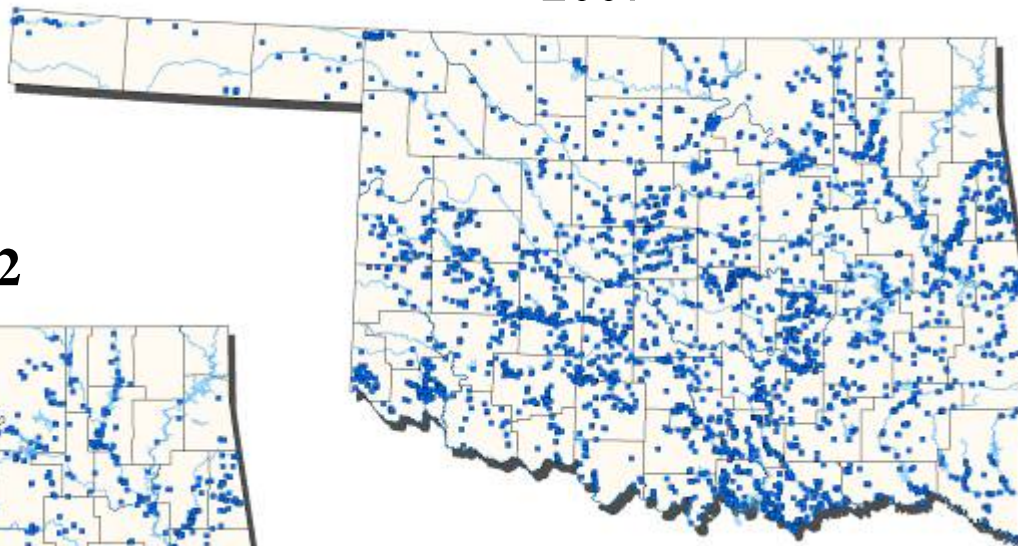
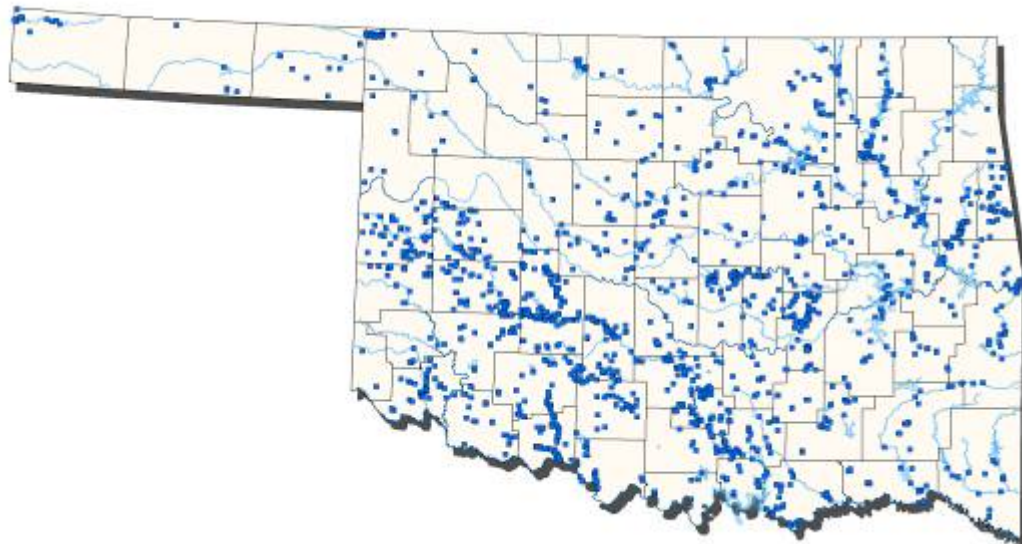
475 - Active Groundwater Permits
144,396 - AF/Y Permitted Groundwater

<u>Purpose</u>	<u>Total Amount (AF/YR)</u>
Irrigation	77,269
Public Water	45,849
Other	21,279

Permitted Surface Water Rights

2007

Prior to 1972



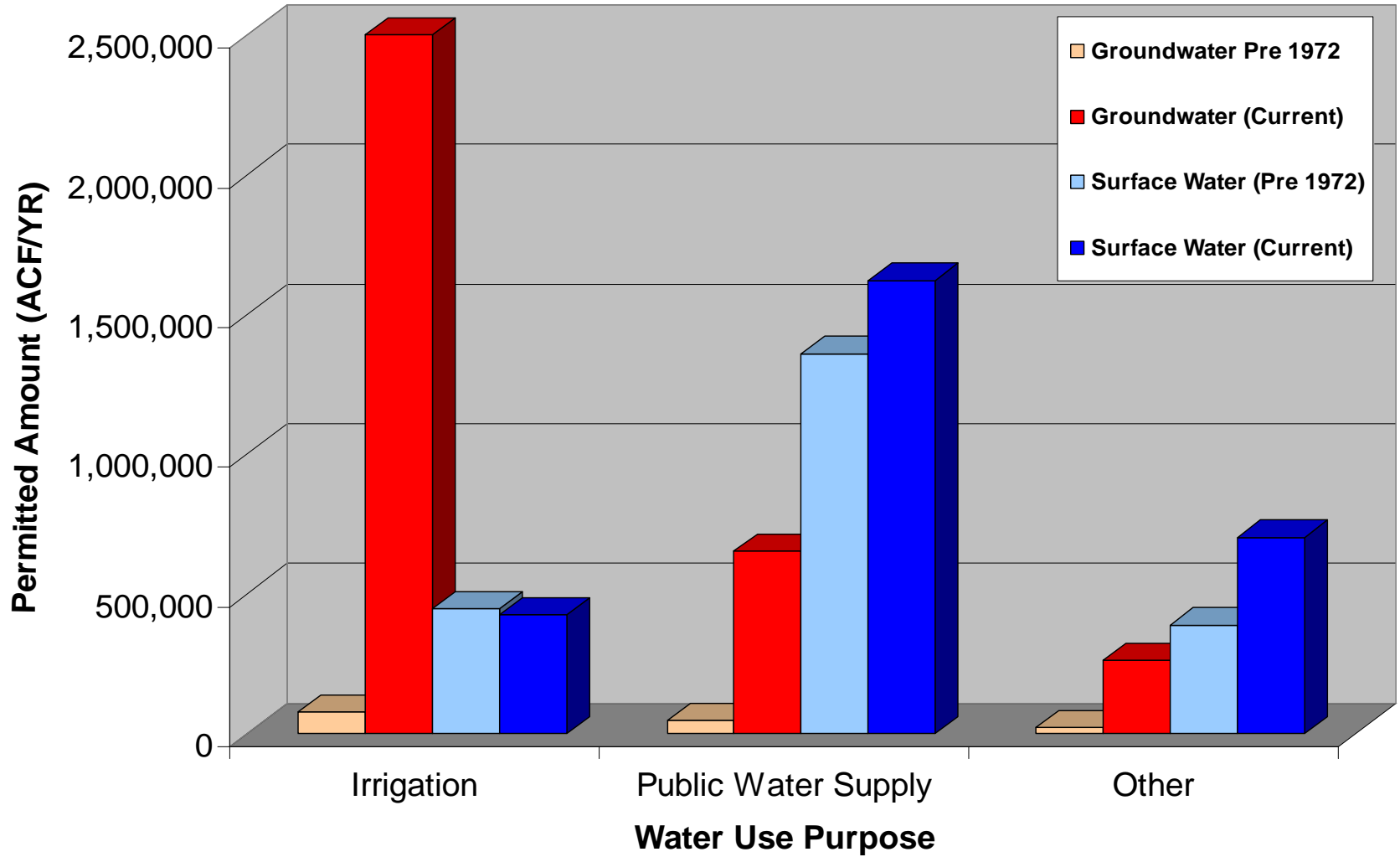
2,842 - Active Surface Water Permits
2,193,145 - AF/Y Permitted Surface Water

<u>Purpose</u>	<u>Total Amount (AF/YR)</u>
Irrigation	445,209
Public Water	1,360,307
Other	267,642

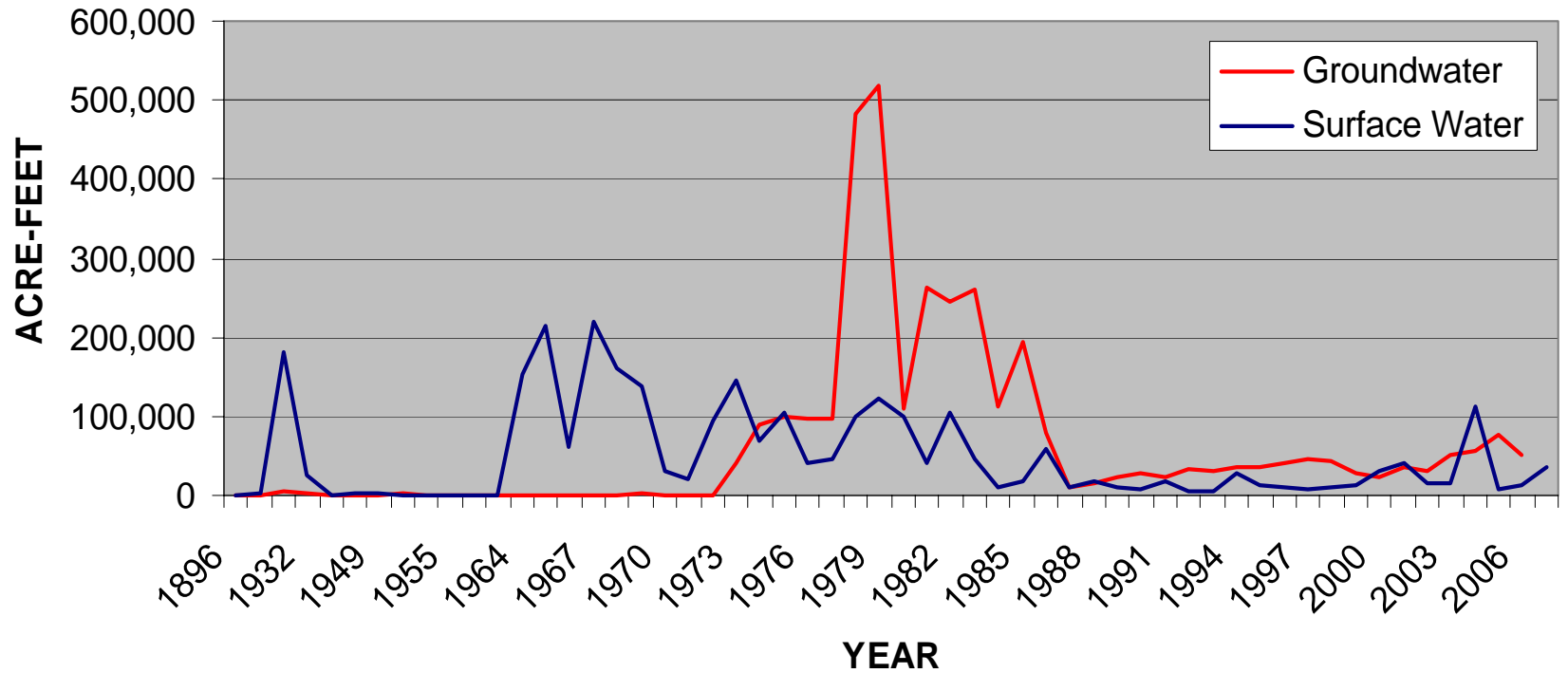
2,680 - Active Surface Water Permits
2,748,342 - AF/Y Permitted Surface Water

<u>Purpose</u>	<u>Total Amount (AF/YR)</u>
Irrigation	424,020
Public Water	1,622,718
Other	701,605

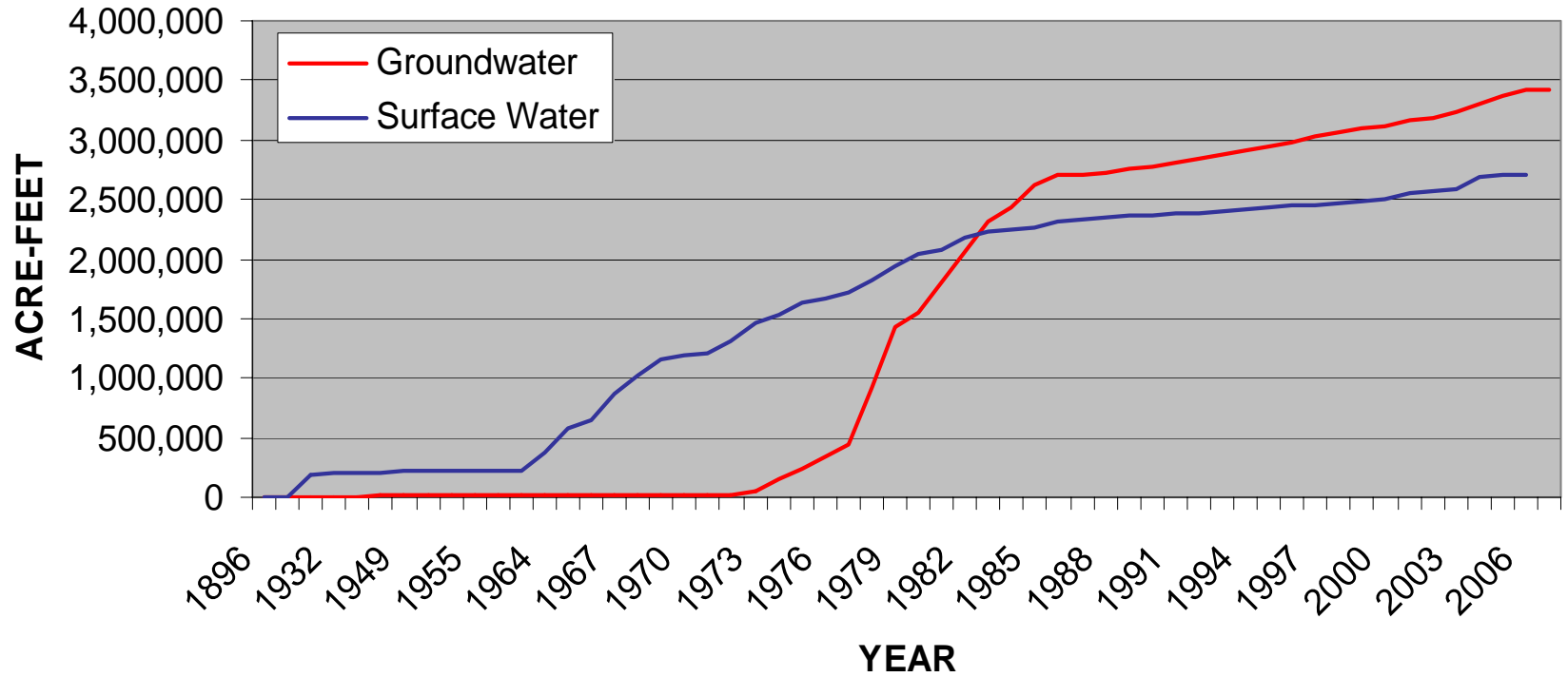
Permitted Groundwater and Surface Water Rights



New Permitted Amount of Water by Year

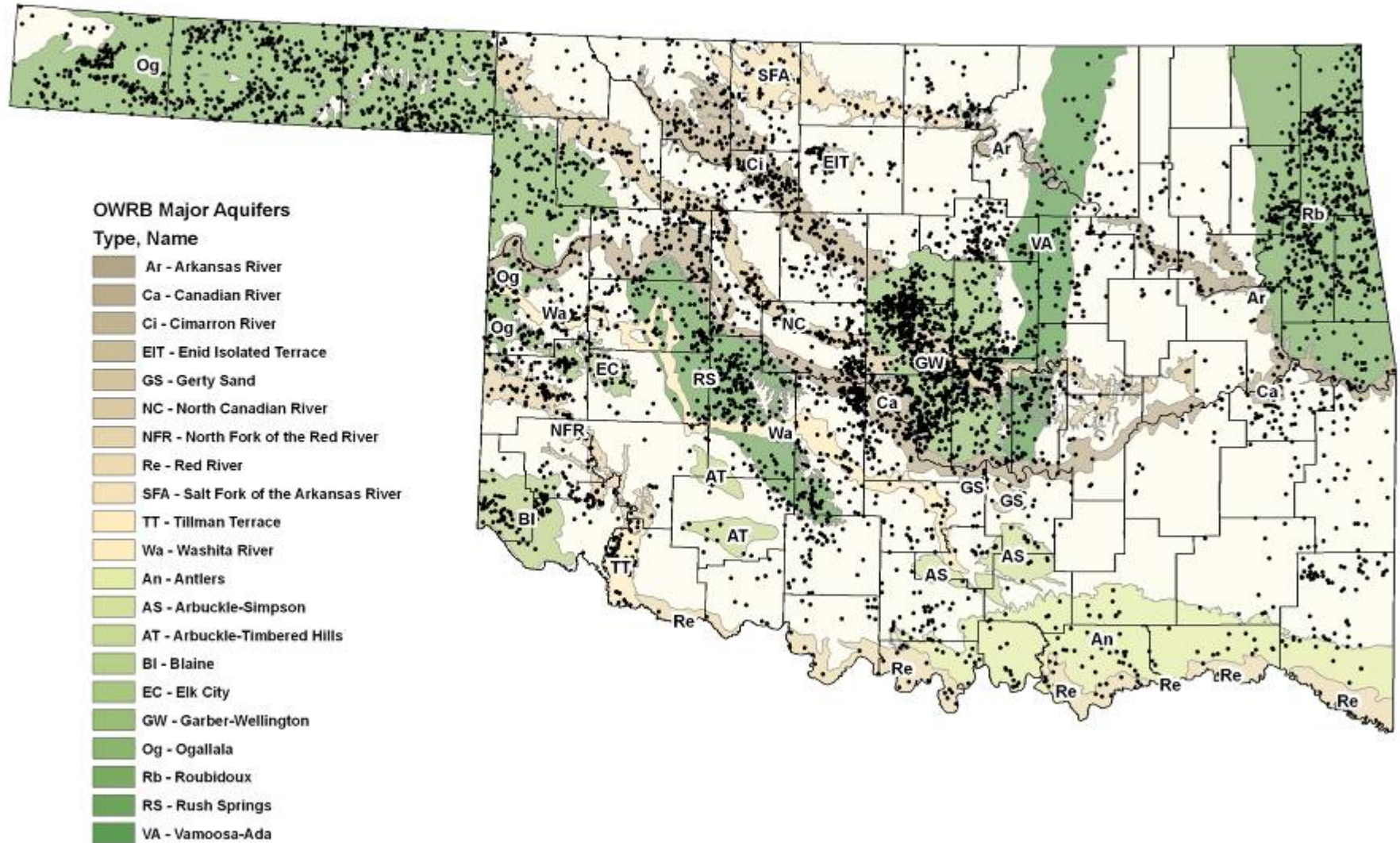


Total Cumulative Amount of Permitted Water



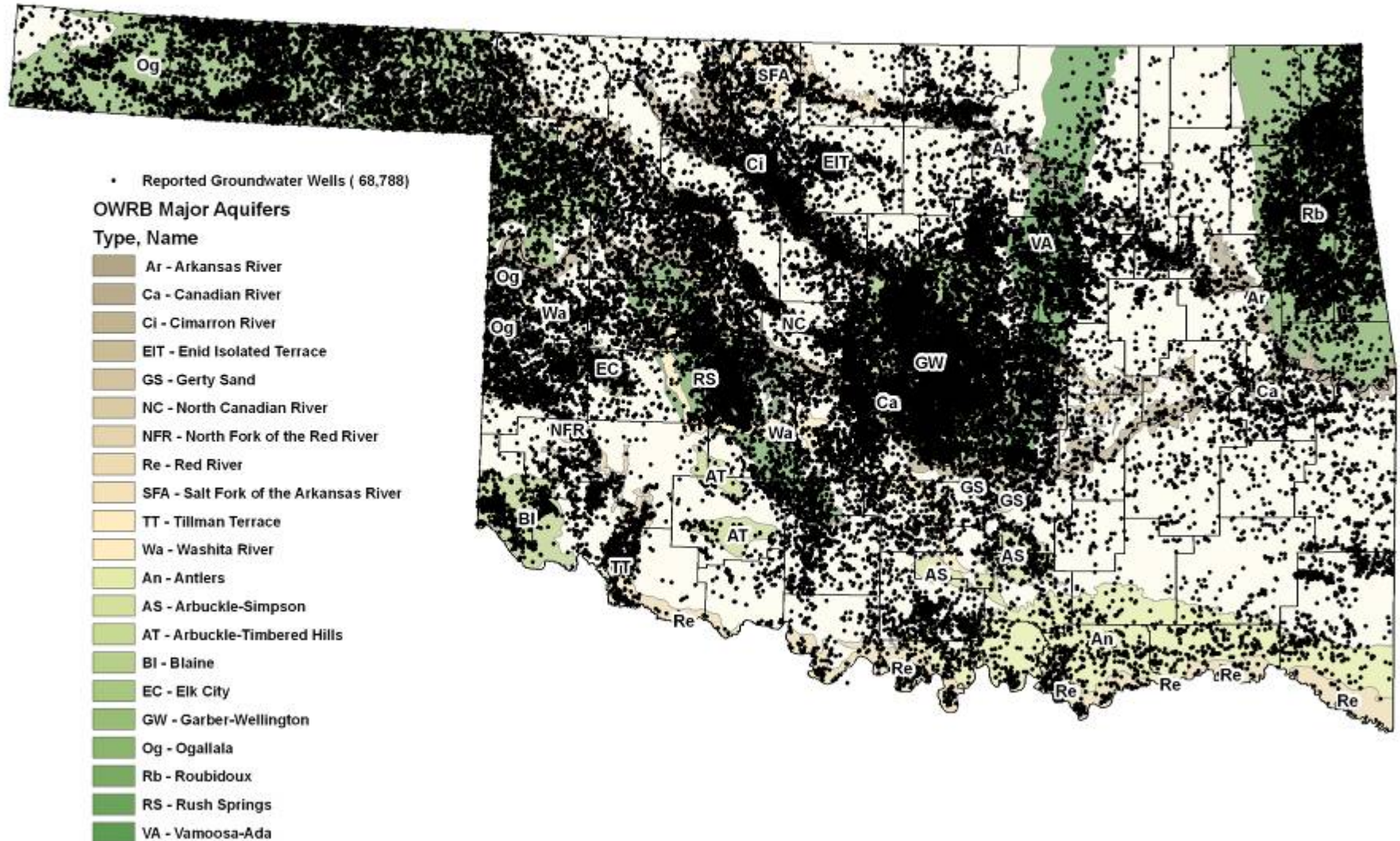
Locations of Reported Groundwater Wells

Prior to 1972 - (6,035 Wells)

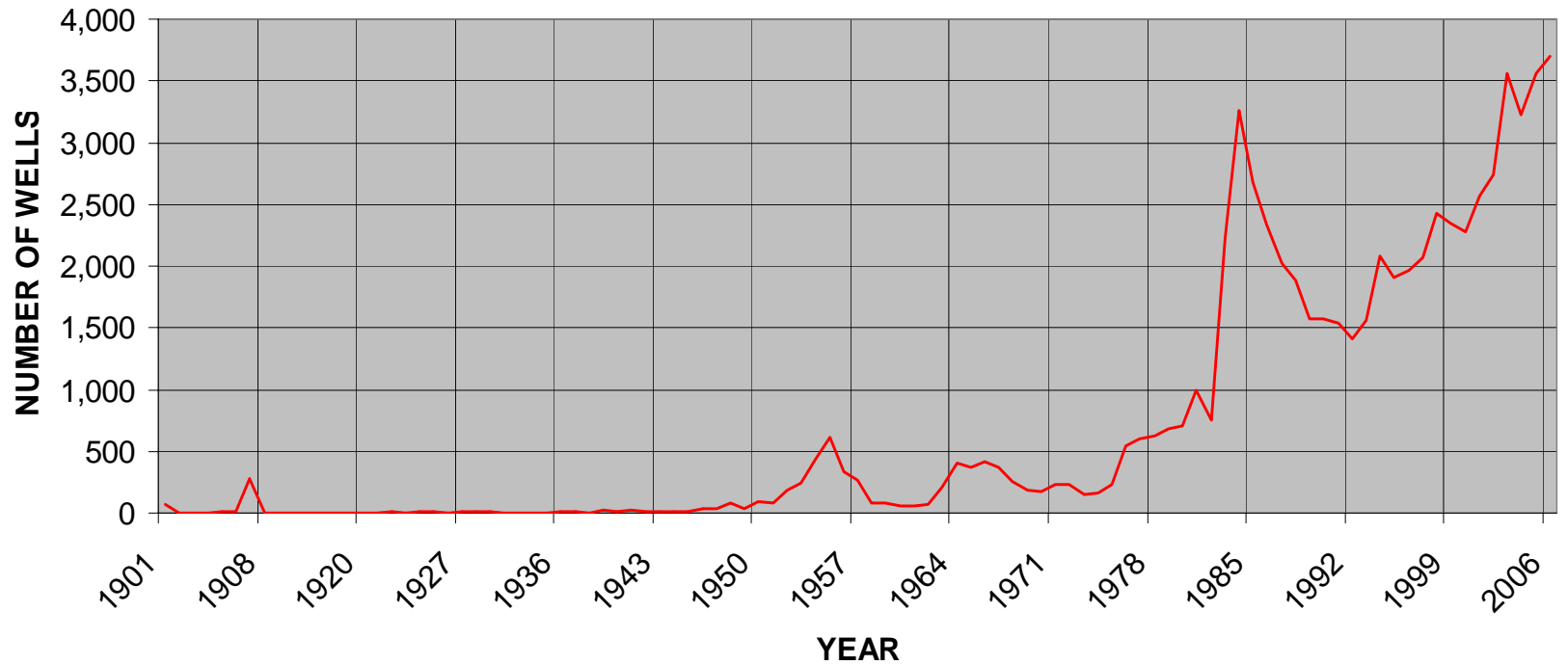


Locations of Reported Groundwater Wells

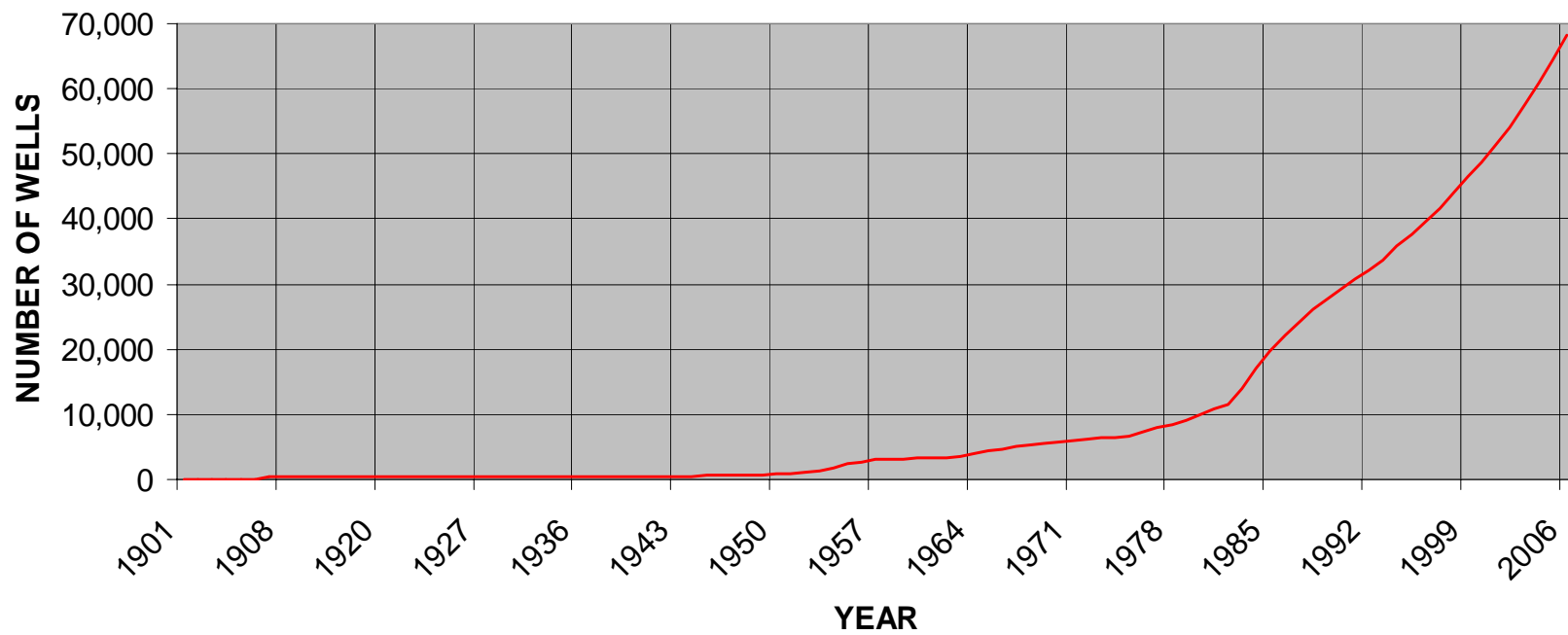
as of March 2007 - (68,788 Wells)



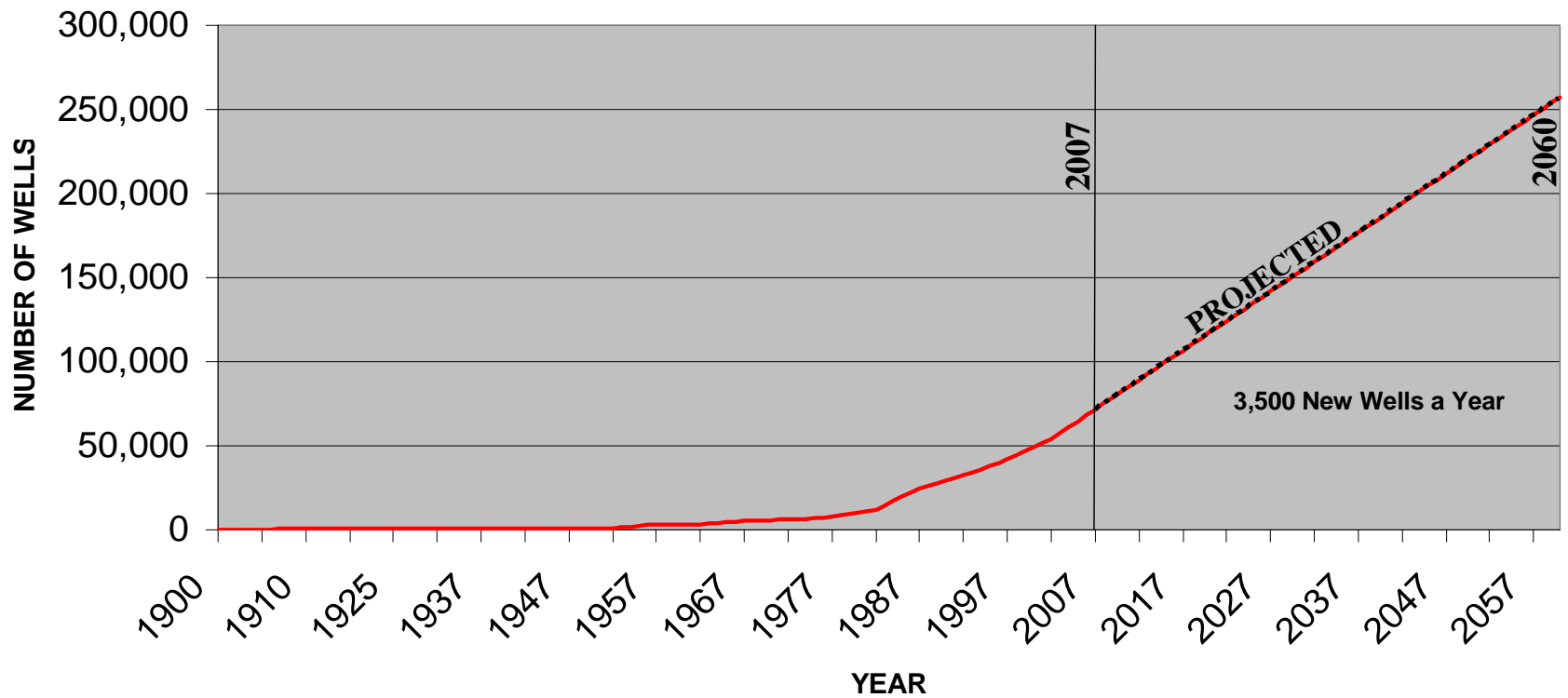
NUMBER OF REPORTED NEW GROUNDWATER WELLS FOR EACH YEAR (1901 - 2006)



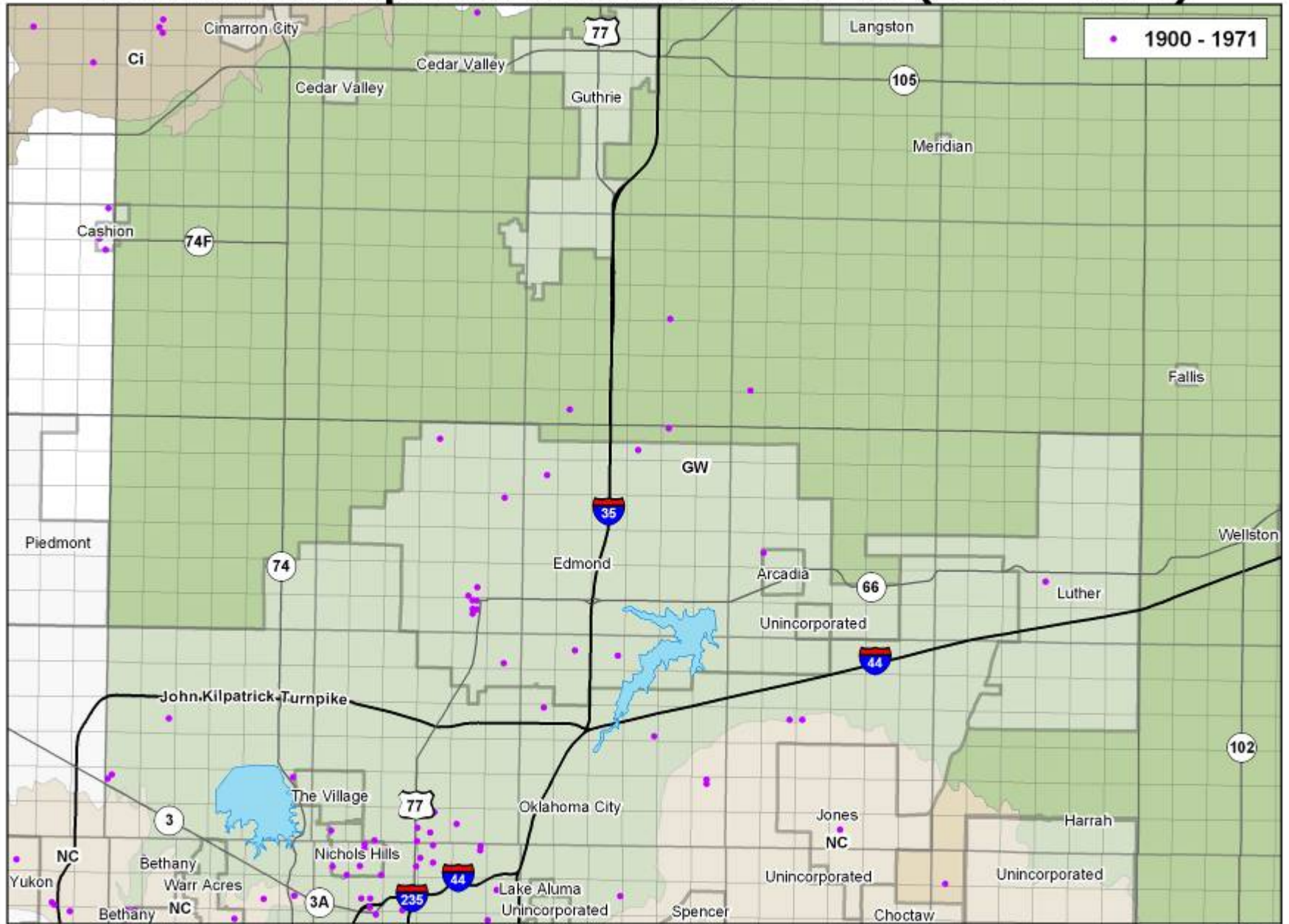
TOTAL NUMBER OF REPORTED GROUNDWATER WELLS (1901 - 2006)



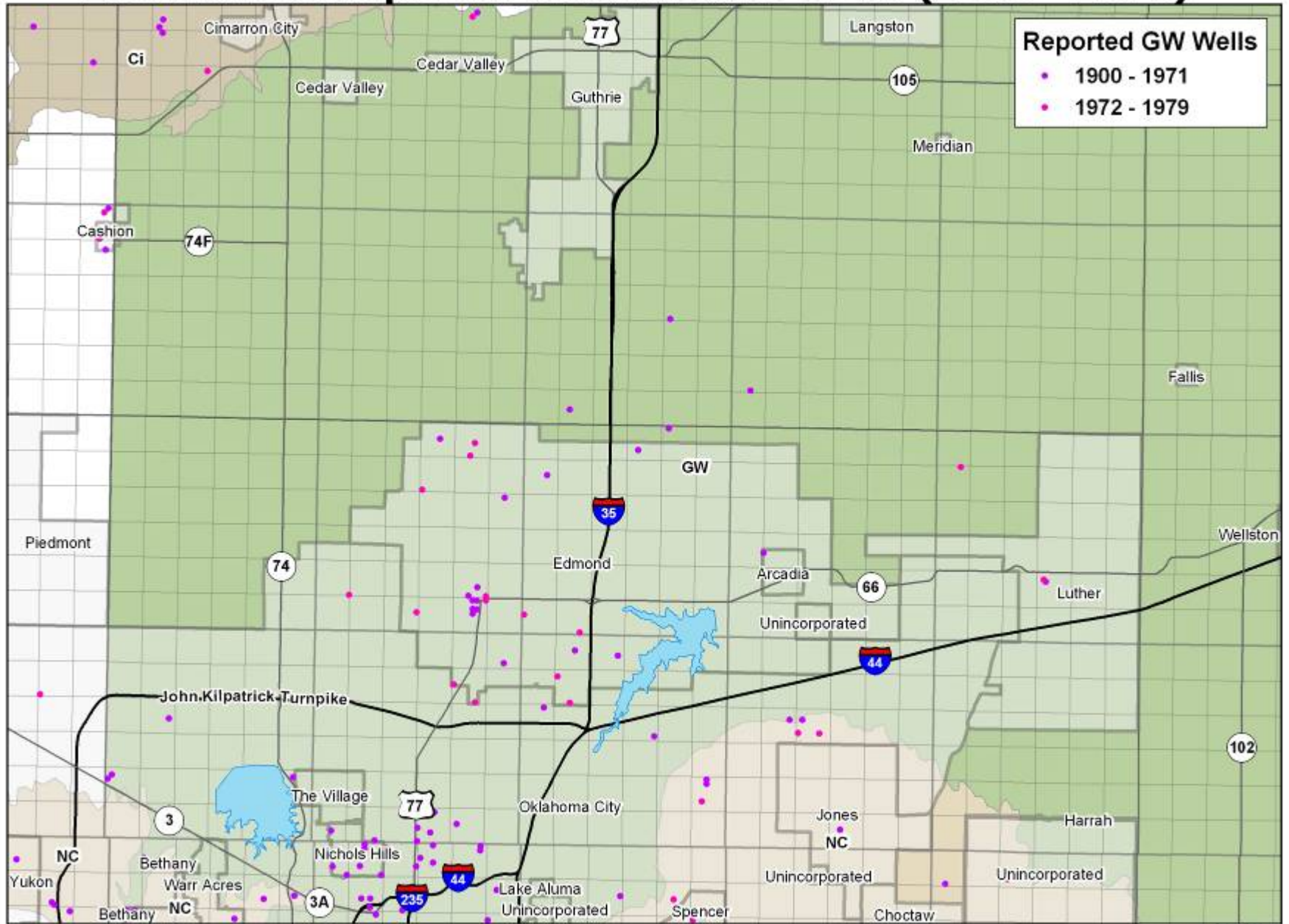
Historic and Projected Numbers of Reported Groundwater Wells



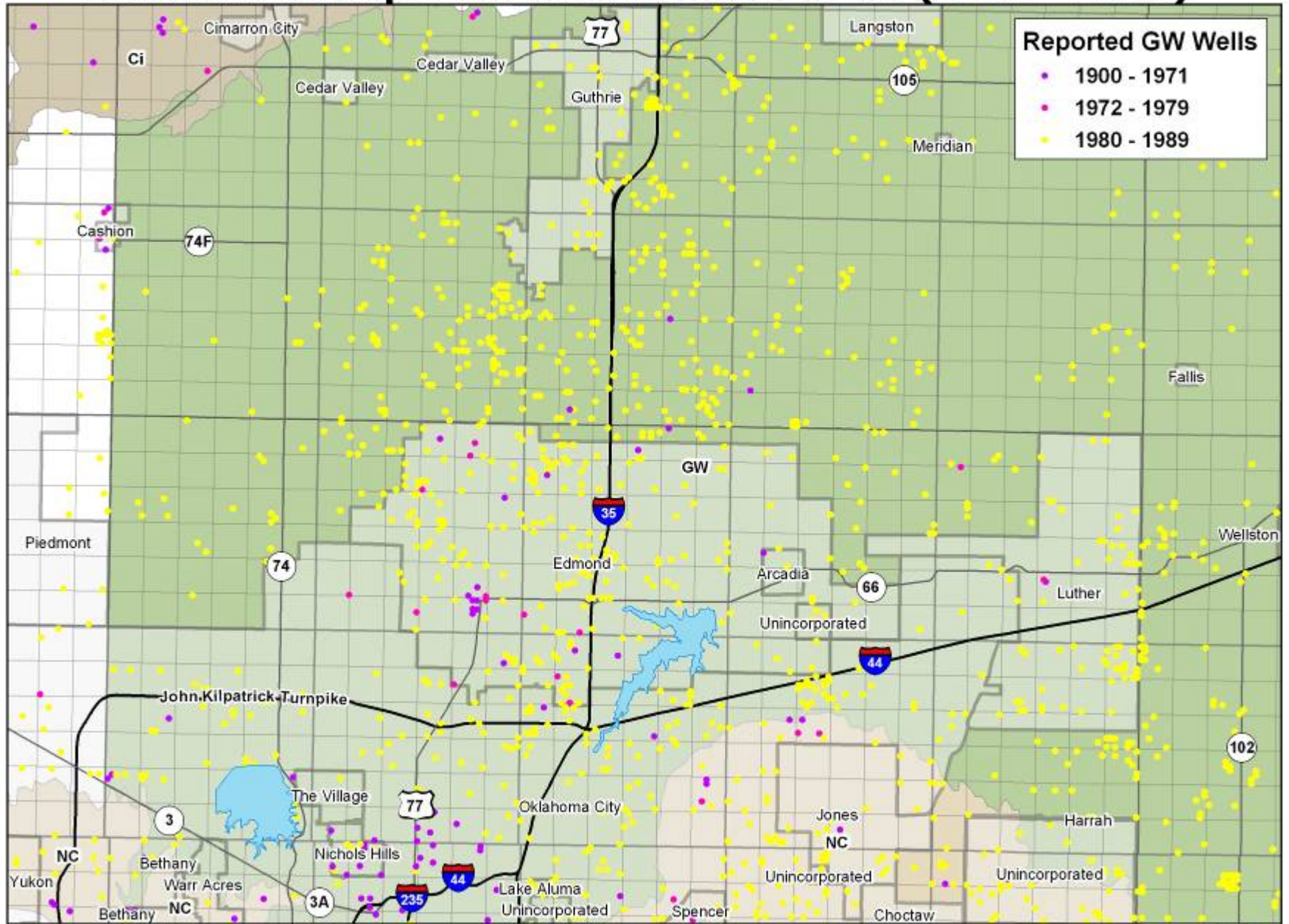
Locations of Reported Groundwater Wells (1900 - 1971)



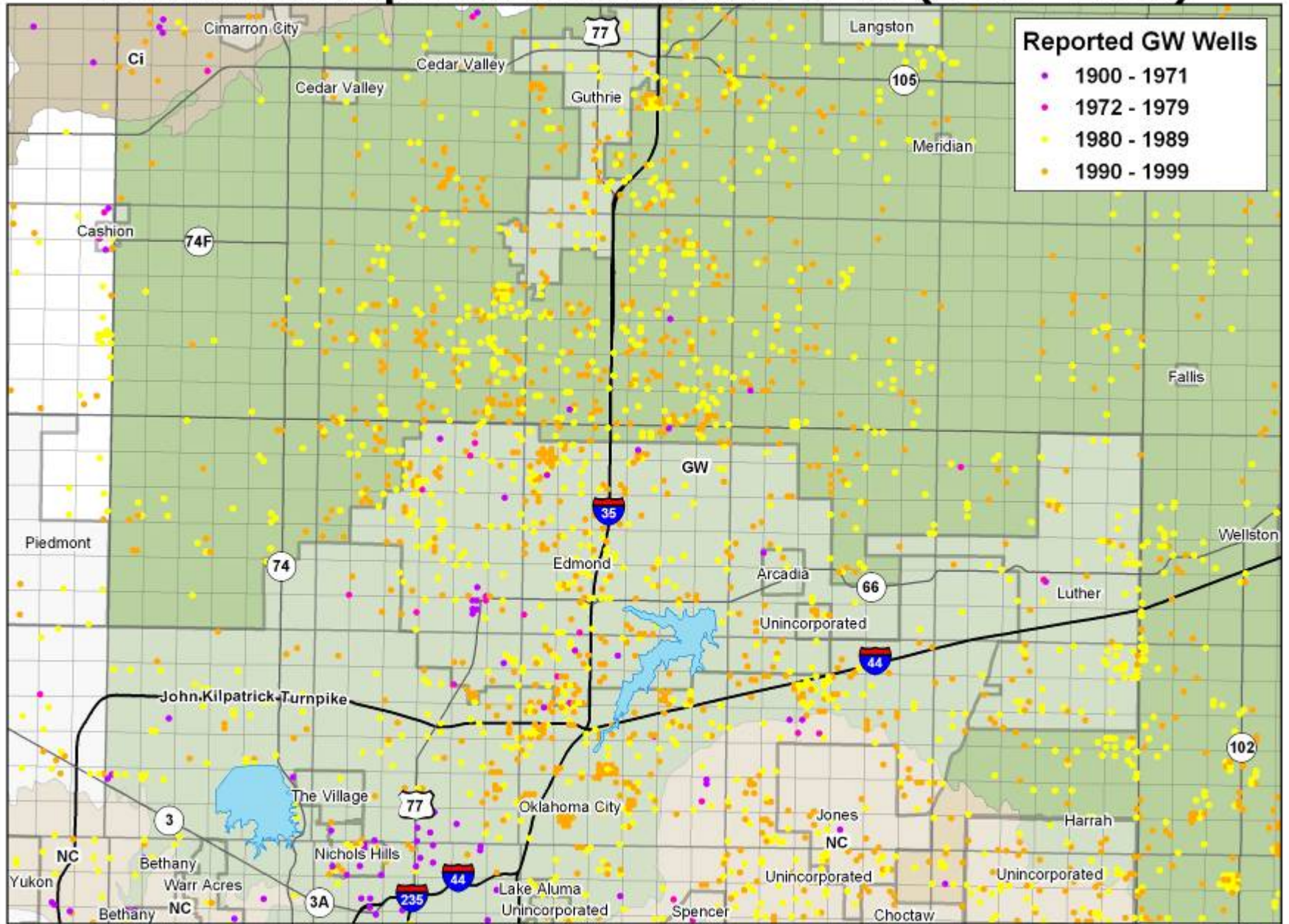
Locations of Reported Groundwater Wells (1900 - 1979)



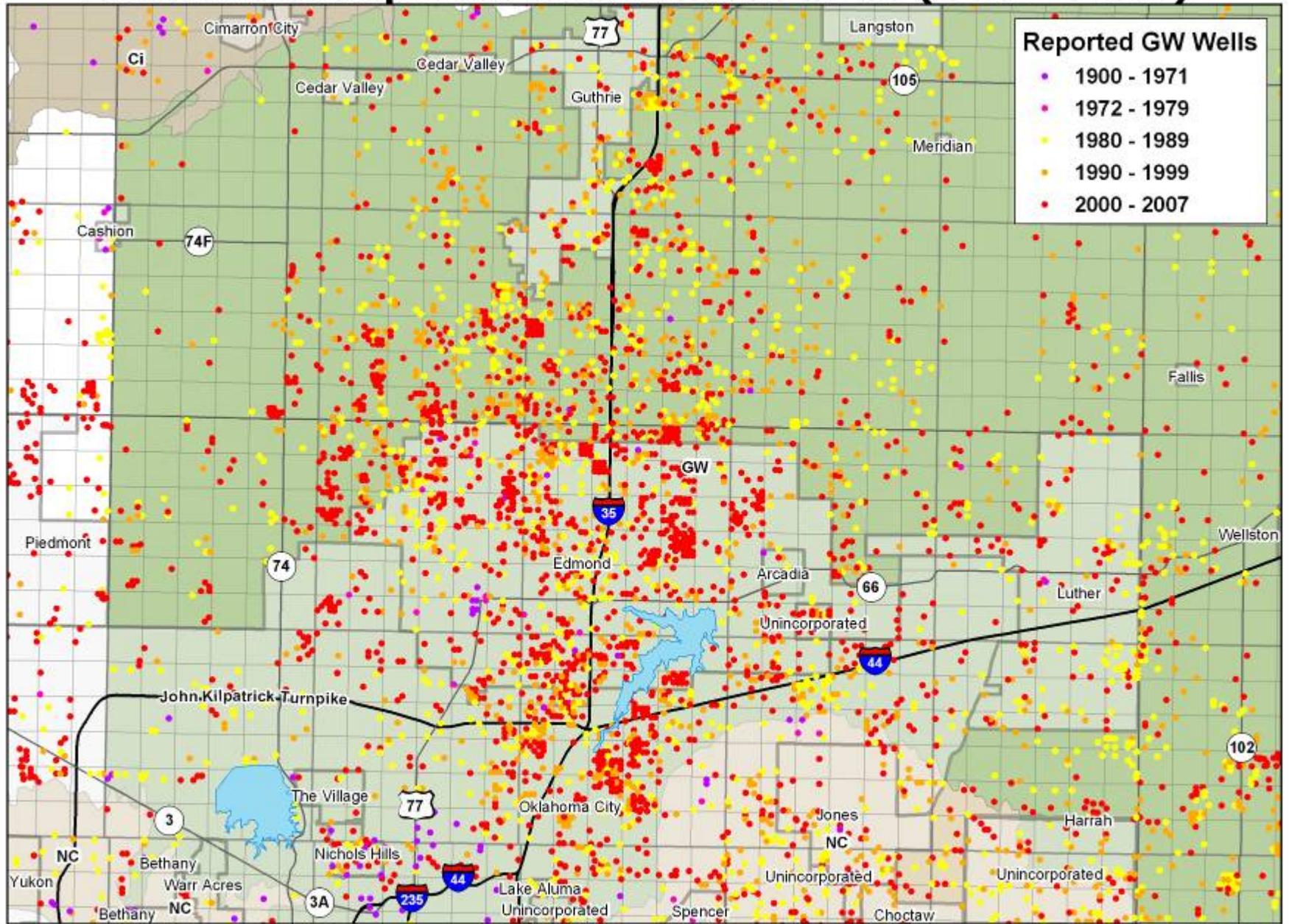
Locations of Reported Groundwater Wells (1900 - 1989)



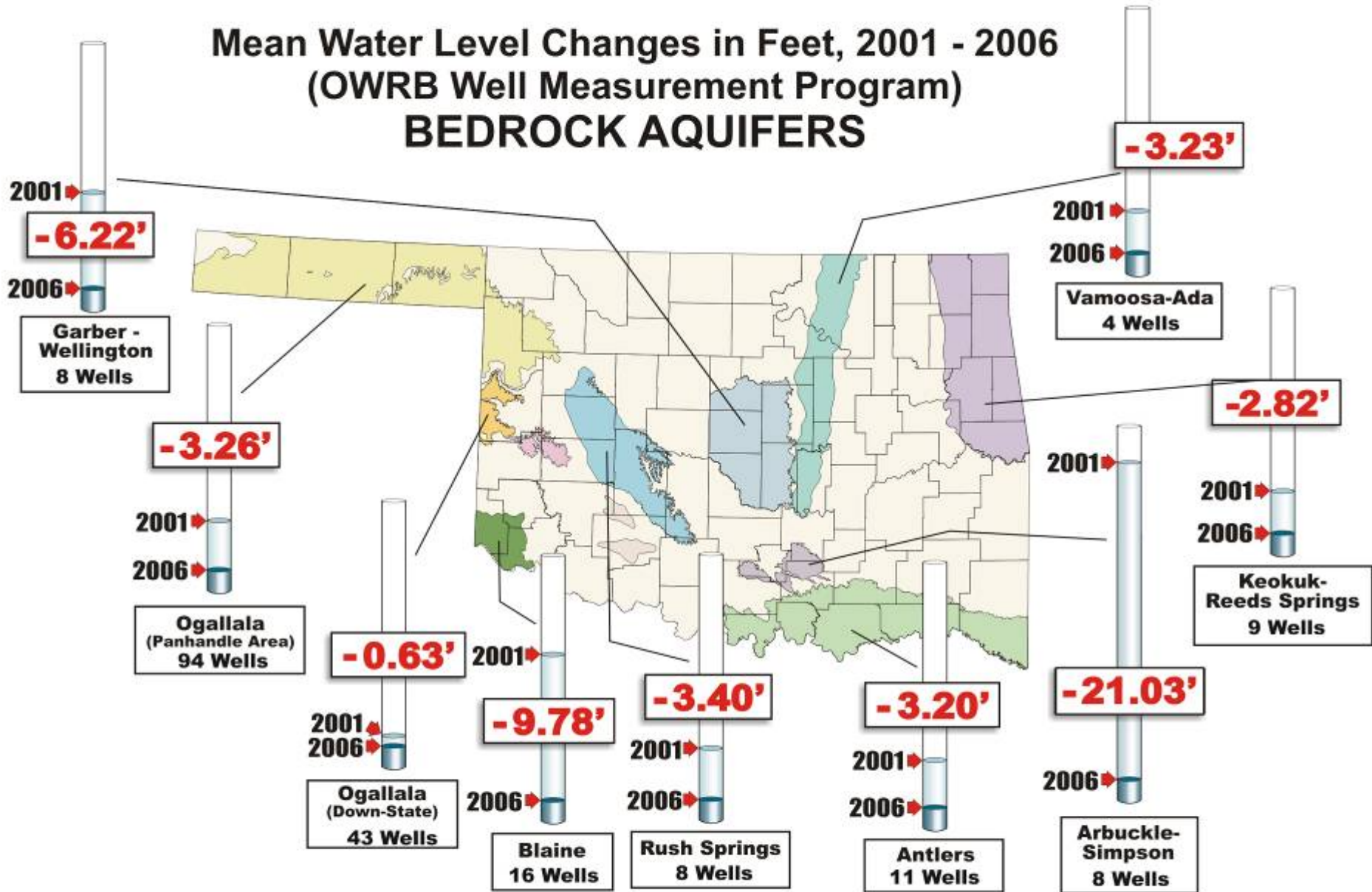
Locations of Reported Groundwater Wells (1900 - 1999)



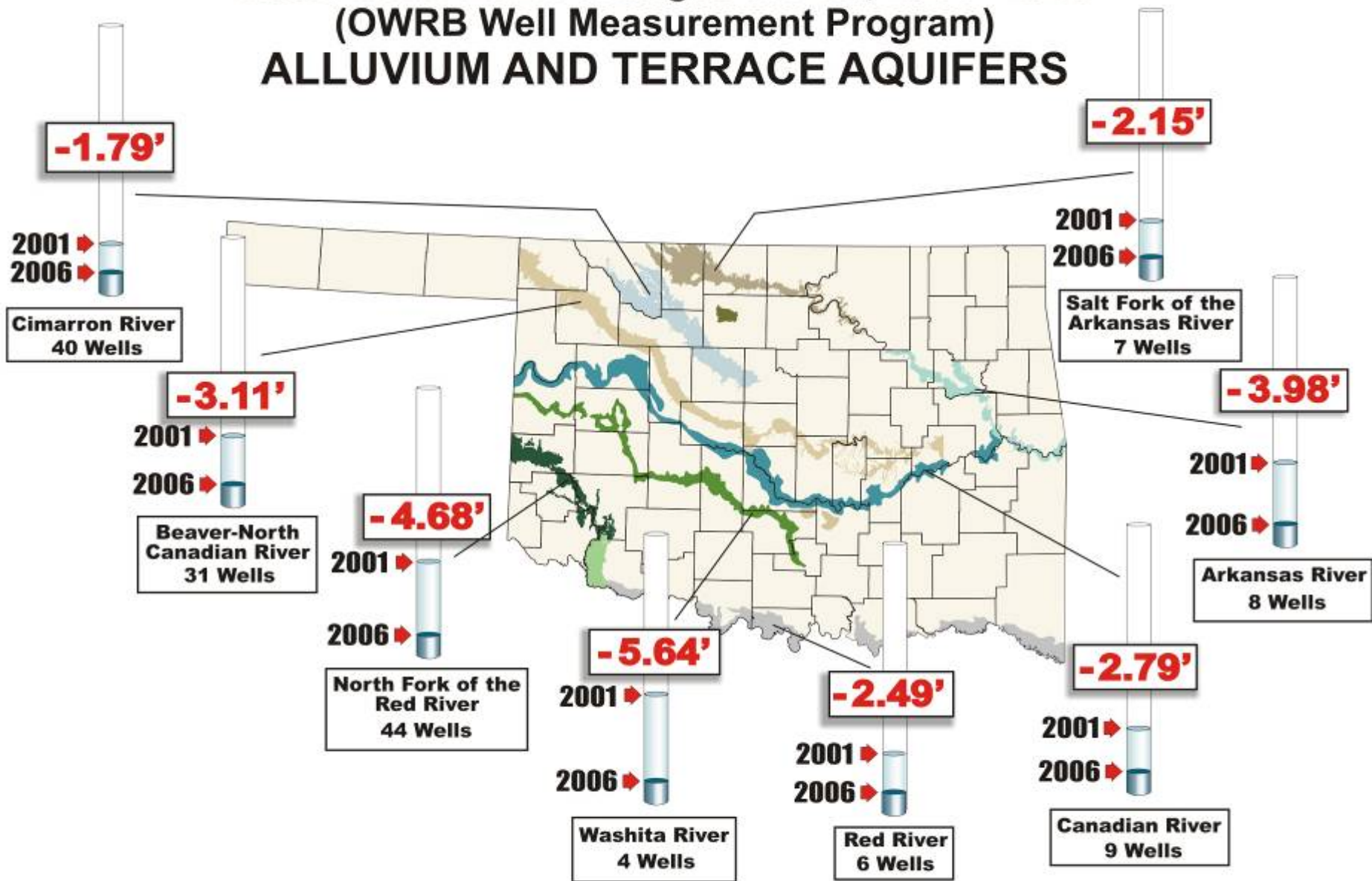
Locations of Reported Groundwater Wells (1900 - 2007)



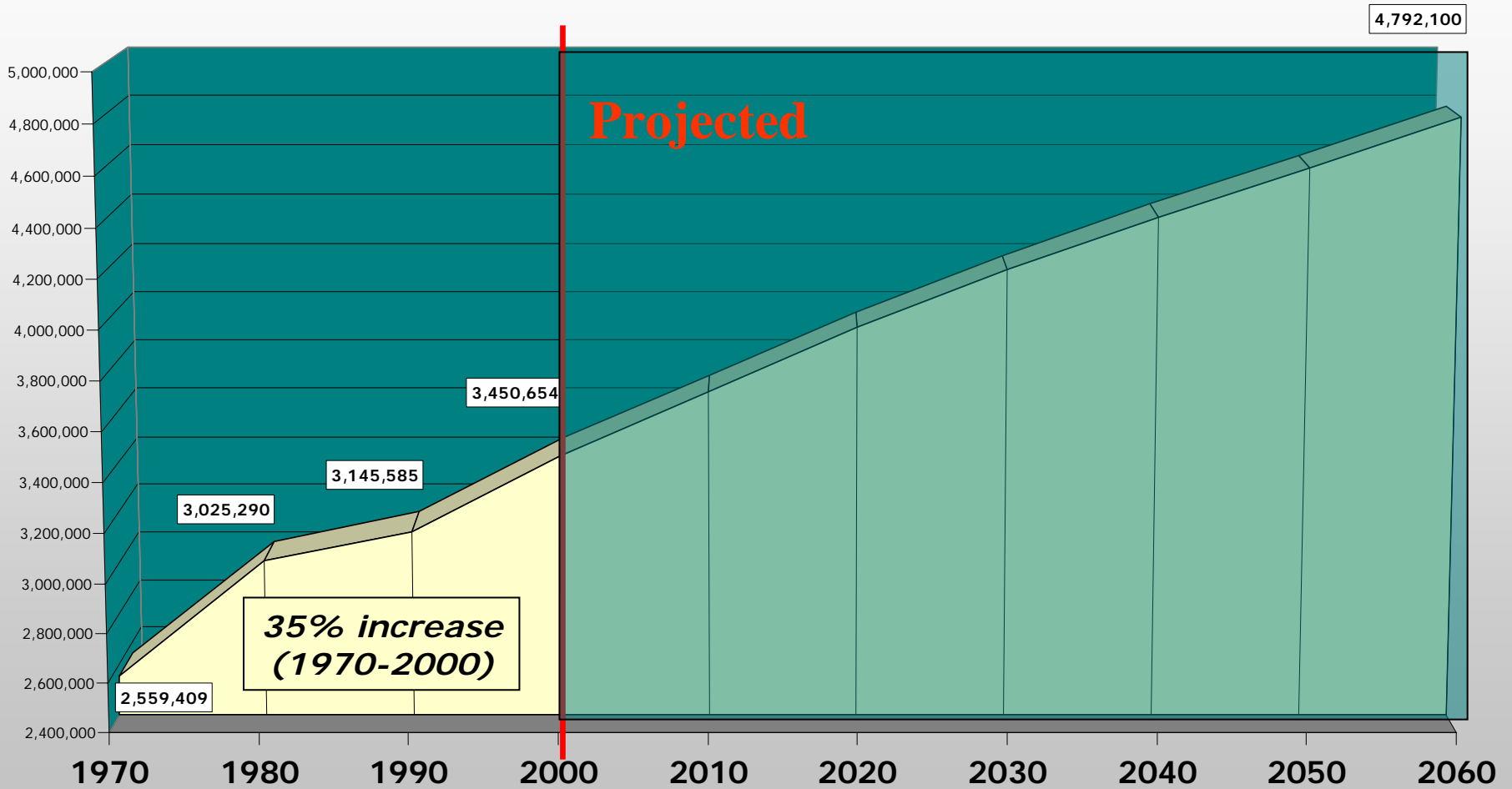
Mean Water Level Changes in Feet, 2001 - 2006 (OWRB Well Measurement Program) BEDROCK AQUIFERS



Mean Water Level Changes in Feet, 2001 - 2006 (OWRB Well Measurement Program) ALLUVIUM AND TERRACE AQUIFERS



Oklahoma Population (1970-2060)

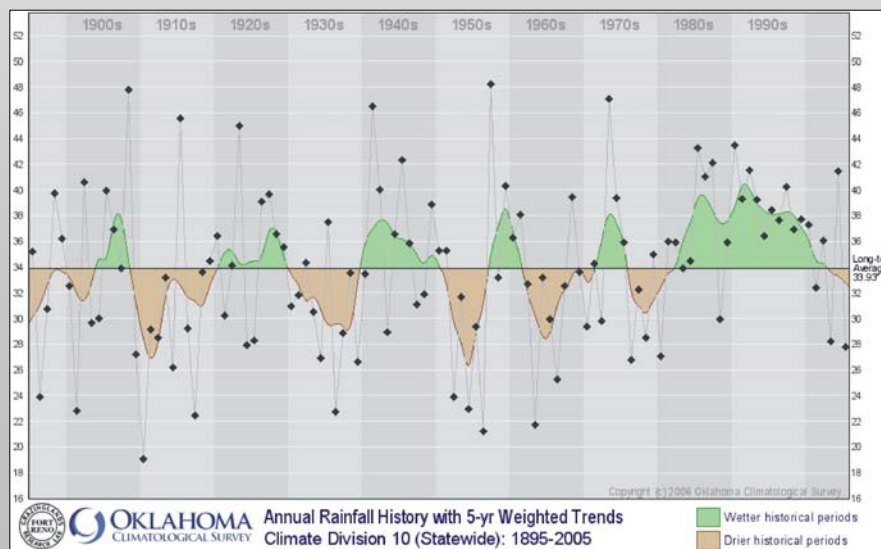


Major Issues Impacting OWRB Management & Oversight of Water Use

- Oklahoma Groundwater Law (1972): 2 acre-feet per acre
- Supreme Court Cases:
 - Mobil Oil (1984): OWRB should determine "waste by pollution" and "waste by depletion"
 - Messer-Bowers (2000): OWRB properly considered whether it was reasonable for a hog farm owner to place wells along strip of land where wells were alleged to impact a nearby spring.
 - "reasonableness" of water use (new "fifth" point of groundwater law?)
- SB 288 (2003): requires landowners in a "sensitive sole source aquifer" area (Arbuckle-Simpson) to restrict use to extent that it does not degrade/interfere with springs or streams

Future Management & Oversight of Water Use

- The key is to balance administration of water use in a manner that results in security, certainty, and stability in water rights while ensuring enough surface and groundwater supplies for future generations of Oklahomans:
 - **Sustainable Economic Development**



Current/Future Issues

Water Use Permitting in Oklahoma

- Review of Oklahoma Water Law:
 - Revisit current water rights administration procedures
- Conjunctive Use of Groundwater and Stream Water
- Protection of Instream Flows
- Optimization of Reservoir Operations
- Threatened/Endangered Species
- Utilization of Scientific/Technical Resources to Enhance Water Management:
 - Data Collection/Management
 - Modeling

State of Oklahoma

OWRB

WATER RESOURCES BOARD
the water agency

