



Welcome  
Wilson Lake Water Supply  
Open House



# Kansas Water Office

## Opening Remarks

# U.S. Army Corps of Engineers

- Brief overview of Planning Assistance to States
- History of Water Supply Studies at Wilson
- Overview of Current Study and Objectives



# Planning Assistance to States

- **Authority** - Section 22 of the Water Resources Development Act (WRDA) of 1974, as amended, provides authority for the Corps of Engineers to assist the States, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land.
- **Appropriation** – Typically annual appropriation is made by Congress. Sometimes specified.
- Study needs are determined by States, local entities or tribes and then conducted by agreement with Corps of Engineers.

# Study History/ Background

1982 - Preliminary Study on

1997 Reconnaissance Report

2004 Yield Analysis – Kansas Water Office

2006 Wilson Lake Treatment Facilities – Concept  
Design Report

# Regional Water Supply Planning

- Needs Analysis
- Identification of Alternatives



An aerial photograph of a vast, deep blue lake. The water's surface is textured with small ripples. The sky above is a lighter blue, filled with wispy, white clouds. The overall scene is serene and expansive.

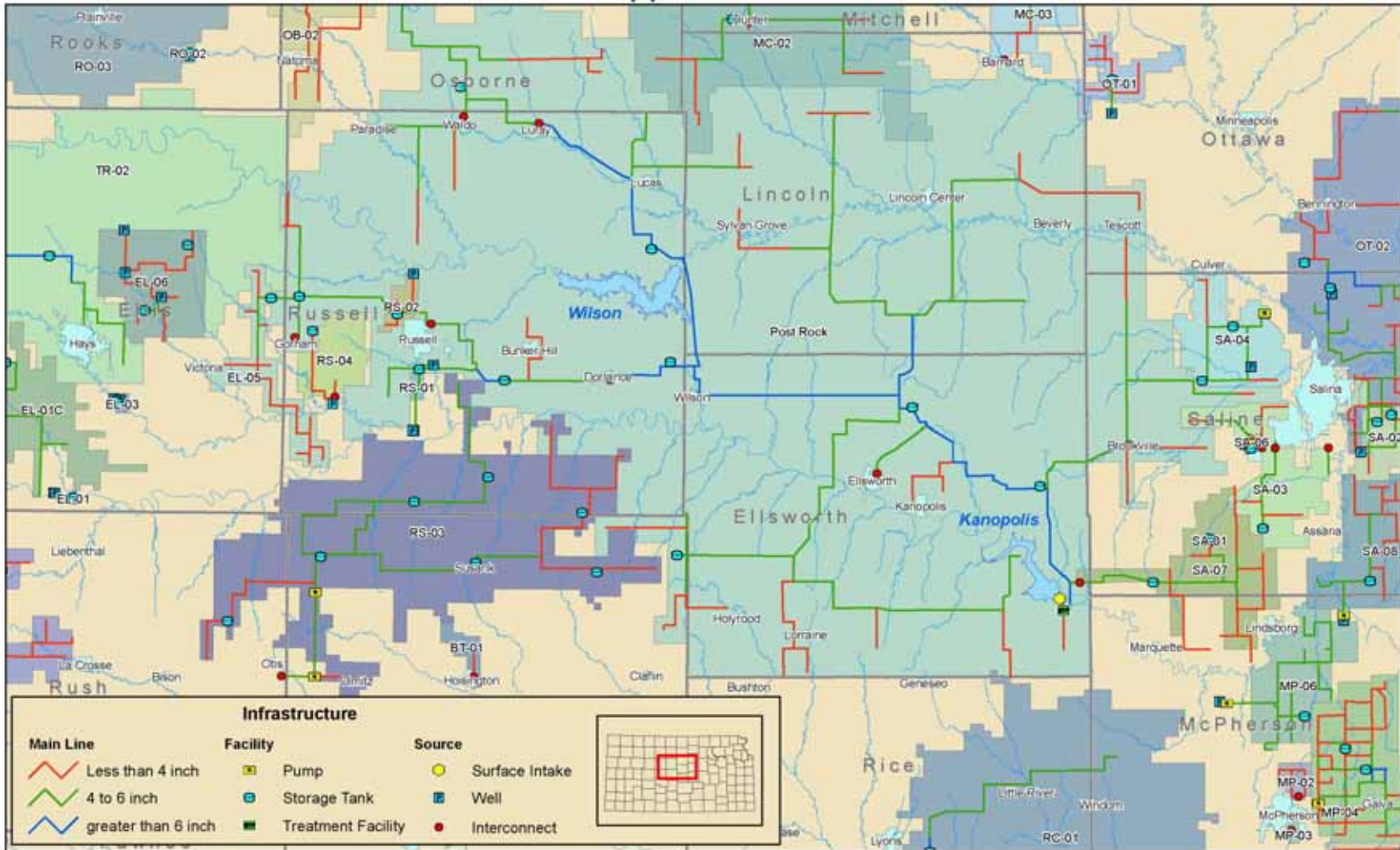
# Wilson Lake Water Supply Open House

# Needs Analysis

- Existing Conditions
  - Hays, Russell, Post Rock
  - Per Capita Usage
  - Regional Sources: Rivers, Groundwater, Cedar Bluff, Kanopolis, Wilson
- Smoky Hill-Saline Basin Plan
- Updated need determined to be 7.89 cubic feet per second (cfs) or 5.1 million gallons per day (MGD) by the year 2050



# Public Water Suppliers in Central Kansas



# Alternatives

- Currently being evaluated
- Wilson—withdrawal from current pool or a raised pool level (2 feet)
- Regional perspective
  - Water conservation
  - Purchase of water
  - Wells
  - Combination with other reservoirs



# Modeling

- Smoky Hill River Basin including Kanopolis, Wilson, and Waconda Lakes and the Saline, Solomon, and Smoky Hill Rivers
- Through year 2050
- Uses inflows from past 58 years (1950 to 2007) to project future lake levels
  - Includes impacts of reduced inflows due to land use changes
  - Impacts of additional water use upstream will be added in future



# Current Status

- Initial modeling results indicate feasibility of withdrawal
- Currently developing and conducting screening level review of alternatives and determining environmental issues to assess

# Projected Wilson Lake Levels with Water Supply (1993-2007)

## **Current Pool with Water Supply**

- Pool is one foot or more lower ? % of time
- Greatest variance (worst drought level) is 2.9 feet (pool level 1506.6 rather than 1509.5)

## **Raised Pool with Water Supply**

- Pool is one foot or more lower ? % of time
- Greatest variance is 1.7 feet (pool level is 1507.8 rather than 1509.5)

# Issues to Evaluate

- Impacts of withdrawal from raised pool on fish, wildlife, recreation, and recreation lands
- Impacts of withdrawal from current pool on fish, wildlife, recreation, and recreation lands
- Your suggestions and comments on issues that should be considered
- Your suggestions on alternatives



# Future Path

- Review Meeting Comments
- Alternatives and Issues Finalized
- Affected Environment Characterized
- Environmental Consequences Assessed
- Decision on Whether to Pursue Reallocation—  
State and USACE

An aerial photograph of a vast, deep blue lake. The water's surface is textured with small, rhythmic ripples. The sky above is a clear, vibrant blue, dotted with thin, wispy white clouds. The horizon line is visible in the distance, separating the water from the sky.

# Wilson Lake Water Supply Open House

# Your Role

- Fill out a comment card
- Focus on issues and alternatives that concern you
- Participate in discussions as process unfolds
- For more information:  
[christina.ostrander@usace.army.mil](mailto:christina.ostrander@usace.army.mil)



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# Wilson Lake Water Supply Open House

# Requirements for Corps of Engineers in Reallocation

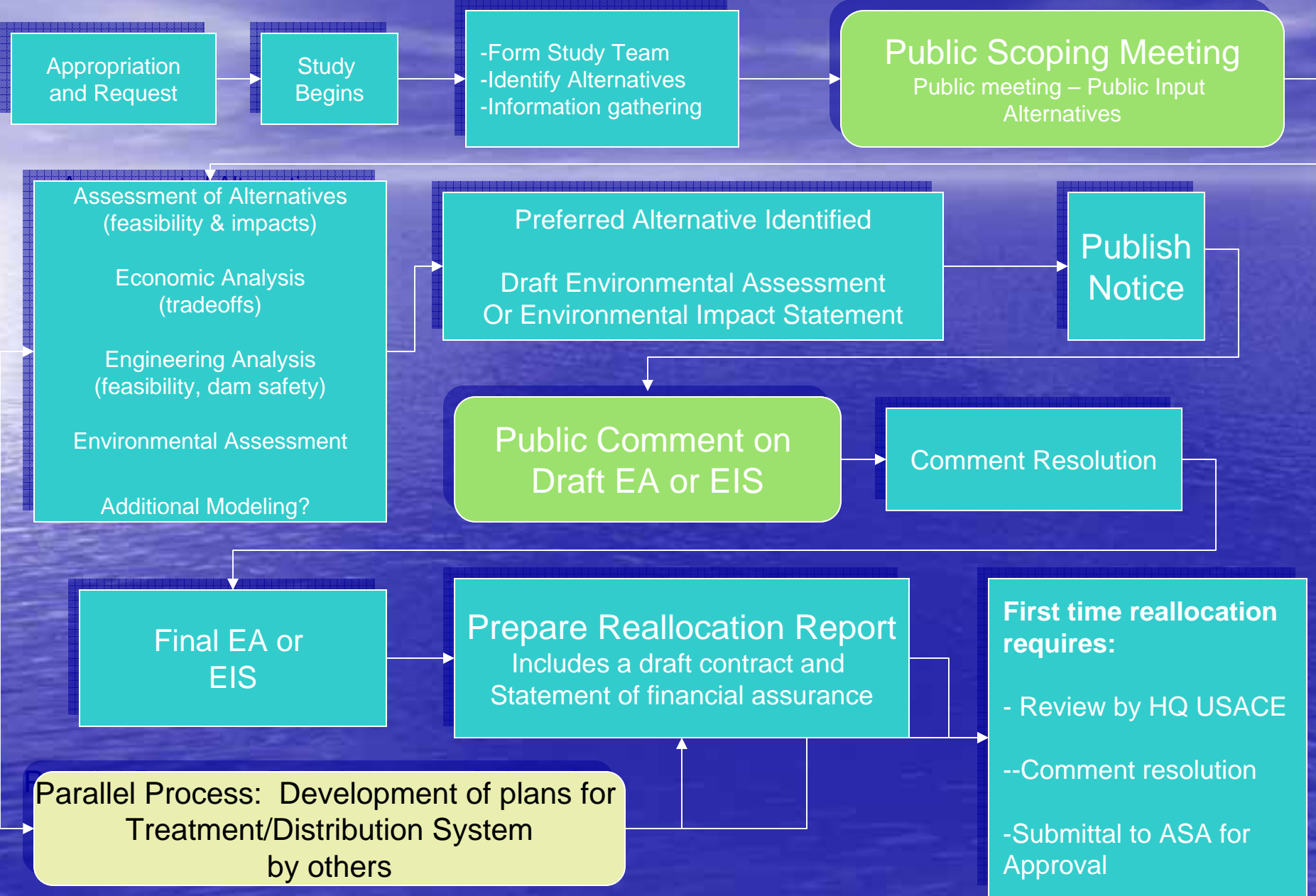
- Authority – Title III, 1958 Rivers and Harbors Act
- Commonly referred to as the
- The 1958 Water Supply Act

Section 310 (a): “ It is hereby declared to be the policy of congress to recognize the primary responsibility of the States and local interests in developing water supplies for domestic, municipal, industrial and other purposes and that the Federal Government should participate and cooperate in developing such water supplies in connection with the construction, maintenance, and operation of Federal navigation, Flood control, irrigation or multipurpose projects.

**Request  
Formal Request for Reallocation  
From State of Kansas**

**Appropriation – Funds  
Specific Funds -Provided by Congress  
Typically Operations and Maintenance Funds**

# REALLOCATION PROCESS





# Regional Water Supply Planning

## 1982 – 1997 Studies Considerations

- Needs Analysis
- Kanopolis
- Kinsley Ranch
- Wilson Lake
  - Multipurpose Pool
  - 2-ft Pool Raise
- Conservation
- No action

## 2004 Yield Analysis – Kansas Water Office

## 2005 Wilson Lake Treatment Facilities – Concept Design Report

## 2007 Planning Study Considerations

- Updated Needs Analysis
- Screening level look at updated list of alternatives as follows
- Dakota Aquifer
- Big Creek Aquifer
- Current wells – permanent water rights vs term
- Purchase water outside basin
- Kanopolis
- Wilson
  - Multipurpose
  - 2-ft Pool Raise
- Conservation
- No action
- Models have been updated to include period of record through 2007 for:
  - Reduced inflow due to land use changes
  - Reduced capacity from sedimentation projected from sediment surveys in 1965, 1984, and 1995