



South Platte Compact Canal Project

Presentation to Appropriations Committee By:
Michael Preszler, P.E. and Gwyn-Mohr Tully, J.D.

December 2, 2022



BACKGROUND

LEGISLATIVE DIRECTIVES (LB1012):

1. Estimate the costs of completion of a canal and adjoining reservoirs as outlined in the South Platte River Compact.
2. Develop a timeline for completion of a canal and adjoining reservoirs as outlined in the South Platte River Compact.
3. Examine the cost-effectiveness of alternatives, including alternatives that may reduce environmental or financial impacts.
4. Evaluate the impacts of the canal on Nebraska water users throughout the Platte River Basin, including the drinking water supplies for the cities of Lincoln and Omaha.



SOURCE MATERIAL

Examined available and new materials in the context of Legislature's four directives

STUDIES AND INFORMATION AVAILABLE FOR THE EVALUATION:

- 1.** Department of Natural Resources studies funded through 2019 – 2021 appropriations (\$1,050,000)
- 2.** Colorado water use and supply data, planning documents, and project feasibility documents
- 3.** 1982 United States Bureau of Reclamation Study of Perkins County Canal design features and costs
- 4.** State of Nebraska data, studies, and reports
- 5.** USGS, CDSS, and other state and federal information

OUR APPROACH

HOW WE ADDRESSED DIRECTIVES:

- Read South Platte River Compact
- Evaluated Information
- Completed Site Visit
- Estimated Water Supply
- Developed Project Alternatives
- Created Costs and Benefits for Alternatives





RISK FACTORS

COLORADO PLANS AND POLICIES REGARDING NEBRASKA WATER SUPPLIES:

- Colorado's population is projected to grow up to 10 million by 2050
- Colorado needs between 600,000 – 1,000,000 AF of additional water supplies
- 90% of Colorado's population lives in Front Range
- Colorado House Bill 16-1256 Declares intent to use South Platte River Supply
- Other sources in Colorado, like Colorado River, are running low
- Colorado plans to take Nebraska's South Platte River water to meet demands



ANSWER TO DIRECTIVE 1



Estimation of the costs of completion of a canal and adjoining reservoirs as outlined in the South Platte River Compact.

COST ANALYSIS

ALT 1 COST = \$567 Million

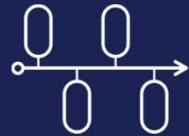
ALT 2 COST = \$628 Million



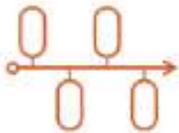
ACTIVITIES INCLUDED:

- 1.** Researched and reviewed historical documents
- 2.** Refined Canal layout and elements
- 3.** Created conceptual design of diversion, canals, and reservoirs
- 4.** Optimized operational flexibility
- 5.** Updated existing information on project costs based on updated design

ANSWER TO DIRECTIVE 2



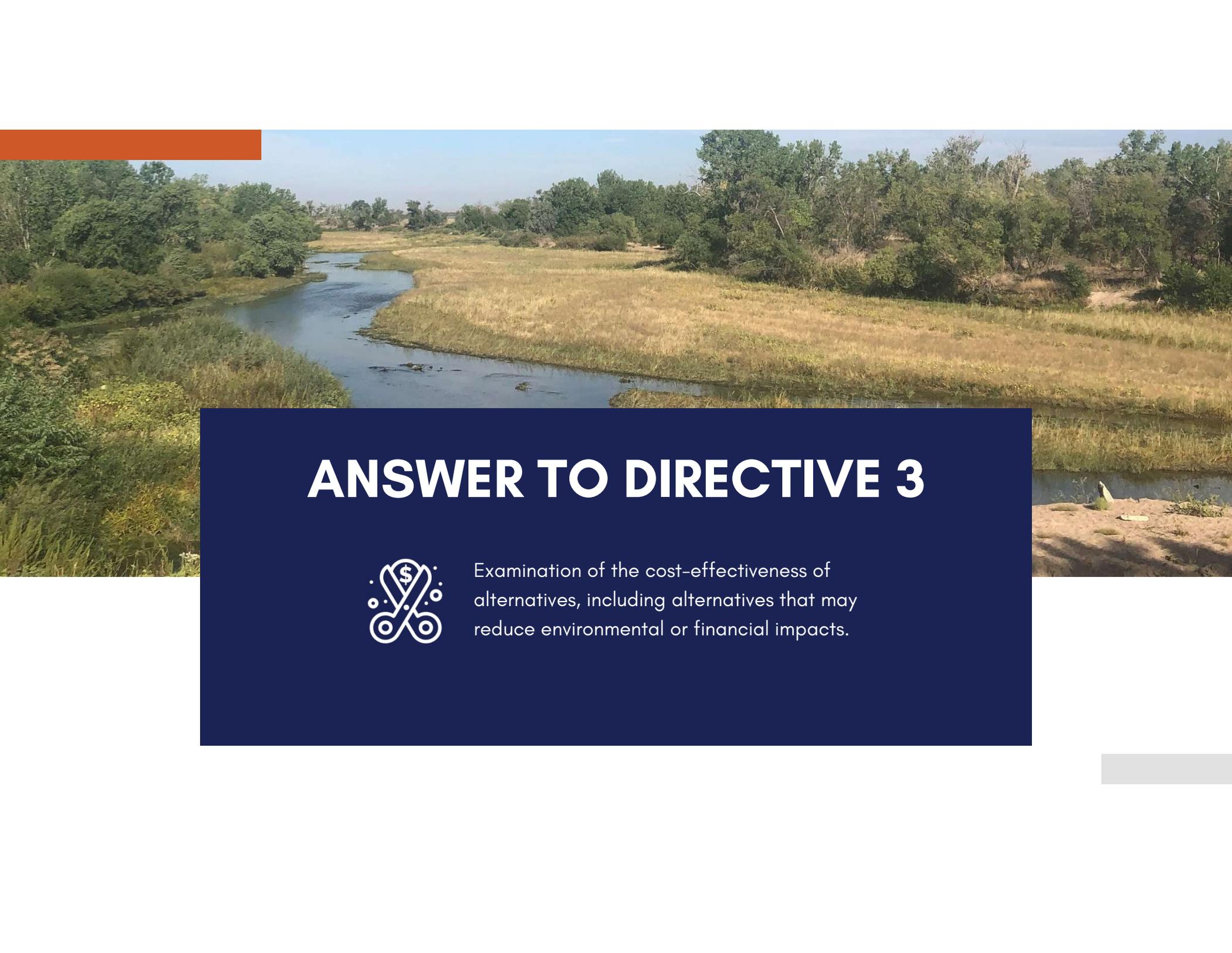
Development of a timeline for completion of a canal and adjoining reservoirs as outlined in the South Platte River Compact.



TIME SCHEDULE

Perkins County Canal Project Development Timeline





ANSWER TO DIRECTIVE 3



Examination of the cost-effectiveness of alternatives, including alternatives that may reduce environmental or financial impacts.

COST EFFECTIVENESS

*Researched and reviewed
historical documents*

*Refined Canal layout and
elements*



ACTIVITIES INCLUDED:

- 1.** Analyzed water supply availability
- 2.** Assessed future no project
- 3.** Developed costs
- 4.** Identified and quantified benefits of project
- 5.** Defined timeframe for analysis (50-year Benefits)



COST EFFECTIVENESS OF PROJECT OPTIONS

Project	Cost	Benefit	Benefit-Cost Ratio
500 cfs Canal	\$567 Million	\$698 to \$754 Million	1.23 to 1.33
1,000 cfs Canal	\$628 Million	\$802 to \$986 Million	1.28 to 1.57



ENVIRONMENTAL & FINANCIAL IMPACTS

Alternatives reduce environmental and financial impacts

- ✓ Reduction in the number of reservoirs
- ✓ Reduction in total canal length and footprint
- ✓ Enhance water quality
- ✓ Increase waterfowl habitat
- ✓ Provide consistent Platte River base flow
- ✓ Protect, preserve, and enhance groundwater recharge and returns to river

A photograph of a river with a large pile of sand in the foreground and a pump motor on the right side. The river is surrounded by green trees and grass. The pump motor is a large, dark-colored unit with a blue top section and a green base. The word "ARGENT" is visible on the side of the pump.

ANSWER TO DIRECTIVE 4



Evaluation of the impacts of the canal on Nebraska water users throughout the Platte River Basin, including the drinking water supplies for the cities of Lincoln and Omaha.



BENEFITS

Alternatives protect environmental, economic and community needs across Nebraska



Municipal



Recreational



Agriculture



Hydroelectric



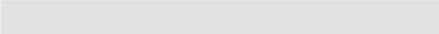
Environmental



Water Quality



Industrial



ADDITIONAL BENEFITS

- ✓ Regional Economic Effects
- ✓ Benefits realized in perpetuity
- ✓ Reliability (managed supplies)
- ✓ Drought resiliency
- ✓ Capturing surplus supplies
- ✓ Potential for small hydroelectric
- ✓ Increased wildlife habitat
- ✓ Increased hydroelectric on current system
- ✓ Value of water





CONCLUSIONS

- 1.** Colorado plans to take Nebraska's water (without Canal)
- 2.** Water is available for Nebraska's use
- 3.** With construction of Canal, Nebraska will secure water
- 4.** Benefits are greater than costs