

Central

**Nebraska Public Power
and Irrigation District**

IRRIGATION



HYDROPOWER



RECREATION



**WILDLIFE
HABITAT**



HISTORY

The project that would become the Central Nebraska Public Power and Irrigation District began in 1913 with a modest proposal by C.W. McConaughy, a grain merchant and mayor of Holdrege, to divert water from the Platte River during the spring and fall to soak the soil of farms in the area. Crops could draw upon the stored subsoil moisture during the growing season to offset the droughts and dry spells that frequently troubled the area's farmers.

Irrigation supporters waged a tireless battle over the next 22 years to secure approval and funding for the construction of a project that would bring water to the fertile soil of south-central Nebraska. By the time the Central District was formed in 1933, the original idea for supplemental irrigation had developed into a full-scale irrigation and hydroelectric project. Despite opposition from private power companies and competition for federal funds and state water rights, the project was approved in 1935. Construction began in 1936, financed by a \$19 million Public Works Administration grant and a \$24 million federal loan, and operations began in 1941.

Included in the construction were Kingsley Dam and Lake McConaughy, the Diversion Dam near North Platte, the Supply Canal with more than 20 small lakes along its 75-mile route, three hydroelectric plants, hundreds of miles of irrigation canals and laterals, control structures and many bridges and roads. Construction of the project was a monumental undertaking spanning seven counties and more than 170 miles -- and the realiza-

tion of the hopes and dreams of project supporters who foresaw the prosperity that irrigation would bring to south-central Nebraska.

Over the years, Central has made many improvements to the project. Remote supervisory control of Central's facilities was established at the Gothenburg Control Center in 1972, allowing flows through the Supply Canal, hydroplants and irrigation canals to be controlled by computer. Elwood Reservoir and the Carl T. Curtis Pump Station were added to the E65 Canal system as part of a major rehabilitation project in the 1970s and the Phelps Canal system underwent rehabilitation in the 1980s. The Kingsley Hydroplant was completed in 1984.

The Central District is a political subdivision of the State of Nebraska and the hydroelectric facilities are licensed by the Federal Energy Regulatory Commission. The District is governed by a 15-member board of directors, with three directors from each of the four counties -- Kearney, Gosper, Phelps and Adams -- in the District's original corporate area. Central expanded its board in 1993 to include Keith, Lincoln and Dawson counties, which are each represented by one director.

IRRIGATION

Central provides surface water irrigation service to more than 112,000 acres in Phelps, Gosper, Kearney, Lincoln and Dawson counties. Another 110,000 acres served by other surface water irrigation projects receive supplemental irrigation water from Lake McConaughy. Additionally, Central's project provides documented ground water recharge to more than 310,000 acres in and around Central's service area, an area with heavy ground water irrigation development. Central recognizes the importance of this "conjunctive-use" relationship between surface and ground water and is committed to further study and development of this relationship.

The primary water supply for Central's system originates in the Rocky Mountains of Colorado and Wyoming. Water from the North Platte River flows into Lake McConaughy, mostly as return flows from irrigation projects in Wyoming and western Nebraska. The stored water is released for electrical generation at the Kingsley Hydro, for cooling purposes at a coal-fired plant and again for hydroelectric generation near North Platte before being diverted into Central's Supply Canal, which

delivers the water to three more hydroplants and Central's three main irrigation canals: E65, E67 and Phelps.

Demands on Nebraska's water resources have increased the importance of conservation and wise use of water resources. Central has addressed water conservation with a variety of innovative programs, methods and technology.

Irrigation service specialists patrol canals, laterals and pipelines and work directly with irrigation customers to coordinate water deliveries. Conditions along the canals are monitored and controlled by computer from the Control Center and/or from irrigation offices in Holdrege and Bertrand. The automation enables Central to rapidly adjust to changing conditions and efficiently move water through the system.

Central has also taken numerous steps to improve the efficiency of its water delivery system and to promote on-farm water conservation. For example, Central is the only irrigation district in the state that employs a full-time conservation director to administer irrigation efficiency, conservation and water quality protection programs. Assistance is available to irrigators who choose to install irrigation technology designed to conserve water and improve efficiency. In addition, Central sponsors public education programs on water conservation and quality and irrigation management and technology.

Central established the Central Nebraska Regional Water Conservation Task Force in 1992 to initiate a comprehensive approach to water conservation through development of conjunctive management of surface and ground water. The Task Force is made up of representatives from agricultural, wildlife, financial, municipal and recreational interests concerned with the efficient use and conservation of the available water supply.

Central adopted the Incremental Pricing & Conservation Credit Program in 1995 to reward irrigators who use less than their annual base supply of water. The program is an innovative approach to pricing water service that includes an incremental rate for water service and the availability of "conservation credits" which irrigators can use to extend the

base rate for service.

Central is committed to insuring a reliable source of water to the farmers of south central Nebraska, and will continue to support the region's agricultural economy through leadership in management techniques, technological advances and innovative irrigation practices.

HYDROPOWER

The production of hydroelectric power is another major benefit of Central's project. The three 18-megawatt Supply Canal hydros -- Jeffrey power plant below Jeffrey Reservoir and the Johnson No. 1 and No. 2 plants below Johnson Lake -- and Kingsley Hydro can generate a total of 104 megawatts of electricity to help meet Nebraska's power needs. The hydros are operated from the Gothenburg Control Center where computers and communications equipment allow operators to continuously monitor and control power production. Power produced at the plants is sold to the Nebraska Public Power District for distribution to electric customers.

Hydroplants have no fuel costs and are typically less costly to maintain than fossil-fuel plants. They can generate electricity upon demand, unlike steam-driven plants which require several hours to fire up if they have been off-line. Hydropower provides energy without producing waste products or emissions into the air. The fuel -- water -- is renewable and provides many other benefits such as irrigation and recreation. And, as is evident throughout Central's system, wildlife flourishes in the surrounding aquatic and terrestrial environment.

RECREATION

Central's project also provides the public with opportunities to enjoy a wide range of recreational activities. Central's lakes cover more than 36,000 surface acres available to the public for boating, fishing, water-skiing,

sailing,
jet-skiing,

swim-
ming,
hunting
and other
recreational
pursuits.

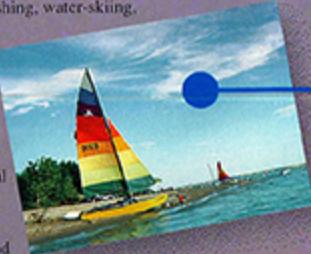
Sandy
beaches and
a wide variety

of game fish make the Lake McConaughy/Lake Ogallala area one of the most popular recreation sites in Nebraska.

Johnson Lake, a regulating reservoir for the J-1 and J-2 hydros, is another popular recreation area. Located between Lexington and Elwood, more than 800 cabins occupy the lake's 11 miles of shoreline and two State Recreation Areas operated by the Nebraska Game and Parks Commission attract thousands of campers and day-use visitors each summer. Jeffrey Lake near Brady also has an extensive cabin development and a public boat ramp provides visitors with access to the lake's water.

The public spends about 1.5 million visitor-days annually at McConaughy, Johnson and Jeffrey lakes, including an average of about 800,000 visitor-days in the Lake McConaughy/Lake Ogallala area.

Almost 6,000 acres of land adjacent to Central's lakes are designated State Recreation Areas and operated by the Nebraska Game and Parks Commission. Another 6,800 acres within Central's project area are set aside as Wildlife Management Areas open to public use. Central's Supply Canal and the small canyon lakes also provide abundant opportunities for hunting and fishing.



WILDLIFE HABITAT

Central's project provides habitat for many species of fish and wildlife and project lands teem with wildlife. Central has taken an active role in creating and preserving wildlife habitat in the Platte River valley. Some of these measures include:

- Releases from Lake McConaughy and return flows from irrigation protect fish habitat in the Platte River and all of Central's lakes and the canal system provide habitat for fish and other wildlife. Some of the most diverse and highest populations of mollusks in Nebraska can be found in Central waters.
- Strict measures undertaken by Central protect the nesting areas of endangered least terns and piping plovers at Lake McConaughy and Central-monitored sandpits along the Platte River.
- Central played an important role in habitat improvements at the Funk Waterfowl Production Area. The enhancements resulted in a dramatic increase in the number of waterfowl stopping at the lagoon during the migratory season. Central continues to enhance this and other wetlands in the area.

- The Clear Creek Wildlife Management Area at the west end of Lake McConaughy attracts large numbers of waterfowl, sandhill cranes and occasionally, whooping

cranes. Bald eagles congregate during the winter months below Central's Kingsley and J-2 hydroplants, attracted by the ice-free water created by the turbulence below the plants and by the abundant supply of fish. The inlet at Johnson Lake also draws large numbers of wintering bald eagles. Central provides viewing facilities at the two sites, allowing the public to experience the spectacular sight of eagles swooping to capture fish from the water below the plants.

- Central works with local groups and agencies to establish wildlife habitat areas on District property.



A Message from Central's Board of Directors:

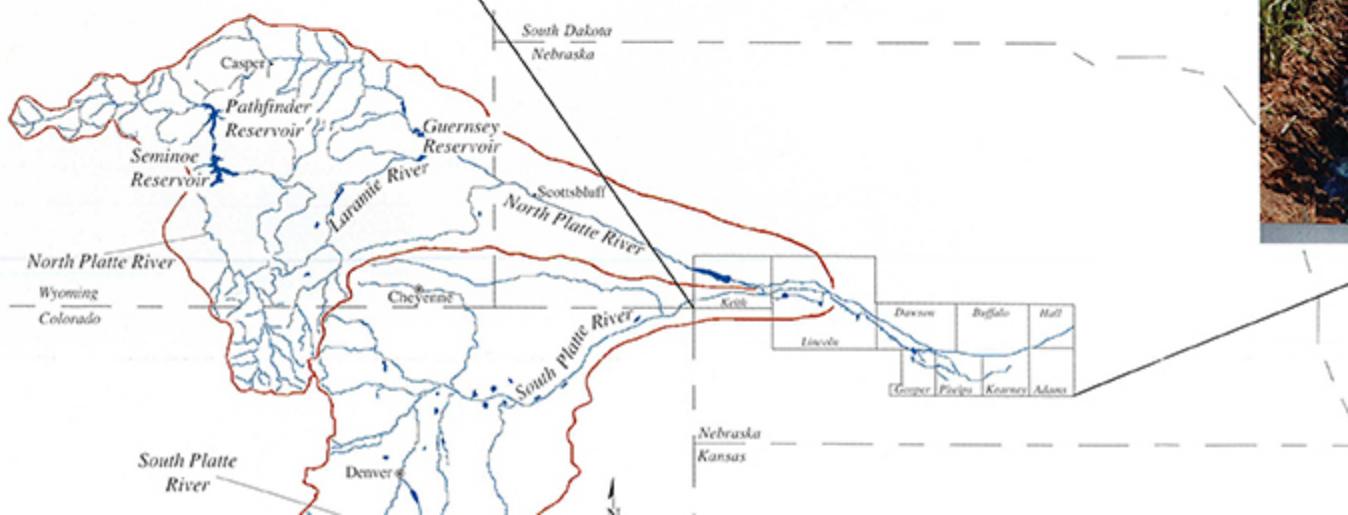
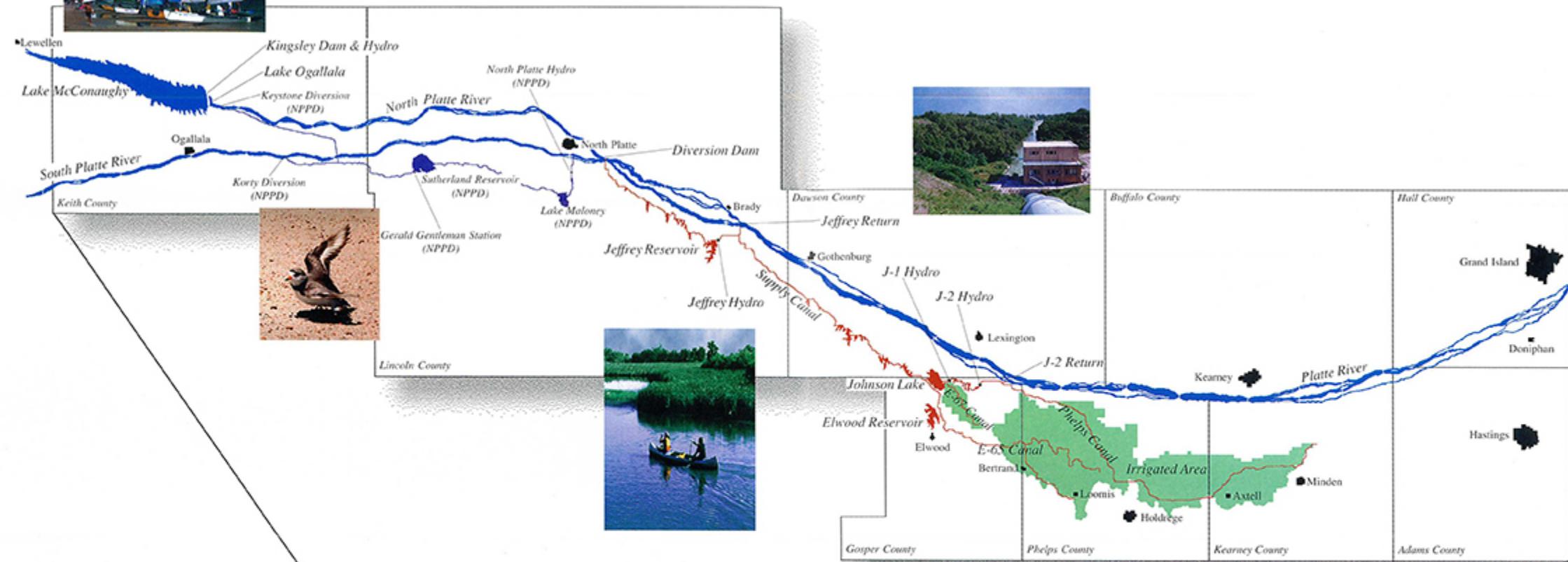
"Water is one of Nebraska's most precious resources. Its management and use must be approached with recognition of its economic and ecological value, but also with an understanding of its limits and the ever-increasing demand on available supplies. By identifying objectives, taking action and involving the public in the process, Central will continue to provide social, economic and ecological benefits to the region it serves."

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The Central Nebraska Public Power and Irrigation District



The mission of the Central Nebraska Public Power and Irrigation District is to serve the agricultural-based community in the region by protecting and utilizing the natural resources available to us in a sustainable and ecologically balanced manner.