



DAVID CITY PARK LAKE

Community ...

A primary feature of David City's 12-acre public park, established in 1889, are two lakes with a combined surface area of about 6.3 acres. The park also features playgrounds, picnic shelters, basketball, tennis and volleyball courts, a campground, swimming pool, city football field and municipal auditorium. The lakes are fed by runoff from a 1,640-acre watershed comprised primarily of farmland. Sediment carried by this runoff gradually decreased depths of the lakes to about three feet, making them unsuitable for fishing and other recreational uses. In addition, shorelines of the lakes were covered with broken concrete, rocks, rubble and other debris, making access hazardous.

Challenges ...

Because of the deteriorating condition of the lakes, David City got a three-year grant from the Nebraska Environmental Trust for a project to remove sediment and restore shorelines. Project goals were to improve water quality, restore habitat and increase use of the lakes and park.

Solutions ...

The Natural Resources Conservation Service provided funds for 75 percent of the cost to build soil erosion controls for 200 acres of highly erodible land within the watershed. This cost, based on terracing and building a riparian conservation reserve, was about \$53,124. The Lower Platte North Natural Resources District also committed \$35,250 to fund 75 percent of key watershed treatment costs, plant trees, and build a sediment trap and trails.

In addition to other improvements within the watershed feeding the lakes, in-lake improvements included removing 40,000 cubic yards of sediment to increase depth from about three feet to between 12 and 15 feet. Some of the excavated soil was used by the golf course, in the park and for other community projects. Debris along 3,520 feet of shoreline was removed and the shoreline was shaped and sloped to support vegetation. About 500 feet was lined with riprap, the rest was armored with vegetative mat. Three bottom aerators were installed in each lake and lake level controls were added to allow the city to vary water levels by about two feet. The two high schools developed an open-air classroom curriculum focused on monitoring water quality in accordance with a lake management plan that was developed as part of the project.

Results ...

The three-year project was completed in May 2003 at a cost of \$842,590. Project partners included the Lower Platte North Natural Resources District, U.S. Department of Agriculture's Natural Resources Conservation Service, Nebraska Department of Environmental Quality, University of Nebraska-Lincoln, Nebraska Game and Parks Commission, Butler County Roads Department, local businesses, David City Aquinas High School, David City Golf Course, City of David City, Jacobson Helgoth Consultants and owners of a private lake west of the park.

