

## REGIONAL CENTER LAKE

### Community ...

**S**outhwest Lincoln's public Regional Center Lake is on Lincoln Regional Center grounds operated by the Nebraska Health and Human Services System. The lake, which is less than one surface acre, is supplied primarily by runoff from a small watershed area. Supplemental water is periodically added to the lake from a potable water line. The lake has historically been used for fishing and picnicking.

### Challenges ...

Over the years, sediment had steadily built up in the lake from shoreline erosion and storm-water runoff, decreasing overall lake depth and water clarity. By 2002 maximum lake depth had declined from 14 feet to 5.5 feet. Shorelines had eroded in several places; Areas that had previously been stabilized with riprap were in disrepair and had become a hazard to anyone attempting to get close to the water's edge. Accumulated sediments impaired water clarity, making it difficult for sight-feeding fish to survive and for aquatic vegetation to thrive. These conditions also increased algae blooms and nearly eliminated the fish. The lake also lost water from seepage due to deposits of sand and gravel in the lakebed. This made it necessary to periodically add water using the potable water supply to maintain water levels.

## Solutions ...

In 2002, the Nebraska Health and Human Services System received CLEAR funding to restore the lake. About 3,700 cubic yards of sediment were removed from the lakebed, leaving roughly 7 percent of the lake 10 feet deep, 23 percent eight feet deep and 44 percent at least four feet deep. A clay liner was built along the lake bottom and side slopes to reduce water seepage. Shorelines were reshaped and old riprap was removed. Shorelines were stabilized with a permanent turf reinforcement matrix and seeded with water-tolerant plants. Weed barriers were placed intermittently along the shoreline to provide open access for fishing. Fish habitat was improved by adding underwater aquatic habitat structures. When the renovations were finished the lake was restocked with largemouth bass, bluegill and channel catfish.

## Results ...

Increasing depth, clarity and spawning areas made the Lincoln Regional Center Lake a sustainable fisheries environment for anglers. In addition to water quality, removing riprap and adding shoreline landscaping also improved aesthetics. Drinking water will also be conserved now that less will be needed to maintain lake water levels. The cost of the project was approximately \$79,000. Of this, \$67,000 was provided through the CLEAR program, and the Nebraska Department of Health and Human Services provided \$12,000. Engineering services were provided by EA Engineering, Science, and Technology, Inc.

