

**ATTACHMENT "A"**

**COOPERATIVE AGREEMENT**  
**Between the**  
**NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**and the**  
**CITY OF LINCOLN, NEBRASKA**  
**Regarding the Implementation of the Section 319 Project Entitled**  
**Holmes Lake Water Quality Project**

THIS COOPERATIVE AGREEMENT is made and entered into by and between the Nebraska Department of Environmental Quality (NDEQ) and the City of Lincoln, Nebraska (Sponsor) in accordance with the Interlocal Cooperation Act, Nebraska Stat. Sec. 13-801 to 13-807 (Reissue 1987) or Nebr. Rev. Stat. Sec. 81-1504 (Supp. 1997) of the Nebraska Environmental Protection Act, whichever is applicable.

WHEREAS, the Sponsor made a request to the NDEQ for Section 319 grant funds, pursuant to the federal Clean Water Act and the Nebraska Nonpoint Source (NPS) Management Program, which have been made available to NDEQ through the Region VII Office of the U.S. Environmental Protection Agency (EPA); and

WHEREAS, these grant funds in an amount up to \$1,000,000.00 are to be used to implement this Section 319 NPS Project; and

WHEREAS, the Sponsor agrees to utilize at least \$666,700.00 in nonfederal funds and/or services in-kind for implementation of project activities; and

WHEREAS, the Sponsor intends to comply with all provisions of the federal Clean Water Act as amended by the Water Quality Act of 1987, 33 U.S.C. §1251 *et seq.* and intends to use the funds as set out in this Agreement; and

NOW, THEREFORE, the parties do hereby agree to the terms and conditions of this Agreement as follows:

**I. TERM OF AGREEMENT**

This Agreement will remain in effect until all identified tasks are completed for this Section 319 Project, unless terminated under §Q of this Cooperative Agreement, but will not remain in effect past June 30, 2006.

**II. CONDITIONS OF AGREEMENT**

**A. General Conditions**

1. The Sponsor agrees to complete a detailed Project Implementation Plan (PIP) outlining the project schedule and specific work items to be undertaken during the course of the project. This PIP must be approved by USEPA and NDEQ prior to any reimbursement request from Section 319 grant funds. A Quality Assurance Project Plan (QAPP) must be approved by NDEQ prior to any collection of environmental data and subsequent reimbursement request from Section 319 grant funds for monitoring activities.

2. The Sponsor agrees to submit quarterly progress reports to the NDEQ by the fifth working day after the end of each federal fiscal quarter. These reports shall contain the following components:
  - a. Progress to date;
  - b. Significant findings or events;
  - c. Corrective actions taken to resolve any problems that are encountered;
  - d. Activities planned for the next quarter; and
  - e. A detailed account of expenses.
3. The Sponsor agrees that if indirect costs are authorized, as specified in the approved PIP, they will be charged at the approved indirect rate.
4. The Sponsor agrees that any contract, interagency agreement, sub-agreement and/or procurement of equipment under this grant must receive NDEQ approval prior to expenditure of funds associated with those transactions. Copies of all sub-agreements and interagency agreements will be provided to the NDEQ.
5. All equipment purchased with Section 319 grant funds must be approved by the NDEQ. Any such purchased equipment shall be retained by the NDEQ upon completion of the project unless otherwise authorized in writing by the NDEQ.
6. The Sponsor agrees that all water quality data collected under this grant shall be provided to the NDEQ.
7. The Sponsor agrees to recognize the contributions and/or involvement of the federal Nonpoint Source Management Program (authorized by Section 319 of the Clean Water Act and administered by EPA and NDEQ) in project publicity, reports, newsletters, and other materials. The Sponsor shall work with the NDEQ to ensure that all necessary peer review requirements are met. A minimum of 30 copies of printed outreach material and 6 copies of videos produced under this grant shall be provided to the NDEQ.
8. The Sponsor agrees to ensure that persons receiving cost-share assistance from Section 319(h) funds shall, where relevant, practice nutrient and pest management on those portions of their operations that fall in the critical area of the project.
9. The Sponsor agrees to maintain all practices or structural Best Management Practices developed or constructed under Section 319, consistent with the operation and maintenance requirements for structures or practices as described in standard engineering design or as identified in the Natural Resources Conservation Service's Field Office Technical Guides or other appropriate federal/state/local standards.
10. A final project report must be submitted to NDEQ within 90 days after completion of project tasks, but no later than the termination date of this agreement.

**B. Grant Conditions**

The following grant conditions shall be complied with by all recipients of federal grant funds.

1. The Sponsor agrees to comply with all the following provisions, rules and regulations (can be obtained from NDEQ):
  - a. Office of Management and Budget Circulars A-102, A-133, A-87 and 40 CFR Parts 31, 32, and 35.
  - b. Procurement standards of 40 CFR 31.32(g).
  - c. Prohibitive lobbying 18 U.S.C. Section 1913, Section 607(a) of Public Law 96.74, or Section 319 of Public Law 101-121.
  - d. Federal Register, Vol. 53, No. 102, Debarment and Suspension Under EPA, Assistance Loan and Benefit Programs.

- e. Rules governing "Fair Share" of federal funds to Minority Business Enterprises (MBEs), Women-owned Business Enterprises (WBEs), Small Business Enterprises (SBEs), Small Disadvantaged Businesses (SDBs), and Small Business in Rural Areas (SBRAs). Affirmative steps outlined in 40 CFR 30.44, or 40 CFR 33.240, or 40 CFR 35.6580, or Section 129 of Public Law 100-590, whichever is applicable. ("Fair Share" Percentages: Supplies, 5% MBE, 12% WBE; Equipment, 6% MBE, 11% WBE; Services, 5% MBE, 11% WBE; and Construction, 6% MBE, 8% WBE.) The Sponsor agrees to include in its bid specifications and require all of its prime contractors to include in their bid specifications for subcontracts, a "Fair Share". The Sponsor agrees to document the official grant files with all efforts taken to achieve the "Fair Share" and to report quarterly to NDEQ all "Fair Share" procurement efforts regardless of the size of the sub-agreement.
- f. Section 204 of the Demonstration Cities and Metropolitan Development Act of 1996 as amended (42 USC Section 3334).
- g. Provisions of the American with Disabilities Act.
- h. Hotel and Motel Fire Safety Act of 1990.
- i. EPA Order 1000.25 regulating the use of recycled paper.

**C. Statement of Costs**

The Sponsor will submit no more often than once per calendar month a properly documented statement of costs for which reimbursement is sought and nonfederal match is claimed pursuant to the terms of this Agreement and the PIP. This statement of costs shall be signed by the Sponsor's authorized representative. For purposes of this agreement, reimbursable costs and nonfederal match claims shall be related to budget items as described in the approved PIP. Documentation of costs shall consist of paid receipts, signed time records, and/or similar verification of expenditures.

**D. Disbursements**

1. All requests for reimbursement of costs incurred by the Sponsor shall be reviewed within ten (10) working days of their receipt by the NDEQ. If costs are deemed ineligible, the Sponsor shall be notified by the NDEQ within ten (10) working days of the receipt of the request. Within thirty (30) working days after the receipt of a properly documented reimbursement request, the NDEQ shall transmit payment to the Sponsor, the amount of the eligible cost. The NDEQ shall not be held responsible for delays in payment, due to causes beyond its control.
2. Under no circumstances shall the total amount of payments under this Agreement exceed one million dollars (\$1,000,000.00).
3. The Sponsor agrees to utilize at least six hundred sixty-six thousand seven hundred dollars (\$666,700.00) in nonfederal funds and/or services in-kind for implementation of project activities.

**E. Work Description and Schedule**

This agreement encompasses the project commonly known as "Holmes Lake Water Quality Project". The project shall complete objectives and work items as described in the PIP (Attachment A). Attachment A is hereby incorporated into this document in its entirety.

**F. Amendments**

This agreement may be amended in writing at any time by mutual agreement of the parties, except insofar as any proposed amendments are in any way contrary to applicable law or requirements of the EPA or NDEQ.

**G. Forfeiture, Repayment and Delays in Disbursement of Funds**

Violation of any of the conditions of this Agreement by the Sponsor or failure of the Sponsor to complete and maintain the project in the manner described in the PIP (Attachment A), including any amendments thereto which have been properly approved, shall result in the forfeiture of any funds not disbursed. In addition, if for any reason the project is not completed as described in the project PIP, including any amendments thereto that have been or are hereafter approved by the NDEQ, the NDEQ may recover from the Sponsor any or all funds disbursed.

**H. Remedies Not Exclusive**

The use by either the Sponsor or the NDEQ of any remedy specified herein for the enforcement of this Agreement is not exclusive and shall not deprive the party from using such remedy, or limit the application of any other remedy provided by law.

**I. Assignment**

No assignment or transfer of this agreement or any part hereof, rights hereunder, or interest herein by the Sponsor shall be valid unless and until it is approved by the NDEQ and made subject to such reasonable terms and conditions as the NDEQ may impose.

**J. Waiver of Rights**

The Sponsor or NDEQ may from time to time waive any of their rights under this Agreement. However, any waiver of rights with respect to a default of any condition of this Agreement shall not be deemed to be a waiver with respect to any other default.

**K. Applicable Rules and Regulations**

Both parties shall abide by all applicable rules and regulations of the NDEQ, including any that may be adopted subsequent to the effective date of this Agreement, except those that would invalidate or be inconsistent with the provisions of this Agreement.

**L. Inspection of Books, Records and Reports**

The duly authorized representative of either party shall have the right to inspect and make copies of any books, records or reports of the other party pertaining to this Agreement or related matters during regular office hours. Each party shall maintain and make available for such inspection accurate records of all its costs, disbursements and receipts with respect to its activities under this Agreement. A single audit is required if \$300,000 or more is provided by the federal funding in any one year period. Copies of the single audit report should be sent to NDEQ.

**M. Independent Contractor**

The Sponsor is and shall perform this Agreement as an independent contractor and as such shall have and maintain exclusive control over all of its employees, agents and operations. Neither the Sponsor nor any person employed by the Sponsor shall act,

propose to act or be deemed the NDEQ's agent, representative or employee. The Sponsor assumes full and exclusive responsibility for the payment of all premiums, contributions, payroll taxes and other taxes now or hereafter required by any law or regulation and agrees to comply with all applicable laws, regulations and orders relating to social security, unemployment compensation, OSHA, affirmative action, equal employment opportunity and other laws, regulations and orders of like nature. For any work hereunder subject to the Veterans Readjustment Assistance Act of 1974, or the Rehabilitation Act of 1973, the parties hereto shall comply with all provisions thereof, together with all applicable rules, regulations and orders of the Department of Labor, and the notices required pursuant to 41 CFR 60-1.4, 60-250.4 and 60-741.4 which are hereby incorporated by reference into this Agreement.

**N. Nondiscrimination**

The Nebraska Fair Employment Practice Act prohibits contractors to the State of Nebraska and their subcontractors from discriminating against any employee, or applicant for employment in the performance of such contracts, with respect to hire, tenure, terms, conditions or privileges of employment because of race, color, religion, sex, disability or national origin. The Sponsor's signature is a guarantee of compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of this Agreement. The Sponsor shall insert a similar provision in all subcontracts for services to be covered by any contract resulting from this Agreement.

**O. Drug Free Workplace**

The Sponsor by executing this Agreement, certifies and assures that it operates a drug free workplace as addressed in the State of Nebraska Drug Free Workplace Policy of July 7, 1989.

**P. Publication Rights**

All parties shall have publication and reproduction rights for all reports and materials, which are produced as a result of this Agreement.

**Q. Termination**

This agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given:

1. Not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and
2. An opportunity for consultation with the terminating party prior to termination.

**R. Project Managers**

The Project Manager for each party to this agreement shall be as follows. The Project Manager may be changed by any agency upon written notification.

NDEQ Project Manager  
Paul Brakhage  
Program Specialist  
Water Quality Planning Unit  
402-471-4224  
[Paul.Brakhage@ndeq.state.ne.us](mailto:Paul.Brakhage@ndeq.state.ne.us)

Sponsor Project Manager  
J.J. Yost  
Planning and Construction Mgr  
Parks and Recreation Department  
402-441-8255  
[jyost@ci.lincoln.ne.us](mailto:jyost@ci.lincoln.ne.us)

**III. EFFECTIVE DATE OF COOPERATIVE AGREEMENT**

This Cooperative Agreement shall be effective upon the later of the dates signed below.

**NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY**

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

**CITY OF LINCOLN, NEBRASKA**

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_ FEDERAL TAX ID NUMBER: \_\_\_\_\_

**Attachment A**

Project Implementation Plan  
for the  
Section 319 Project  
Entitled

**“Holmes Lake Water Quality Project”**

## **Project Implementation Plan**

**Date:** August 1, 2002

**Project Title:** Holmes Lake Water Quality Project

**Project Sponsor:** City of Lincoln - Parks and Recreation Department

**Project Contact:** J.J. Yost  
Planning and Construction Manager  
Lincoln Parks and Recreation Department  
2740 A Street  
Lincoln, NE 68502  
Phone: (402) 441-8255  
e-mail: [jyost@ci.lincoln.ne.us](mailto:jyost@ci.lincoln.ne.us)

**Project Area:** HUC - 10200203

**Project Duration:** 36 Months

**Section 319 Funding Request:** \$2,000,000

**Non-federal Match:** \$1,335,000

## INTRODUCTION

Holmes Lake is a 110-acre flood control and recreational reservoir that is part of Holmes Park located in Lincoln, Nebraska (Figure 1). The U.S. Army Corp of Engineers completed the construction of Holmes Lake in 1962. The park and recreational facilities are managed by Lincoln Parks and Recreation Department (LPRD). Public facilities include boat ramps, playgrounds, day use areas, golf course, planetarium, and sports fields. Lake uses include sailing, paddle boating, and fishing.

The total drainage area of the Holmes Lake watershed is 3,456 acres. Although agricultural crop production was the dominant land use when the lake was built, commercial and residential housing has spread throughout most of the watershed. In 1995, only 27 percent of the watershed was used for agricultural crop production.

The Nebraska Department of Environmental Quality (NDEQ) has identified the Holmes Lake watershed as a high priority watershed for the development and implementation of a watershed management plan to address nonpoint source pollution. In addition, the City of Lincoln Public Works and Utilities Department has targeted the watershed for the development of a stormwater management plan.

## WATER QUALITY BACKGROUND

An extensive amount of water quality information is available for Holmes Lake. Since the early 1960's data has been collected by several entities including the U.S. Army Corp of Engineers, University of Nebraska, and the Nebraska Department of Environmental Quality. While there was an abundance of in-lake data, very little information was available from the watershed. In 1995, the NDEQ conducted an extensive study to document nutrient, pesticide, metals, and bacteria information in the inflows to Holmes Lake.

There are several water quality concerns associated with Holmes Lake. The cause of most of the problems can be associated with historically high sediment, nutrient, and bacteria loadings from the watershed. Excessive pollutant loadings has caused severe eutrophication characterized by excessive turbidity, low dissolved oxygen, and excessive algae growth.

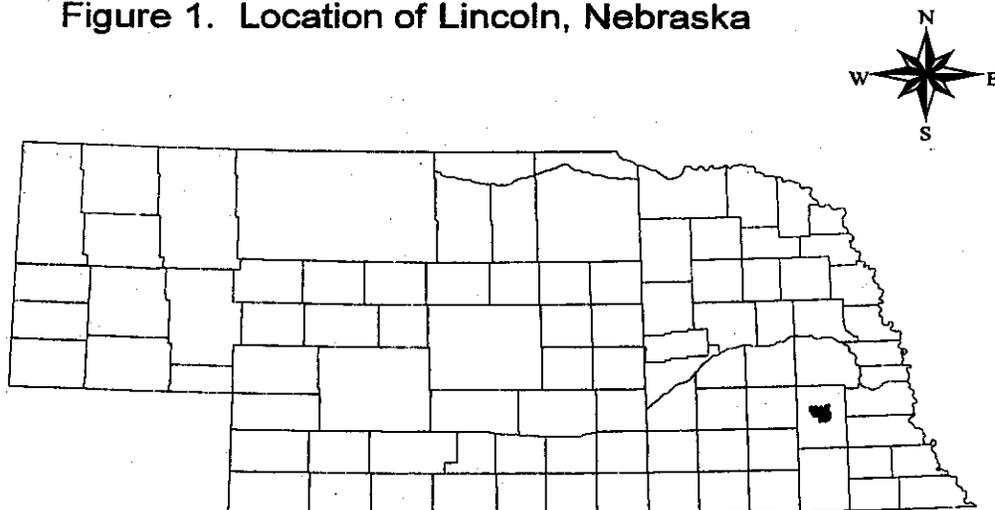
The most evident problem facing the lake is loss of storage capacity and habitat destruction from 40 years of excessive sedimentation from the surrounding watershed. Aside from climatic factors such as rainfall amounts, sedimentation rates appear to be highly influenced by the amount of construction activities taking place in the watershed.

Lake clarity is also a problem that faces Holmes Lake. Water Clarity problems are primarily stemming from suspended sediment particles, although there have been times where algae concentrations were high enough to impact clarity. Without high levels of suspended solids in the lake, there is the potential for dense growths of algae due to the elevated amounts of phosphorus and nitrogen. As efforts to decrease suspended solids levels are initiated, the need to control inputs of phosphorus and nitrogen become increasingly important.

There were several nutrient and bacteria sources identified in the Holmes Lake watershed in 1995. Sources were both point and nonpoint in nature. The point source contributors included a wastewater treatment facility and several private septic systems that were not functioning properly. Since 1995 these sources have been addressed by the city's extension of a sewer line. Nonpoint source contributions now comprise a majority of the nutrient and bacteria load. Urban sources of these pollutants, such as pet waste and lawn chemicals and street runoff have been identified as being large nonpoint source contributors. As more of the Holmes Lake watershed becomes urbanized it is expected that nutrient loadings and bacteria loads to the lake will increase. Geese that reside at the lake also contribute a significant amount of nutrients and bacteria to the lake. For the most, these contributions to the lake are direct result of large numbers of the geese that are in close proximity to the lake.

Additional problems facing Holmes Lake stems from in-lake conditions. Lack of depth, large rough fish populations, and lack of vegetation all affect the condition of the lake. In order to improve and protect Holmes Lake, lake and watershed treatments will need to be accomplished.

**Figure 1. Location of Lincoln, Nebraska**



**1996 Section 303(d) Listing:** Atrazine, Arsenic, Sediment, Nutrients, Dissolved Oxygen

**2002 Section 303(d) Listing:** Sediment, Nutrients, Dissolved Oxygen

**Other Pollutants Of Concern:** Bacteria

**Use Impairment:** Aesthetics, Aquatic Life

**Primary NPS Source(s):** Urban Runoff, Domestic Pets, Waterfowl, In-lake Re-suspension

## **PROJECT DESCRIPTION**

In 2000, the LPRD implemented the Community Based Planning (CBP) process for this project. The goal of the CBP was to develop a Lake And Watershed Management for Holmes Lake. In the initial stages of the planning process the LPRD formed a Technical Advisory Committee (TAC), which was comprised of all the local, state, and federal stakeholding agencies.

The CBP process allowed for extensive public input on the project. In addition to holding public meetings, members of the TAC met with individual homeowners associations to discuss the project. Through the CBP process, a Watershed Advisory Committee (WAC) was formed. The WAC, which is comprised of cross section of lake users, educators, and watershed residents, was the driving force behind the development of goals, objectives, and specific action items.

The implementation section of the Watershed Management Plan for Holmes Lake will encompass watershed treatment, drainage improvements, information/education, lake restoration, and water quality monitoring. A majority of the Section 319 funding will be utilized to complete the lake restoration activities. Section 319 funds will also be utilized to initiate information/education activities. While the funding has been secured for the base project on Holmes Lake, additional improvement measures will be implemented as funding allows. Funding for the additional improvements will be pursued over the course of the project.

## **LAKE RESTORATION ACTIVITIES**

### **Sediment Removal**

The primary focus of the lake restoration is on sediment removal. Holmes Lake has lost about 30 percent of its original volume. Excessive sediment loads from watershed construction activities were identified in 1995 as being the biggest contributor of sediment to the lake. Now that over 95 percent of the watershed built-out, sediment loads have been reduced to acceptable levels.

Water transparency is primarily the function of in-lake nutrient concentrations and reservoir mean depth. Water quality modeling performed by Olsson Associates indicated that to achieve the desired 24 inches of water transparency, approximately 400,000 cubic yards of sediment would need to be removed.

Sediment removal will be accomplished through a combination of hydraulic dredging and excavation. At this point it is unknown how much can be accomplished with each technique. Sediment disposal was a major concern for this project. Given the high cost associated with spoils transport to an off-site location, the City of Lincoln has decided to utilize areas in the park and golf course, which are situated next to the lake (Figure 2).

### **Shoreline Protection**

Due to the erosive nature of the soils in the area and the lack of aquatic and terrestrial vegetation around the lake, shoreline erosion is a significant problem. In addition to increasing turbidity, shoreline erosion can be a major contributor to the loss of habitat in a lake.



# HOLMES PARK LAKE MASTER PLAN

Figure 2,

Shoreline protection will be accomplished through the establishment of vegetation, the application of riprap, and the construction of jetties (Figure 2). An estimated 4,770 tons of riprap will be used to address 5,700 linear feet of critical shoreline erosion areas. Four jetties will be constructed in the reservoir. The jetties will be designed to enhance fisherman access as well as reduce shoreline erosion.

### **Wetland Development**

The benefits of wetlands have been well documented. Approximately 10 acres of new wetlands will be developed within the boundary of the lake (Figure 2). Wetland development will require the installation of brush wave breakers, flood flow protection measures, and a water level control structure. Seeding will be conducted to facilitate wetland establishment.

### **DRAINAGE IMPROVEMENTS**

Several action items developed by the advisory councils were targeted at improving conditions in the drainages to Holmes Lake. Some of the more costly actions, like the creation of wetlands upstream of the lake, will be pursued as funding allows. Other actions have already been initiated by the City of Lincoln. The activity that will make the biggest impact on the lake is the area of sediment and erosion control. Lincoln Public Works and Utilities has increased staff in the Watershed Management Section. The increase in staff will allow the city to increase efforts on sediment and erosion control.

The following actions will be addressed by the project partners during the project:

1. Develop a buffer strip along Antelope Creek between 70<sup>th</sup> Street and Pioneers Street.
2. Establish stations in the dog run where plastic bags are dispensed to pet owners for use in cleaning up after their animals.
3. Establish a "pooper scooper" ordinance for the city.
4. Implement a pilot project in which homeowners may have their soil tested for nutrients, and publish the results in a flyer or newsletter. The demonstration would educate homeowners about the need for soil testing before applying fertilizers.
5. Research opportunities for reducing the resident goose population.
6. Conduct a study to evaluate options for controlling streambank erosion and down cutting on the South Drainage.

### **INFORMATION TRANSFER AND EDUCATIONAL ACTIVITIES**

The WAC and TAC identified numerous information/education activities. Most of the activities can be accomplished with minimal resources. Those activities will be targeted for the initial stages of the project. Other items that require additional funding will be addressed as funding allows.

1. Distribute a list of contacts to Homeowners Associations and the Watershed Advisory Council of city, county, and state personnel responsible for inspecting construction or problem sites.

2. Sponsor a sediment and erosion control workshop for developers.
3. Develop an outlot management handbook and other educational materials that will enable Homeowners Associations to better manage drainage ways and outlots.
4. Send letters and information to Homeowners Associations about the problems with pet waste and ask for assistance with the project.
5. Promote better landscape management to protect water quality through media articles.
6. Develop and post promotional materials relating to water quality and sediment and erosion control.
7. Ask local plant nurseries to buy into the project, and support educational programs through their business.
8. Promote phosphorus free or low phosphorus fertilizer in the watershed by working with local businesses to establish a program.
9. Sponsor a lake clean-up day or watershed festival in association with the project.
10. Conduct storm drain stenciling projects that inform the public that anything they wash down the storm drain ends up in the lake.
11. Work with interested schools on water quality data collection and sharing.
12. Assist schools in providing water quality educational materials and curriculum to students.
13. Develop a web-site that will provide updated project information and photos.
14. Utilize the local media for periodical articles that will update the public on the projects progress.

## **WATER QUALITY MONITORING**

Water quality monitoring will be conducted to evaluate the effectiveness of the overall project. Monitoring activities will be targeted at the primary pollutants of concern, which are nutrients, bacteria, and sediment. Water quality sample collections will be conducted on the reservoir and its two primary inflows. The NDEQ will work with the project sponsor, TAC, and WAC to develop annual monitoring plans for the project. Results of the monitoring activities will be presented to the project stakeholders at the end of each monitoring season.

## **RECREATION ENHANCEMENT**

Recreational enhancement activities will be conducted in and around Holmes Lake. The trail system will be expanded to allow for foot and bike access around the entire lake. In doing so, four bridges will be constructed to provide access across the water. The construction of bridges will also enhance fisherman access. Additional improvements are planned for the boat docks and drainages within the lake. Once the lake restoration has been completed, the City of Lincoln will pursue the relocation of park roads and parking lots. The new design will help reduce shoreline erosion by minimizing parking lot runoff and disbursing foot traffic.

## **WATER QUALITY GOAL AND OBJECTIVES**

The TAC and WAC have developed specific water quality targets for this project. The goal and objectives that were developed in the initial stages of the project were used as the basis for the action items. Water quality monitoring activities will be used to evaluate and document any response in water quality to the implemented actions. The TAC and WAC will periodically review these objectives and make recommendations on the direction of the project.

### **Goal 1. Achieve and maintain a full support status for the beneficial uses assigned to Holmes Reservoir.**

#### **Aquatic Life Use**

- Objective 1. Increase water column average dissolved oxygen concentrations at the deepwater site above 5.0mg/l for more than 90 percent of the summer.
- Objective 2. Decrease average summer total phosphorus concentrations at the deepwater site by 35 percent from 0.14 mg/l to 0.09 mg/l.
- Objective 3. Maintain levels of pesticides and heavy metals at the deepwater site below chronic water quality standards concentrations.

#### **Primary Contact Recreation**

- Objective 4. Maintain concentrations of fecal coliform bacteria at the deepwater site below water quality standards concentrations during each recreation season.

#### **Aesthetics**

- Objective 5. Reduce average summer chlorophyll concentrations at the deepwater site by 73 percent from 54.80 mg/m<sup>3</sup> to 15.00 mg/m<sup>3</sup>.
- Objective 6. Increase average summer water transparency measurements at the deepwater site from 13 inches to 24 inches.
- Objective 7. Maintain average annual sediment loads delivered to Holmes Lake at or below 5,000 tons.

#### **Agricultural Water Supplies**

- Objective 8. Maintain concentrations of nitrate nitrogen, selenium, and conductivity below chronic water quality standards.



## BUDGET

Section 319 funded activities are a part of the overall project on Holmes Lake and its watershed (Table 1). The budget is based on cost estimates provided by Olsson Associates of Lincoln, NE. Additional funding from several sources will be pursued through the course of the project to implement other components of the Watershed Management Plan. The estimated budget for the Section 319 component of the project is provided in Table 2. Costs associated with water quality monitoring will be paid by NDEQ.

The nonfederal match for Section 319 funding will be provided through state and local funds administered by the Lincoln Parks and Recreation Department and Nebraska Game and Parks Commission.

**Table 1. Holmes Lake Water Quality Project Master Budget**

Activity	NDEQ/EPA	LPRD	NGPC	Total
Sediment Removal	\$1,846,667		\$577,133	\$2,423,800
Shoreline Protection		\$9,000	\$604,133	\$613,133
In-lake Wetland Development			\$130,000	\$130,000
Engineering	\$133,333	\$133,333	\$133,333	\$399,999
Information/Education	\$20,000			\$20,000
Recreation Enhancement/Park Improvements		\$672,017	\$115,000	\$787,017
<b>Total</b>	<b>\$2,000,000</b>	<b>\$814,350</b>	<b>\$1,559,599</b>	<b>\$4,373,949</b>

Funding Sources: NDEQ/EPA=Nebraska Department of Environmental Quality/U.S. Environmental Protection Agency, LPRD = Lincoln Parks and Recreation Department, NGPC = Nebraska Game and Parks Commission