

Storm Lake Watershed Improvement Grant Request

Project Assessment Factors:

1. Assessment:

Storm Lake is a 3,147 acre natural lake, which includes a 200 acre marsh called Little Storm Lake. The lake's drainage area is 13,770 acres excluding the lake. Storm Lake is listed on the Clean Water Act 303d impaired waters list due to sedimentation problems. Storm Lake has received funding from Federal, State and local sources for continued dredging of the lake showing the concern for protecting this valued natural resource.

A natural resourced-based economic development project, called Project AWAYSIS, is the result of Storm Lake's Water Quality initiative. This is a \$30 million project to enhance the lakefront and encourage vacationers to spend time in the area. It is also an effort to retain and encourage new business for the area and provide a healthy community to live and raise a family.

2. Targeted:

Based on the 303d list of impaired waters Storm Lake's primary impairment is sedimentation and the secondary impairment is nutrients. The sources of these impairments are due to both agricultural and urban runoff. Storm Lake's watershed has 11,250 acres of intensive row crop production and 1,700 acres of urban area.

The current dredging project will dredge approximately 1,500 acres of the lake to a depth of 14 feet or deeper. This will reduce the amount of sediment already in the lake from being resuspended by wave action. The focus of this request is to address practices in the watershed that will reduce sediment and nutrient runoff into the lake. We are requesting funding to address conservation practices that are not eligible for funding from any other source.

The specific Storm Lake watershed impairments that this request will address are stream down cutting in Powell Creek which is the major tributary of Storm Lake, sediment, nutrients, and farm chemicals entering surface intakes which drain to the lake, urban runoff and water monitoring.

3. Accomplishments:

The implementation of conservation practices targeting the impairments of the Storm Lake watershed will clearly reduce sediment and nutrients moving from the watershed into the lake. The conservation practices to be installed are Boulder Weirs in Powell Creek, grass buffers around ten targeted surface intakes located within farm fields throughout the watershed and rain gardens in Storm Lake to buffer and purify urban surface water before it enters the lake. Finally, a coordinated effort through the Iowater program to monitor the success of these practices will be implemented.

4. Local Leadership:

There has been an ongoing effort to control runoff in the Storm Lake watershed and improve our 3,100 acre lake through watershed work and dredging for more than ten years. As a result of this effort we have developed strong leadership in the area of lake and watershed protection. Leading the effort is the Buena Vista Soil and Water Conservation District. They have been responsible for much watershed work and improvement. Much of this success is the result of sponsoring a section 319 EPA watershed program for the last several years. We presently have a watershed coordinator that is responsible for these watershed activities. Beginning in 1991, the Storm Lake Lake Preservation Association (LPA) was formed. The LPA is responsible for initiating the current local dredging project. Within the last two years the Lake Improvement Commission (LIC) was formed. This is a 28E organization including the City of Storm Lake, City of Lakeside, Buena Vista County, and Lake Preservation Association. The LIC's main responsibility is funding and management of the current and future dredging program along with watershed improvement.

We have very strong coordinated leadership within the Storm Lake Watershed project. As a result of the strong leadership a new natural resource based economic development project called Project AWAYISIS was formed. This is a \$30 million undertaking that has as its foundation the ongoing efforts and successes of these lake and watershed leaders.

5. Goals:

There four main goals of this project.

- a. Installation of three Boulder Weirs on Powell Creek to reduce down cutting of Powell Creek. These are estimated to cost \$2700.00 each weir.
- b. Installation of ten grass buffers around surface water intakes within cropland fields. Offering \$200.00 per acre for the land owner to buffer at least 200 ft. or 4 acres for 5 years, would total \$4000.00 per intake.
- c. Installation of three rain gardens to filter urban runoff. An average rain garden can cost between \$600-\$1500 depending on size, plants, and contractor.
- d. Hire a part-time coordinator to manage the Iowater monitoring program in the Storm Lake watershed. Paying the coordinator \$7.50 an hour for eight hours a month would total \$720.00. We would also like to send the coordinator to the annual Iowater Monitoring Conference totaling \$100.00 for overnight stay, food, and conference fee.

6. Collaboration:

Collaborative efforts for this application as well as many other watershed activities are the result of the following groups working together for a common goal in our watershed.

- Buena Vista Soil and Water Conservation District
- Storm Lake Lake Preservation Association

- Storm Lake Lake Improvement Commission
- EPA Section 319 Watershed Coordinator
- City of Storm Lake
- Buena Vista County Supervisors
- USDA/NRCS
- Iowa Lakes RC&D
- Iowa DNR
- Water for Iowans
- Pheasants Forever
- ISU

7. Accountability:

The Buena Vista County Soil and Water Conservation District (SWCD) will be accountable for the financial responsibilities of this project funded through the Watershed Improvement grant program. The Buena Vista County SWCD has managed both local and state financial programs for many years. The SWCD has maintained money raised for the local SWCD through various ongoing fund raisers and donation programs. The board meets monthly to review financial business and has regular audits completed.

8. Achievable:

The planned practices application outlined in the goals of this application are achievable.

The boulder weirs are a collaborative effort with Dick Schultz, ISU professor, Department of Natural Resource Ecology and Management and Don Roseboom, USGS Hydrological Scientist. The boulder weirs will be installed under the guidance of Dick Schultz using a proven design standard developed by Professor Schultz of ISU.

The grass buffered intakes will be a 200 foot native grass buffer systems established around ten intakes in the watershed.

The three rain gardens will be established in yards of homeowners in the urban area of Storm Lake or Alta.

The Iowater monitoring coordination will include the hiring of a part-time Buena Vista University student who will collect and manage data for the watershed program.

If funded through the Watershed Improvement Grant Program these four items will be implemented using the existing leadership and technical expertise of our watershed management team.

9. Cost Effective:

Each of the specific planned practices have been part of the original watershed plan for several years. None of these practices are high cost items. However, they have not fit into any of the existing funding programs.

Each of the proposed conservation practices are considered permanent practices. So installation will provide sediment and nutrient control for many years to come.

10. Innovation:

Innovation is the reason we are making this application. Practices like boulder weirs, rain gardens and tile intake buffers are not traditional practices cost-shared by existing conservation programs. We feel as do many others that these practices are viable cost effective solutions to the land treatment problems we are faced with.

11. Leveraging:

Over the last 20 years over \$1 million has been targeted to the Storm Lake watershed. Several million dollars has been focused on lake dredging. New funding through the Army Corps of Engineers has been approved to address sedimentation in Little Storm Lake which is a 200 acres marsh that in the past was a buffer for the larger lake. Because of sedimentation over the last 100 years Little Storm Lake has become ineffective as a filter for the larger Storm Lake.

12. Public Outreach:

Information and education regarding the innovative practices that will be installed will be implemented through several approaches that already exist because of the ongoing water quality efforts. These include: LPA newsletters, 319 watershed newsletters and website, Storm Lake Storm Water outreach and two local newspapers that provide good coverage of environmental issues.

13. Project Monitoring:

Because of the leadership and collaboration of ongoing efforts several mechanisms already exist for review of projects including the 319 advisory board, the LIC, the LPA and the Iowater monitoring program.