

IOWA
WATER QUALITY/WATERSHED PROTECTION PROJECT APPLICATION

Application Number

Date Received

Project Title: Storm Lake Water Quality Project

District Submitting Application: Buena Vista Soil & Water Conservation District
(Co Sponsoring Organizations) Storm Lake Improvement Commission
Iowa Lakes RC&D

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Total Funding Requested for the Life of the Project: \$462,900

Project Executive Summary:

1. Storm Lake's primary water resource problem is turbidity. The average Secchi Disk measurement is 0.3 meters according to the Iowa Lakes Survey. The turbidity has a negative impact on the aquatic system, fisheries and recreational potential of Storm Lake. Sediment accumulation on lake bottom as well as constant resuspension of sediments is the major problem. It is very important that we address this problem now for two reasons. First, the community is beginning a multi year dredging project to remove 4 to 6 feet of sediment from approximately 1,500 acres of Storm Lake. Second, the lake is the community of Storm Lake's major resource to draw and maintain people in the area.
2. Storm Lake's non point source pollution problem stems primarily from erosion off 11,250 acres of cropland that drains into Storm Lake. The cropland has slight to moderate slopes with good soils for cropping. Permanent infield structures such as terraces are not well accepted or even practical because of moderate slopes. This has lead to use of yearly management practices by ag producers to control soil loss. As producers change and weather conditions create unusual situations in the field these management practices many times are not followed resulting in continued excessive soil loss especially during large rain events. Approximately 1,700 acres of urban land in the watershed also provides its share of sediments entering the lake.
3. The project activities that will be used to accomplish goals and objectives are as follows:
 - a) Installation of the following BMPs – nutrient management, boulder weirs, wetland construction, pasture and livestock management, grass buffer systems, grassed waterways, wellhead protection and conservation cover.
 - b) There will be several demonstration projects completed in conjunction with this project. Several Low Impact Development projects will be completed in urban areas as well as a golf course demonstration project showing precision nutrient and pest application which is expected reduce inputs by 50%.
 - c) Information and education will also be an import component of this project. Educational meetings will be held for homeowners, lawn care providers, landscapers and realtors stressing the importance

of managing water runoff before it leaves landowners property. GIS maps will be used by the coordinator and sponsors to educate watershed residents about actions that need to be taken and why.

- d) A web page will be used to educate, promote, inform and recognize local residents of activities in the watershed.
 - e) Scheduling of activities will be completed to maximize accomplishments over the life of the 5 year project. A major effort will be made to sign up nutrient management cooperators early since there is a 5 year maintenance on this practice. By cooperating with various agencies and universities time will be used efficiently. Richard Schultz, agroecologist from ISU will assist in implementing boulder weirs. Tom Gould pasture and grassland specialist from NRCS will assist in application of pasture and livestock management project. The City of Storm Lake is taking the lead on several demonstration projects and Lake Creek golf course is very willing to participate and assist in the planned project in and around the golf course. The total project budget for the 5 year project is \$680,300 with a grant request of \$462,900. This proposed budget will be maximized with the high level of cooperation present with this project. It will be a wonderful opportunity to accomplish much good conservation work while a full scale dredging project is in progress. This will have a very visible impact on planning conservation activities with landowners in the watershed.
4. Measuring the progress of this project will be accomplished by analyzing:
- a) The number of permanent boulder weirs constructed and measuring their expected sediment retention capabilities.
 - b) One wetland constructed on Powell Creek
 - c) Two Sediment Basins/Wetland constructed on southwest side of lake.
 - d) The number of permanent in field structures completed such as grass buffers and grass waterways.
 - e) The number of acres of nutrient management completed both urban and ag and accumulated reduction of nutrients in the watershed.
 - f) The number of acres of Wellhead protection acres seeded around Little Storm Lake.
 - g) The completion of one pasture management project on Powell Creek and adjacent to Little Storm Lake.
 - h) Information gather by IOWATER volunteers during the life of the project and beyond.

This application has been reviewed and approved by a motion at the 4/03 meeting of the Buena Vista Soil and Water Conservation District Commissioners. Discussion and actions taken appear in the official minutes on file in the district office.

_____, District Chair