

WORK PLAN (BRIEFLY DESCRIBE)

WATERSHED SIZE AND CHARACTERISTICS: The Don Williams Lake watershed consists of the Don Williams County Conservation Park and Lake as well as privately owned lands. Don Williams Park is the premier County Conservation area in Boone County. The park’s recreational amenities include the lake, golf course, campground, public swimming beach, and rental cabins. In addition the lake is now host to a nesting pair of Osprey and a variety of other wildlife.

According to the Iowa State University’s “Iowa Lakes Valuation Project” Don Williams Park and Lake have a significant positive economic impact on the region. An average 85,896 people visit the lake each year. While visiting these people spend \$8.26 million each year. This funds 164 jobs for \$2.21 million in labor income.

Associated studies by the Iowa State University have estimated that the number of annual visitors could increase by as much as 22% to 85% if current water quality impairments to the lake were improved. Such an increase would also increase the economic impact of the lake on the region with more money being spent resulting in more jobs. *The relevant information from the Iowa Lakes Valuation Project is attached under the directory of the same name.*

The watershed includes Don Williams Lake and the environs to the north of the lake. The following information was obtained from the TMDL study conducted in 2005 by the Iowa Department of Natural Resources. Additional information was provided by the Iowa State University “Iowa Lakes Valuation Project.”

Waterbody Name:	Don Williams Lake
County:	Boone
Use Designation Class:	A1 (primary contact recreation) B(LW) (aquatic life)
Major River Basin:	Des Moines River Basin
Pollutants:	Phosphorus, sediment
Pollutant Sources:	Nonpoint, internal recycle, atmospheric (background)
Impaired Use(s):	B(LW) (aquatic life)
Watershed Area:	21,080 acres
Lake Area:	149 acres
Lake Volume:	2,296 acre-feet
Lake Shoreline:	5.6 miles
Mean Depth:	17 feet
Maximum Depth:	45 feet

An aerial photo of Don Williams Lake is attached under the directory “Don Williams Lake Aerial Photo.

KNOWN IMPAIRMENTS TO BE ADDRESSED IN PLAN, AND CAUSES OF

IMPAIRMENTS, IF KNOWN: Sedimentation and Phosphorus have been identified as the known impairments. The identified source of phosphorus in the lake is a combination of nonpoint and atmospheric deposition as well as internal recycling of the lake bottom sediments. The identified source of sediment loading in the lake is nonpoint pollution, or soil erosion from the lake watershed.

Copies of the TMDL study and previous lake assessments are attached under the directory "Lake and Watershed Assessments."

TMDL RESULTS, IF APPLICABLE: In 2005, the Iowa Department of Natural Resources completed a Total Maximum Daily Load (TMDL) Report to address impairments to Don Williams Lake. The impairments consist of organic enrichment from phosphorus and siltation. The study concludes that these two impairments prevent the lake from fully achieving its designated uses of primary contact recreation and aquatic life.

The TMDL provides a valuable first step in improving water quality in Don Williams Lake by identifying the impairments and recommending a course of action for further study and ultimately a reduction in pollutants. Actions required by the TMDL include limiting phosphorus input to the current load of no more than 12,440 pounds per year and reducing current sediment loading by 2600 tons per year.

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Specific tasks to reduce the current lake impairments should focus on non-point source pollution within both the Bluff Creek and DD 107 watersheds. Further water quality sampling at targeted points within both watersheds will assist in identifying properties and practices which could be improved.

PROPOSED STRATEGY FOR DEVELOPING THE WMP: The project will use the IDNR Guidebook and the Big Creek Watershed project as roadmaps for developing the watershed plan. Information compiled by the IDNR in previous lake assessments and the 2005 TMDL will be invaluable in plan development. Further, by making the plan development process inclusive and promoting the process it is expected that a more significant level of participation from the general public and affected property owners will be achieved.

The development and use of the Mobile Watershed Education Center (MWEC) plays a central role in developing the watershed management plan. This component brings education to a variety of groups in an on-site fashion. The MWEC is an innovative and provocative method of bringing water quality assessment to watershed residents and

residents of Boone County. *A further description of the MWEC is attached to this application under the directory "Mobile Watershed Education Center."*

EXPLAIN HOW MONITORING WILL AID IN THE WATERSHED PLANNING PROCESS (IF ADDITIONAL MONITORING DATA IS NEEDED): As stated in the 2005 TMDL, monitoring will provide data to:

- Assess the future beneficial use status;
- Determine if the water quality is improving, degrading or remaining status quo;
- Evaluate the effectiveness of implemented best management practices.

Volunteer water monitoring in Boone County has been primarily limited to efforts organized by the Squaw Creek Watershed Coalition in the northeast part of the county. To date, the county has been unsuccessful in sponsoring a local IOWATER training event. The project sponsors feel this watershed project is a great opportunity that will galvanize the growing grass-roots interest in our local water quality with the result being a locally lead effort to identify specific water quality issues that provides a stake in ownership of the problems and solutions to our water quality needs.

IOWATER level volunteer water quality monitoring can assist the project planners in locating specific areas of impairment within the watershed and track changes in parameters of interest over time. By using volunteer labor and IOWATER methods and materials we will provide basic data including nutrient runoff rates, sediment and turbidity levels, as well as general water quality indicators such as oxygen and chloride levels, bacteria levels, and even flow characteristics. We will build a knowledge base using project staff and stakeholders will facilitate informed decision making and all prioritization of project objectives.

The MWEC will be utilized in the monitoring component by serving as a "home base" for organized lowater monitoring events. It will be equipped with lowater supplies and personal protective equipment for monitoring events. The MWEC will be able to log in samples and track activity "on-site." It will also serve as a focal point for the volunteers to gather and share their observations and individual experiences. *A further description of the MWEC is attached to this application under the directory "Mobile Watershed Education Center."*

OBJECTIVES, ACTION STEPS AND PARTICIPATION (BRIEFLY DESCRIBE)

APPLICATION OBJECTIVES (OVERALL GOALS):

The goals of this project are threefold:

- 1) Raise general public awareness about, and increase support for, the importance of watershed planning and protection throughout Boone County;

- 2) Develop and implement strategies that will improve the Don Williams Lake Watershed in the near-term and ensure the watershed's viability and its environs in the long-term, and;
- 3) Empower the citizenry of Boone County to become actively involved in protecting the natural resources situated within the County.

PROPOSED ACTION STEPS TO REACH OBJECTIVES: Using the IDNR Guidebook as a key guidance resource, the following steps will be undertaken:

- **Community Based Planning:** This will serve as the basis of how the Don Williams Lake Watershed Planning process will be conducted. CBP has been used successfully in the region for solid waste management, locally grown foods, a home owners maintenance education program, and a variety of other projects.

Boone County Soil and Water Conservation District will be the lead agency for this project. They will work closely with Boone County Conservation, other private property owners and the remaining participants in the Boone County Watershed Planning Committee.

- **Vision Statement:** A Vision Statement for the project will be developed at the beginning of the process and serve as guidance for the project.
- **Public Outreach:** This will include outreach to watershed property owners and the general public. The Boone County Watershed Planning Committee partners all have extensive experience in public outreach and education. The core activity of this component will be the development and use of a Mobile Watershed Education Center (MWEC).

The MWEC is a unique and innovative approach to water quality education and analysis in that it offers public outreach opportunities on-site wherever that "site" may be located. The educational offerings can be tailored based on the age and specific interest of the target audience. The MWEC will employ modern technology as well as traditional "hands on" learning. *A further description of the MWEC is attached to this application under the directory "Mobile Watershed Education Center."*

The watershed planning committee will hold quarterly "status" meetings with project participants and property owners. These meetings will be open to the public and their input will be invited and encouraged. In conjunction with these meetings a quarterly status report will be prepared and distributed to meeting attendees and to the local media for public dissemination. As the plan is developed, a "Citizens Guide" that summarizes the plan's goals and activities will be published and disseminated. Participating organizations will also be seeking out public speaking engagements with various community entities to discuss the plan process.

- **Watershed Anatomy:** Fortunately, a great deal of research has already been conducted on the Don Williams Lake Watershed. This will accelerate the planning process and permit the partners to focus on the remaining areas of plan development. *A map of the watershed is attached under the directory "Watershed Map."*
- **Pollutants and Causes:** A TMDL for the watershed has already been conducted by the IDNR (2005).
- **Identify Pollutant Sources:** As part of the planning process, the project will conduct gully, stream, and land-use assessments. This will be done using LIDAR and County GIS photometry resources as well as "on the ground" physical observations. Boone County Soil and Water Conservation District will hire temporary staff to conduct these assessments. Per conversation with IDNR, we will be allowed to make use the handheld Trimble and RASCAL software that the IDNR can provide on a loan basis. Results from these assessments will be forwarded to the IDNR for data compilation.
- **Watershed Management Plan Goals and Objectives:** Through this grant process a watershed improvement plan will be developed in accordance with the IDNR Guidebook and EPA Region VII review criteria.
- **Water Monitoring Plan:** In accordance with a developed plan, a formal water monitoring plan will be designed.
- **Implementation Schedule:** A schedule of plan components implementation will be developed based on what is developed through the two year plan development process.
- **Resource Needs:** Based on what is developed through the plan process, a list of resources necessary to achieve the desired goals and outcomes will be compiled.

The watershed planning committee will also utilize the USEPA Region 7 Watershed Management Plan Review Criteria in the development of the Don Williams plan.

EVIDENCE OF COMMUNITY SUPPORT FOR WATERSHED PLANNING EFFORTS AND HOW COMMUNITY BASED PLANNING WILL BE USED:

As is demonstrated through the enclosed letters of support (*under directory "Letters of Support"*), this project has broad support from various agencies and groups. This level of support is indicative of the high level of importance placed on environmental protection by Boone County residents. Each of the groups associated with this project have successfully worked together on previous projects, many of which have had an environmental or public health focus.



Boone County has a rich history of environmental protection and taking pro-active measures to maintain and protect the natural resources of the area. These include the establishment of Don Williams Lake, an active County Conservation Board, construction of one of the very first sanitary landfills in Iowa, creation of the first rural affiliate of Keep Iowa Beautiful and an annual watershed awareness event.

This project will use community based planning, not because that is what the IDNR is requesting, but rather that is the model these organizations have been using for many years to develop and implement successful programs. The Boone County Landfill has used community based planning for decades in its efforts to implement state of the art waste management systems. This process has led to partnering with other "like minded" agencies that were also using forms of community based planning to achieve common goals with significant successes.

These successes include the following projects: Three sets of outdoor classrooms each year for elementary school children; a master conservationist program; a healthy homes initiative that focuses on raising awareness about household hazards; the Home Owners Maintenance Education (HOME) program; the Boone County Conservation and the Keep Boone County Beautiful environmental outreach education programs, and; the Dragoon River Romp. These programs each have a primary coordinating agency which uses the other groups to help implement.

PLANNING GROUP PARTICIPANTS AND FUNDING ORGANIZATIONS, AND THEIR RESPECTIVE ROLES AND RESPONSIBILITIES:

Boone County Soil and Water Conservation District:

Role: Serves as lead applicant and grant administrator.

Responsibilities: Provide staff to administer grant. Provide technical expertise to planning participants and property owners.

Boone County Conservation Board:

Role: Owns and operates Don Williams Park and Lake.

Responsibilities: Primary participant in managing lake improvements. Assist with public outreach and education.

Keep Boone County Beautiful/Boone County Landfill:

Role: Prepare grant application and provide community based planning expertise.

Responsibilities: Provide public outreach and education. Coordinate watershed plan assembly/development. Assist with project funding.

Boone County Health and Sanitation:

Role: Provide technical expertise on public and environmental health issues.

Responsibilities: Provide public outreach and education.

Boone County Board of Supervisors:

Role: Provide staffing and funding to the project through Keep Boone County Beautiful, Boone County Landfill and Boone County Health and Sanitation.

Responsibilities: Provide funding support. Assist with project promotion and public awareness. Provide GIS and Information Technology assistance to the project.

Boone County Engineer:

Role: Provide technical expertise on County drainage districts.

Responsibilities: Provide drainage district information. Provide input on infrastructure and/or drainage district related projects.

Property Owners:

Role: Provide input.

Responsibilities: If able and willing, participate in plan development and implementation.

Webster County Conservation Board:

Role: Provide input and act as conduit to and from Webster County stakeholders.

Responsibilities: Assist with plan facilitation in Webster County portion of watershed.

Iowa State University/Boone County Extension Council:

Role: Serve as conduit between Iowa State University and the project.

Responsibilities: Assist with volunteer related project activities. Provide outreach and education to area youth through 4-H clubs and the Environmental Interest Club.

National Resources Conservation Service:

Role: Provide technical expertise to project participants.

Responsibilities: Work with property owners in watershed as warranted. Liaise with Boone County Soil and Water Conservation District.

City of Boone:

Role: Provide technical support to project.

Responsibilities: Assist with analysis of water sampling through use of the City's water and wastewater treatment plant laboratories. Assist with public outreach and education.

Xenia Rural Water District:

Role: Promote project awareness.

Responsibilities: Assist with public outreach and education.

Prairie Rivers RC&D:

Role: Provide technical assistance to participants.

Responsibilities: Assist with project management, meeting/forum facilitation, and future planning issues.

David Williamson - Local artist and marketing specialist:

Role: Assist with developing public education messages.

Responsibilities: Provide technical and artistic expertise to project.



Local Not-For-Profits: A number of local not-for-profits are being approached by the project participants seeking their involvement with the project. These include wildlife, environmental, recreation, civic, and other local groups.

Role: Provide input into plan development.

Responsibilities: Assist with public outreach and education.