Clean Water Summit Summary

August 21, 2013

Introduction: Greg Drees, a Dickinson County Water Quality Commissioner and a former member of the Iowa DNR's Natural Resource Commission began the meeting with some introductory information. Of note, Greg talked about a statistic that came from the Centers for Agriculture Research and Development (CARD) that shows over 1.2 billion dollars in direct spending happening in Iowa at our public lakes. Of that spending, over 200 million is spent in the Iowa Great Lakes, which is 17% of the total while at the same time only having 4 percent of the acres of water. In addition, out of the 12 million lake visits to Iowa Lakes, 14 percent or 1.6 million of those visits occurred at the Iowa Great Lakes. Greg asks the question are we moving in the right direction in regards to our water quality. We in the Iowa Great Lakes have provided leadership for the state such as the LID symposium, watershed technologies, Aquatic Invasive Species, and other leadership roles. Greg asked the participants of the Summit to approach the summit with an open mind, participate openly, provide feedback, and enjoy their time.

Watershed Assessment: Mike Hawkins, the Iowa DNR Fisheries Biologist for NW Iowa provided some background data on how the Iowa Great Lakes assessment was complete. Mike discussed the process that created our shallow glacial lakes in Dickinson County and showed shaded maps that shows the topography of our area. The assessment of our lakes includes watershed assessment and lake assessments. The assessments follow a set of principles for watershed assessments that consists of Land Use, Soil Types, Infrastructure, Agricultural Data, and Topography. Lake assessment includes a set of criteria such as biology, morphology, water chemistry, bathymetry, and paleolimnology. In conducting the assessments, the lakes of Dickinson County are divided into sub-watersheds. LiDAR has improved the topographic modeling tremendously since it has begun being used.

History of the Clean Water Alliance and Water Quality Commission: John Wills discussed the history of two of the big groups in Dickinson County. The Clean Water Alliance was formed through the combined efforts of the Dickinson Soil and Water Conservation District and the Iowa Natural Heritage Foundation in 1990. The CWA was formed primarily to be an informational sharing group with no formal organizational structure. Orville Berg was one of the primary organizers of the Alliance. The purpose of the Alliance is to Coordinate, Communicate, Educate, facilitate, and Fund projects for clean water in the County. The Water Quality Commission was established in 2001 and was created to provide local matching funds for grant applications and others. The first attempt at the Water Quality Commission was to form a taxing district of the 1st two tiers of property around the lakes. The first measure failed at the ballot box and a group devised the idea that still exists today of creating a 28E agreement between all the cities and the county. That measure passed unanimously and now exists as the Water Quality Commission yet today 11 years later. To date approximately 1.9 million dollars has been granted for project bringing in nearly 23 million in matching funds. The Water Quality Commission has funded projects along a variety of project types from as small as helping to pay for a naturalist to assisting in the acquisition of such a large project as the Angler's Bay bulrush bed.

Iowa Department of Natural Resources: Chuck Gipp, the director of the Iowa DNR discussed his thoughts and feelings of lake protection and the challenges that occur.

Cooperative Lakes Area Monitoring Program: Jane Shuttleworth discussed the Cooperative Lakes Area Monitoring Program (CLAMP) and the results from last year's sampling. CLAMP was meant to educate the public, monitor and collect data, help with funding, help with regulation, provide technical assistance to landowners, assist with policy making, and assist with research. CLAMP is to provide collaboration and cooperation between government agencies, non-government organizations, and between political boundaries. The water samples collected by CLAMP volunteers are tested at the Waite Laboratory which is part of the UHL Hygienic laboratory. The reason CLAMP is has continuously monitored our lakes for over 10 years is to determine trends, to determine variation within years, and to determine cause of the pollutant whether it is natural or human pollution. Water clarity and temperature are two physical characteristics the volunteers measure during their testing. Chemical test that are done by the volunteers include dissolved oxygen, total nitrogen, and total phosphorus. Finally, the volunteers measure biological conditions in the lakes by measuring algae levels. All-in-all, the CLAMP program has a fairly large budget of over 20,000 annually, but the samples taken are of a high quality and fairly inexpensive in relation to professionally taken samples because the volunteers reduce cost greatly.

Memorandum of Understanding: Bill Maas discussed the Memorandum of Understanding that was recently signed or approved for signature by all Lake Associations within the County. The Memorandum States:
Be it resolved that the Boards of Directors of the following participating organizations do hereby extend invitations to each of the other signee organizations to be permanent and full members in good standing of one another's organizations.

Be it resolved that this membership requires no monetary contribution or dues, but is an invitation to join for the dual purpose of improving communication between the organizations, and to present a united and cooperative front between all the Iowa Great Lakes environmental groups.

Be it further resolved that the undersigned organizations will, in the future, welcome other area environmental groups on the same terms and conditions. Termination of involvement in this accord shall be by written notification to the other involved organizations.

Watershed Implementation Plans: John Wills discussed the implementation plans that have recently been redone in the Iowa Great Lakes and Silver Lake Watersheds. John stated that the watersheds were broken into Resource Management Areas, or Sub-watersheds. These sub-watersheds are manageable and unique in the features within them. While not every acre is within one of these "named" Resource Management Areas, every acre of the watersheds have been analyzed and planned for reduction of the primary pollutant, Phosphorus. Each acre of a watershed has now been planned and an idea of when the land will be worked on to reduce pollution. In addition, the approximate cost and a cost per pound of pollution removed is planned. One sheet within each RMA shows the planned practices and reduction amounts. The total cost for the Iowa Great Lakes is nearly 22 million dollars with an estimated phosphorus delivery reduction of 113,905 pounds. The estimated completion date of 2035 is the goal. The challenges of this plan include where does the money come from, uncontrollable barriers, commodity prices, and future science breakthroughs.

Sediment Study: George Antoniou discussed a study that was completed by Dr. John Downing and Adam Heathcote through the ISU Limnological Laboratory. The objectives of the study were threefold:

- To quantify how changing landscape practices have impacted lake function in terms of sedimentation rates and composition.
- To establish a viable diatom training set for predicting historic total phosphorus concentrations for freshwater lake in Iowa.

- And to estimate changes in eutrophication that have occurred in these systems since European settlement.

In the study cores were taken from the lake bottom down to the hard bottom. Then those cores were analyzed to determine the amount of sediment that had filled in the lake since settlement. The results that were found showed an increase in depth of sediment per year with an average depth of fill being one-tenth of an inch per year. The largest filling occurred on Lake Minnewashta Lake. The study also found a surprising statistic. Because of our changing land-use patterns, in the 1900's it required 20 years to develop an inch of sediment in a lake. Now it only takes 4 years to accumulate the same amount of sediment. In addition it was found that 70% of the sediment loading in a lake occurs from 10% of the watershed and re-enforces a targeted watershed approach to reduce the "worst" polluters of a lake. Historically phosphorus levels in a lake have increased, on the average, 60 ppb. The trend since pre-settlement has been increased sedimentation, nutrient levels, and decreased clarity of our lakes.

Education and Outreach: Mike Hawkins discussed an issue that is constantly affecting our lakes and it stems from a lack of knowledge. That issue is shoreline protection and restoration. The issue is both natural erosion of our shoreline and man-made erosion and destruction of the shoreline. When a shoreline is modified runoff can be 5 to 10 times higher than a natural shoreline. Sediment inputs can increase by 19 times versus natural shorelines and other pollutants can have easy access to the lake. In the Iowa Great Lakes there are over 3,090 landowners who own shoreline and nearly all of the shoreline is developed. In addition, there are encroachments and construction permits on the shoreline. Many studies have shown the more natural the shoreline the greater benefit to wildlife, fisheries, and to water quality there is.

Funding: Mike Hawkins talked about Federal, State, and local funding for clean water projects. Mike discussed the challenges that are associated with all these funding sources. Most of the money that is sought is in the form of competitive grants. In addition, the logistical and administrative requirements associated with this money are often daunting. In addition, these funding sources often require monitoring and have a short reaction time.

Question and Answer/Discussion: A period of time was held to hold open discussion and to determine where we go with this information and the new knowledge that had been gained. The following ideas were brainstormed during this session:

- Create a Technical Workgroup that will provide direction for technical aspects. Create this group by October.
- Create a Steering Committee whose purpose is to steer the program.
- Conduct an Annual CWA Meeting similar to the Summit each year. It was discussed that having the annual meeting around the same time as a Clean Water Concert would be appealing to many.
- Have a committee of people who will discuss issues that might be associated with the Memorandum of Understanding.
- Contact Marty Braster from the Lake Rathbun project and Brad Richardson from Carter Lake and have them present lessons learned to the organization.
- Reconvene the Communications and the Education Committees of the Clean Water Alliance.
- Hold a meeting about Shoreline issues
- Streamline the marketing of the organization and hold quarterly meetings
- Move to a more committee organized group.
- Create a 1 or 2 page statement of need that describes why we need help
- Create a business plan for the Clean Water Alliance.