

## BOONE – DUTCH CREEK WATERSHED PLANNING ♦ MEETING #5

Thursday, April 9, 2015 ♦ 1:00 – 3:00 PM

McHenry Community College – Shah Center, 4100 Shamrock Lane, McHenry, IL

### Meeting Notes

#### 1.0 Welcome & Attendee Introductions

Tim Loftus, Chicago Metropolitan Agency for Planning (CMAP), welcomed and thanked everyone for coming. Self-introductions were made (attendee list attached). Tim introduced Kim Hankins, Director of Sustainability for McHenry County College (MCC), and thanked her for hosting us here at the College's Shah Center.

Ms. Hankins welcomed everyone and further introduced herself, stating she has been the Director of Sustainability for two years. A proud accomplishment is the 91 kilowatt solar installation here at the Shah Center. Constructed with the help of an Illinois Green Economy Network grant, it went on-line in December 2014 and supplies about one-half to two-thirds of the energy for the building. She invited everyone to come back in July for the solar energy open house. The payback for the solar installation is about 11 years, and the life expectancy is 30 years (warranted for 25 years). The inverters are expected to last about 10 years.

Kim described that MCC's Sustainability Center is governed by a strategic plan with three focus areas: green campus, green curriculum, and green community. As part of the green community initiatives, there is an annual recycling guide (The Green Guide, coming up on its 9th year of publication), green living expo in the fall (attended by 700-800 people), and speaker series each February. Kim sees an opportunity to get more involved in the larger community. As part of the green campus initiative, green energy approaches at the main campus include room sensors and light bulbs. The toughest part is green curriculum. She spent time with instructors and they figured out that approximately 40 classes each semester had some aspect of sustainability embedded in them. A new class offered in the Earth Science program for the first time this spring on sustainability filled in 2 days with 24 students. Another new class is proposed this fall, Sustainability Principles and Practices. It is a LEED class through the Construction Management Program.

Holly Hudson noted that it looked like the parking lot around the Shah Center was due for maintenance and suggested it could be included as a potential retrofit BMP in the Boone-Dutch Plan. Kim informed that the parking lot is scheduled to be redone soon, noting that it would be done in a conventional manner, not with permeable pavers or porous pavement. She understands the underlying soils are very clayey but knows that can be worked around. Dennis Dreher suggested that since there is no curb and gutter around the parking lot, edge filter strips could be installed. Kim noted the project just went out to bid, but she will get the drawings to Dennis to see what possibilities may exist to still incorporate some stormwater BMPs. Asked about MCC's sustainability policy, she stated there is one and while general in nature, it is a first of its kind for Illinois community colleges. MCC is further working on incorporating sustainability measures into their procedures, the first of which is purchasing.

## **2.0 Agenda Changes**

There were no changes to the agenda.

## **3.0 February Meeting: brief recap, questions, etc.**

Holly briefly recapped the February Boone-Dutch meeting, noting the watershed resource inventory update and the main focus on the review of local plans and ordinance questionnaire results. Copies of the meeting notes were available on the sign-in table as well as on the project website. The notes are lengthy, reflecting the wealth of information presented and robust discussion among the group. Holly asked that if any stakeholder comments were misrepresented or not captured in the meeting notes to please let her know.

## **4.0 Local Watershed Activities, News**

Nancy Schietzelt mentioned that at the request of environmental groups in the county, McHenry County's Natural and Environmental Resources Committee has directed the Planning and Development Department to apply for a CMAP Local Technical Assistance grant to create a corridor plan for the Fox River in McHenry County similar to the plan that is being created for the stretch of the Fox River from Algonquin to Carpentersville. Support and collaboration will be sought from all the communities along the river and all the watershed groups with tributaries flowing into the Fox River. Tim noted that the Algonquin-Carpentersville Fox River Corridor Plan provides a great learning lesson in applying for CMAP's Local Technical Assistance program: they were clear, had their ducks in a row, and showed local commitment was in place. He added that CMAP will not be taking on as many projects as in past years because of the new comprehensive planning process ramping up. Nancy thought it would fit in well with the economic development strategy CMAP is currently working on with the county. Dennis added the river corridor plan idea came from the McHenry County 2030 Plan and he sees this as an opportunity to promote a holistic planning process. Tim noted that a goal of CMAP is to do more integrated work with local units of government.

Joanna Colletti announced that the McHenry County Development Department is hosting two training sessions on the new county stormwater ordinance. A handout is on the sign-in table. The April 28 session is a technical training intended for engineers, contractors, developers, and other technical professionals. The April 29 session is designed for homeowners associations and watershed groups.

## **5.0 Draft Plan / Watershed Resource Inventory**

### **a) Update**

Holly presented an update on the watershed resource inventory, first noting that a second draft was submitted to Illinois EPA on March 31. She distributed a few hardcopies and pointed out that revised plan is available on the project webpage on the FREP website. Revisions encompassed filling in data gaps, adding additional data including stakeholder-collected chloride concentration data, clarifying text, adding reviews of additional local plans and a review of local ordinances, and adding some maps and improving others. Holly then showed several slides highlighting the maps that were added, moved, or updated since the first draft. Regarding the Current Open Space map, the group asked that subdivision

common areas/open space be added, which is a layer that was included in the McHenry County Green Infrastructure Network Map and thus should be available from the county. Holly noted that other aspects of the resource inventory that require field work this spring, including assessments of streambank erosion, McCullom Lake shoreline erosion, and detention basins, will be incorporated with a final watershed resource inventory submittal to Illinois EPA in July.

Holly then pointed out the next steps in plan development: identifying watershed protection measures (i.e., BMP implementation projects, planning and policy recommendations, and information and education activities) and addressing various requirements to measure plan implementation success. Regarding site-specific BMP projects, she asked for everyone's input in keeping their eyes open for BMP opportunities and submitting ideas by May 31 so we have time to calculate estimated pollutant load reductions and costs for inclusion in the draft plan. The following information is needed for each potential BMP project: BMP type, location, dimensions/size/number, landowner(s)/responsible party, and potential partners. She noted she'll present some BMP examples later in today's agenda. Dennis suggested that a targeted request be sent out to stakeholders in order to obtain BMP suggestions.

Participants suggested that townships be contacted for their input on BMP implementation opportunities and that the McHenry-Lake SWCD be contacted to solicit their input for agricultural BMPs. Tim asked if there were any significant farm holdings in the Boone-Dutch Creek planning area, citing the Golden Oaks Farm in the 9 Lakes Planning Area in Lake County. Ders noted that the west branch Dutch Creek watershed was largely agriculture. Dennis pointed out that the agriculture land use as it is presented in the draft plan's land use map and accompanying tables is an amalgamation of all types of agricultural uses. Sod farms would be a focal area. He also pointed out that there are probably a lot of absentee farmers which may make BMP implementation more challenging. Ders offered an example of a zero chemical use/organic farm within the Boone Creek watershed. Holly asked if anyone knew of any livestock farms where BMPs could be integrated. Nancy pointed out that this is a big equine area (Bull Valley may have the greatest concentration) and that once you have 5 acres, there is no limitation on the number of horses you can have. Ed pointed out the need for substantial buffering along creeks. Tim offered that this is an opportunity for a policy recommendation. Ders suggested a property at Cherry Valley Road and Boone Creek could be worthwhile to look at, and Dennis noted another at Bull Valley Road and Cherry Valley Road.

#### **b) Chloride measurements**

Ed Ellinghausen presented "A Brief History of Salt and of Recent Ground Water and Surface Water Chloride Contamination." [Note: A copy of his presentation will be posted on the Boone-Dutch project webpage on the FREP website.] He showed a chart illustrating tons of salt used on public roads nationwide since 1940, noting that New Hampshire began experimenting with salt on public roads in 1939 and was the first state to adopt a road salting policy beginning in the winter of 1941-42. In 2003, Ed began measuring chloride concentrations at several groundwater seeps within and outside of the Boone Creek INAI (Illinois Natural Area Inventory) area [see location map and data table in presentation]. He suspects that the higher chloride concentrations outside of the INAI area are due to

residential water softeners. He cited a study noting that 800 pounds of water softener salt are used per average 2.7 person household. A graph he made comparing average lot size to pounds per acre of salt loading due to road salt and water softeners indicates that the loading of water softener salt becomes exponentially greater as average lot size decreases even though the associated road miles would inherently be increasing. Tim commented that was profound and suggested that maybe reverse osmosis systems should be used instead of rock salt. Dennis said this is another reason for promoting compact development and development connected to municipalities. Even in places like Bull Valley there may be opportunities for more compact design or maybe more centrally collected wastewater. Ders noted he lives in Bull Valley and realized after 10 years that he had an iron issue and therefore stopped using salt in his water softener. Dennis asked how we could engage water treatment companies since it seems there is no incentive to cut back on salt. Nancy wondered whether the county could take the lead, perhaps having seminars for companies, similar to the road deicing workshops. Joanna said she'd see what the county could do. Nicki Obenauf added that vendors just want to sell their product and that there is a disconnection between the available technology and what is being installed in our homes. Ed stated that 35,000 tons of road salt were applied countywide by governmental units a couple years ago compared to 10-15,000 tons of salt used in private water softeners.

Ed showed a slide indicating that at 50 mg/L chloride, measurable alterations in fen plant populations can be seen, and at 100 mg/L, aquatic plants begin to show chronic symptoms. Another slide listed chloride toxicity levels to aquatic organisms including daphnia. Ed noted a study at Stearns Fen that found a correlation between chloride content and cattails expanding into the fen species. Randy stated that plants really don't like sodium so it could be the sodium rather than the chloride causing the plant community changes there.

Ed showed another slide from a study of chloride concentrations in the Chicago Sanitary and Ship Canal: spikes in chloride levels were evident in association with monthly snowfall totals. Tim noted a USGS study that he referenced in the Boone-Dutch Plan's chloride section which documents increasing chloride concentration trends throughout the year (<http://www.usgs.gov/newsroom/article.asp?ID=4076#.VJA8-PlSg2I>).

Ed summarized that as we develop more land, we increase imperviousness and increase road salt applications over time, which in turn increases the chloride concentrations in our surface waters and increases impacts on aquatic life. He offered that "smart growth" is a chloride management strategy: mix land uses; utilize compact building design; create walkable neighborhoods; foster distinctive, attractive communities with a strong sense of place; preserve open space, farmland (greenfield areas), and critical natural resource areas; strengthen and direct development towards existing communities; and provide a variety of transportation choices.

During subsequent discussion, Nancy wondered whether it was better or not to install curbs. Ed offered that it depended on what you do with the stormwater after it leaves the road. Dennis mentioned that the recent revisions to the countywide stormwater ordinance didn't include quantitative requirements for infiltration and volume control, as some other counties

are doing, because of concerns raised by some over groundwater chloride contamination due to road salt runoff. He thought the approach to runoff infiltration needed more consideration to balance out concerns related to other runoff pollutants that can be mitigated with bio-infiltration practices, and the need to maintain groundwater recharge and stream and wetland baseflows. The McHenry County Water Resource Action Plan promotes alternatives to deicers and more efficient use of deicing materials. Someone commented that in Woodstock, they focus on deicing on the hills and at intersections and blade everywhere else. Joanna cited an ISWS study on the source of chlorides in Illinois to surface waters and groundwater. The main culprits, following treated wastewater effluent, are road deicing salts, KCl fertilizer, livestock waste, and water softener salts. A link to the study is on her website (<https://www.co.mchenry.il.us/home/showdocument?id=42962>).

## 6.0 Watershed Protection and Restoration Practices

### a) Audubon Cooperative Sanctuary Program for Golf Courses

Tim introduced Brian Thomson, Golf Course Superintendent at Biltmore Country Club in Lake County and pointed out that the Cooperative Sanctuary Program for Golf is a program of Audubon International (AI) which is a different organization than the Audubon we may commonly think of [i.e., the National Audubon Society]. Brian overviewed the six categories in the Audubon Cooperative Sanctuary Program (ACSP) for Golf certification program:

- Environmental Planning (developing goals and establishing current site conditions)
- Wildlife and Habitat Management (establishing wildlife and habitat areas)
- Chemical Use Reduction and Safety (minimizing chemical usage and exposure to the environment)
- Water Conservation (minimizing water usage)
- Water Quality Management (maintaining healthy water sources)
- Outreach and Education (communicating our efforts to our members, employees, and community)

Biltmore Country Club has maintained full certification since 2002. He showed photographs of wildflower areas, stream buffers, their weather station, bird houses, and chemical storage and mixing building, along with their lake monitoring and education activities. Brian commented that the hardest part of the program is education of members, not only about how these practices lead to cost savings but also habitat benefits. In general, he sees that there's a fear of being regulated (this is fully voluntary program), a fear about costs (annual program fee is low), and some members don't like it (their golf balls can get lost in buffer vegetation). At Biltmore, the program has helped develop an identity for the course and is a selling point for the club. Brian noted that he has been working with Woodstock Country Club and Bull Valley Golf Club which are in the Boone Creek watershed.

During Q&A, Brian answered that they burn the natural areas every year and hand spray thistles and burdock. Along Honey Creek, they seeded for the first 10 years. Milkweed is coming in and that's okay, but Phragmites is a big issue. For information and education, Brian has a blog and there's a newsletter. Following the earlier discussion of road salting, Brian noted that the Village of North Barrington switched from sand to salt in the early 1990s. Through their monitoring of Honey Lake, they noticed the conductivity levels increasing.

They worked with the village and township to modernize their equipment to apply salt more appropriately and use alternative materials (liquids) when suitable due to the weather.

Brian noted they conserve water by only doing localized watering. There's an evapotranspiration monitor in the weather station and soil moisture sensors on every green. In terms of the impetus for a course to pursue certification, it could come from either the staff or the members. He thinks it probably comes mostly from superintendents, so he'd approach staff first. Brian noted that a course could implement all or parts of the ACSP program without going through the certification process, but that AI helps you build the framework for your course. [Note: A copy of Brian's presentation will be posted on the Boone-Dutch project webpage on the FREP website.] Kim noted that MCC's Horticulture program is developing an urban sustainable agriculture certificate and degree program and hopes to have it ready to go in 2016.

#### **b) Stormwater Retrofits & Watershed BMPs**

Holly returned to the topic of BMP identification, noting the main categories Illinois EPA uses to group BMPs: Agriculture, Livestock, Hydrologic, Urban, and Other. She provided several examples under each category and reiterated the May 31 due date and information needed for each site-specific BMP submitted by stakeholders (BMP type, location, dimensions/size/number, landowner(s)/responsible party, and potential partners). [Note: A copy of Holly's presentation will be posted on the project webpage on the FREP website.]

#### **7.0 Next Meeting**

The next meeting will take place Thursday, June 11, 2015, at 1:00 p.m. The location has yet to be finalized. Additionally, a July meeting will be added to the schedule (July 9 or 16).

#### **8.0 Announcements**

Holly referred everyone to the announcements listed on the agenda, especially noting the Natural Wonders of McHenry County tour on May 9 led by The Land Conservancy of McHenry County. The group had no other announcements that were not already mentioned earlier under Local Watershed Activities, News.

#### **9.0 Adjournment**

The meeting ended at approximately 3:15 p.m.

ATTACHMENT

**ATTENDEES**

Boone-Dutch Creek Watershed Planning Meeting #5

Date: April 9, 2015

Hosted by: McHenry County College – Shah Center

| <u>NAME</u> |                  | <u>ORGANIZATION</u>  |
|-------------|------------------|--|
| Ders        | Anderson         | Openlands  |
| Joanna      | Colletti         | McHenry County Planning & Development                        |
| Dennis      | Dreher           | Boone Creek Watershed Alliance                               |
| Ed          | Ellinghausen     | Boone Creek Watershed Alliance; Village of Bull Valley Board |
| Logan       | Gilbertsen       | HR Green (representing Village of Johnsburg)                 |
| Kim         | Hankins          | McHenry County College Sustainability Center                 |
| Holly       | Hudson           | Chicago Metropolitan Agency for Planning                     |
| Bobbi       | Lammers-Campbell | Loyola University - LUREC                                    |
| Tim         | Loftus           | Chicago Metropolitan Agency for Planning                     |
| Nicky       | Obenauf          | Davey Resource Group   |
| Nancy       | Schietzelt       | Environmental Defenders of McHenry Co.                       |
| Randy       | Schietzelt       | The Land Conservancy of McHenry Co.                          |
| Paul        | Siegfried        | Baxter and Woodman   |
| Brian       | Thomson          | Biltmore Country Club  |

-- DRAFT -- prepared by H. Hudson, CMAP, rev. 4/24/2015