

BOONE – DUTCH CREEK WATERSHED PLANNING ♦ MEETING #2

Thursday, September 25, 2014 ♦ 1:00 – 3:00 PM

Village of McCullom Lake – Village Hall, 4811 W Orchard Dr., McCullom Lake, IL

Meeting Notes

1.0 Welcome & Attendee Introductions

Tim Loftus, Chicago Metropolitan Agency for Planning (CMAP), welcomed and thanked everyone for coming. (An attendee list is attached.) Tim introduced McCullom Lake Village President Terry Counley and thanked him for hosting us today and providing refreshments.

2.0 Agenda Changes

There were no changes to the agenda.

3.0 June Meeting: brief recap, questions, etc.

Tim gave a brief overview of the June 5th meeting, highlighting Dennis Dreher's presentation on the Boone Creek Watershed Restoration Action Strategy (WRAS) and accomplishments of the Boone Creek Watershed Alliance (BCWA). He also noted that the planning area is now divided into 9 study units following the group's recommendation.

4.0 Project Webpage

Tim noted the project webpage is being hosted by FREP (Fox River Ecosystem Partnership), as they have done for several other watershed planning projects within the Fox River Basin. The web address is printed on the agenda (<http://foxriverecosystem.org/Boone-Dutch.htm>). Meeting agendas, notes, presentations, project news, documents, etc. will be posted here.

5.0 Local Watershed Activities, News

Tim explained that as we have done with previous watershed planning efforts, this will be a regular agenda item to provide the opportunity for local groups (e.g., BCWA, McHenry Co. Conservation District, Environmental Defenders of McHenry Co., Land Conservancy of McHenry Co., local governments) to report on any watershed-related planning or implementation activities.

6.0 Problem Statement and Goals

Tim showed a slide and read aloud the revised problem statement. Dennis Dreher asked if prevention of future problems could be incorporated into the problem statement, noting that preventing future problems is a primary focus in Boone Creek. Tim agreed that was a good point – not to just chase the problems but to be proactive in preventing problems, which will be a huge challenge as we'll talk about later under the impervious cover discussion. CMAP will incorporate that notion into the problem statement.

Regarding goals, Tim noted that we revisited the Boone Creek WRAS as suggested and, along with the comments heard at the June meeting, reworded the three initial goals and added two to the mix, keeping in mind that the goals need to be mutually exclusive. Dennis

asked whether wetlands were implicit in the term “water resources” since that usually implies just rivers and lakes. He would add “wetlands” in the first goal, noting that fens, seeps, and sedge meadows are one of the highest priorities. Tim agreed to figure how best to include wetlands in that goal statement. Ders Anderson commented that in addition to flooding, bank erosion is an important issue, one that is costing municipalities to maintain public spaces. Tim thought the last goal statement could be appended to reflect that concern.

7.0 Engaging & Involving Local Governments [and other stakeholders]

Following up on the concern voiced at the first meeting, Holly began the discussion by asking what formats for engaging local governments in the planning process might be well-received in the Boone-Dutch planning area. Holly asked if CMAP created a short PowerPoint presentation along with a brochure, would any volunteers, such as Boone Creek Watershed Alliance or Environmental Defenders of McHenry Co. members, be willing to present at local government board or committee meetings, and there was a positive response. In addition to distributing brochures at local government offices, it was agreed that libraries would also be a good recipient. The Land Conservancy of McHenry County and McHenry County Environmental Education in Schools program were also suggested.

Following up on Doug Martin’s comments regarding ordinances, Tim noted that in the Silver and Sleepy Hollow Creek Watershed Planning process, one way we involved local governments was by having municipal and county governments do a general review of their codes and ordinances. The Silver and Sleepy Hollow Creek Watershed Coalition then applied and received a CMAP Local Technical Assistant grant to review municipal codes and ordinances in detail to identify contradictions and opportunities to improve water quality protections. Tim stated that codes and ordinances that are coordinated (i.e., not in conflict with each other) and protective of water resources are absolutely essential in order to enjoy the economic prosperity associated with development without sacrificing our natural capital in return.

In terms of other stakeholder groups, Holly noted that four golf courses were present in the planning area: two in the Boone Creek headwaters area and two along stream channels. She asked if anyone was a member or knew any members, looking for a foot in the door to possibly have one of our meetings at one of the courses and include a presentation about Audubon International Certification. Regarding service clubs, neighborhood associations, and other organizations, attendees noted there is a McHenry Rotary and Kiwanis, a Woodstock Rotary (which meets at Woodstock Country Club), a Bull Valley Neighborhood Association, and McHenry Riverwalk Foundation.

8.0 Watershed Resource Inventory

8.1 Overview

Holly briefly overviewed the types of information that are typically covered in a watershed resource inventory. Dennis Dreher noted that the McHenry County Green Infrastructure Plan included many of the resource layers and suggested contacting the county to request those GIS data sets.

8.2 Pollutant load modeling

Tim provided a brief overview of the work that CMAP's water resources consultant, Geosyntec Consultants, was doing to estimate pollutant loadings. They are using the STEP-L model, which utilizes a Visual Basic interface with Microsoft Excel. The model incorporates land use (using CMAP's latest 2010 land use data), climate, precipitation, and soils data, and takes topography (via the Universal Soil Loss Equation) into account for agricultural areas. Each land use is assigned an event mean concentration (EMC) in terms of pollutant runoff. Pollutants modeled were sediment, phosphorus, nitrogen, and BOD (biological oxygen demand), and figures for each were shown. Tim cautioned that it is more appropriate to look at the relative contribution of each study unit rather than absolute values to help in targeting best management practices.

Ed Ellinghausen asked whether modeling of chloride was considered; Mark Willobee answered that the model does not do chloride. However, Mark added that Geosyntec is doing a separate source loading estimate for chlorides using road salt application estimates. Ed noted that the McHenry County Groundwater Resources Plan included a study on chloride loading from each municipality. He just saw a USGS presentation that shows chloride levels are definitely increasing. The challenge is that because chloride is soluble, our BMPs do not remove it. The solution is to reduce application of chlorides as much as possible. Dennis Dreher offered that chloride is probably the single most important pollutant for Boone Creek. Chloride levels in fens and seeps are increasing, and on-site septic systems with water softeners are a source. Ed noted that in 13 years of monitoring chloride in seeps, in many cases chloride has doubled. Dennis suggested that we can at least include some things already done, including McHenry County's study, and talk about the septic issue. McHenry County is also a leader in road deicing application techniques. Tim agreed, noting that while we can't use a model for chloride loading as part of this plan, chloride will be addressed and included in recommendations.

Showing the phosphorus loading map, Tim noted that the range is not large, just 0.8 – 1.6 lb/ac/yr. Thus, we may want to classify by standard deviation instead. He also noted that sediment, phosphorus, and nitrogen are not called out as causes or sources of impairment by Illinois EPA. Ders Anderson asked when modeling is done based on land use, if research has established the use of phosphorus (and thus EMCs) on sod farms. Tim will look where golf courses are categorized in CMAP's land use scheme. Maggie Soliz noted, via her involvement on the Kane-DuPage SWCD Board, that she's beginning to hear the Farm Bureau talk about needing to learn more about nutrient reduction. Tim agreed that nutrient reduction is a challenge, and that there is a big push in Illinois for winter cover crops. Maggie added that she is amazed about the reduction in fuel needs when the hard pan is not there. Nancy Schietzelt offered to reach out to the McHenry County Farm Bureau. Dennis pointed out the higher phosphorus loading in subwatershed 1 vs. subwatershed 3, and asked whether loading factors were different for estate residential (predominant in subwatershed 1) vs. single and multi-family residential (predominant in subwatershed 3). Mark Willobee stated that single family residential is single family residential, but that they could possibly break out estate residential. He also noted that EMCs are based on a combination of older data. Tim offered that CMAP and Geosyntec would talk about this and make adjustments to EMCs as

appropriate. Overall, Tim noted that subwatersheds 4 and 7 had the highest phosphorus loading.

Looking at the nitrogen loading figure, Tim noted the small range of 6 – 12 lb/ac/yr. Cindy Skrukrud asked whether we were taking into account the Wonder Lake STP on Dutch Creek, which is not yet built but might start construction this year. She suggested contacting Jeremy Lin at Lin Tech Engineering.

Turning to BOD, Tim noted that BOD reflects the organic content consuming oxygen and thus directly affects the amount of dissolved oxygen in rivers, streams, and lakes. The loading range as seen in the figure is 14-25 lb/ac/yr.

Tim closed with noting that we'll come back to these topics in the future.

8.3 Water quality and impervious surface

Tim started by commenting that the Center for Watershed Protection has done a lot of work on the topic of impervious cover and its relationship with stream health. He noted that as a rule, once a drainage basin reaches 25% of impervious cover, streams tend to become non-supporting of aquatic life. Tim used the National Land Cover Dataset (NLCD), which uses LandSat data in 30 x 30 meter pixels, to create the impervious surface figure, with black representing 0% imperviousness and shades of gray (light to dark) followed by shades of red (light to dark) for each percent of imperviousness to 100%. For each subwatershed, he converted NLCD data to acres of impervious surface to get the percent imperviousness and thereby categorized each into one of the five stream health classes. He suggested we can probably agree that we don't want a subwatershed to shift into a lower quality class in the future. In the 9 Lakes Watershed-Based Plan, we looked at population projections and assumed a historic ratio of impervious surface acreage to number of people, spreading the new people into developable land. We're not sure if that is the best way to do it. Perhaps we should look at household growth and employment growth as well – it gets a little tricky. For the Boone-Dutch planning area, population is expected to double (101%) by 2040. If this happens, it probably doesn't bode well. Dennis Dreher stated that McHenry County's land use plan pushed development toward existing development, contiguous development. He asked what the current impervious percentage was for the entire planning area. Tim passed out a data table that enumerated the percent imperviousness for each study unit, showing a range of 2.3% for study unit 1 (sensitive) to 27.5% in study unit 8 (nonsupporting). Overall, the planning area is 11.2% impervious (impacted). Maggie Soliz asked if impervious included lawns. Tim noted that vegetation has a different spectral signal than impervious surface, therefore, NLCD impervious surface data almost certainly does not include lawns. He added that it will be tricky to do a population/employment forecast driven (future) stream health map (by study unit) and he's not sure it would have value if the method to arrive at such a future scenario involves too many assumptions and caveats. The real point here is that the watershed will likely have to accommodate a large increase of new people and figuring out how we do that without degrading water quality is the task of good planning. Some more discussion of population projections occurred. Tim reiterated that this is a diagnostic tool, not 100% accurate, but that the relative values are informative. Ed

Ellinghausen pointed out that that for Boone Creek, the impairment is pH, and that the majority of baseflow is from groundwater. He thought the mean pH was around 8.15. Tim noted this pH is probably not something we can address. Dennis asked how Illinois EPA reached their assessment conclusions. Tim said it would be useful to see the data Illinois EPA used for their assessments and we will ask for it. Mark Willobee noted that sometimes it's just one or two data points that their assessments are based on.

8.4 Detention basin assessment

Holly described her field work to date, showing the field form and example photos of various basin types that tend to be "Good," "Fair," or "Poor" for providing water quality benefits. She noted this is a rapid, qualitative assessment of stormwater detention basins to assign a degree to which each basin might provide water quality benefits and to identify opportunities for retrofits to improve water quality benefits. Basin retrofits will be included as potential BMP implementation projects in the plan.

8.5 Boone Creek 2002 stream inventory

Holly overviewed several figures based on data collected in 2002 by NIPC interns who walked nearly the entire main stem of Boone Creek from its confluence with the Fox River upstream to just north of Bull Valley Road: degree of bank erosion (low, moderate, high), sediment accumulation, and substrate stability as well as locations of hydraulic structures and discharge locations. Holly asked attendees to especially take a closer look at the bank erosion map and let her know if any areas may have become worse or been stabilized since 2002. A similar effort to assess bank erosion will need to be made for Dutch Creek, likely by aerial photo interpretation and by visiting stream crossings.

8.6 Boone & Dutch Creek fish inventories

Ders Anderson presented an overview of several fish surveys conducted in Boone and Dutch Creeks with the help of several professional biologists who volunteered their time. While he would like to survey mussels as well, fish are good indicators of stream health. The State Wildlife Action Plan lists threatened and endangered as well as at risk species (Species of Greatest Conservation Need), so those are the primary species around which protections can be targeted. Survey teams got out to 10 stream locations in the Boone Creek Watershed and 4 locations in the Dutch Creek Watershed between mid-August and late September. They were able to use backpack shockers at 13 sites. Species collected included brook stickleback; mottled sculpin; fantail, johnny, orangethroat, Iowa, and rainbow darters; central mudminnow; and southern redbelly dace. Ders noted 14 sites doesn't tell the fully what is going on in the watershed, but as a first cut provides some good information. He is hoping that an additional 20 sites can be surveyed in the spring. He will write a summary of the surveys for inclusion in the watershed plan.

9.0 Next Meeting

Tim noted that the next meeting will be on Thursday, December 4, at 1:00 p.m. at the City of McHenry Municipal Center, 333 S. Green Street, and thanked Doug Martin for making the arrangements.

10.0 Announcements

Tim referred everyone to the announcements listed on the agenda. Holly pointed out the Lake Discovery Day at Crystal Lake Main Beach on Oct. 18, and asked if anyone had any other announcements. Nancy Schietzelt pointed out that Steve Pescitelli, IDNR Fisheries Biologist, will be speaking about the fish of the Fox River at the next Green Drinks McHenry County on October 1. She also noted that the Green Living Expo will be held on November 1 at McHenry County College.

11.0 Adjournment

The meeting ended at 3:15 p.m.

ATTACHMENT

ATTENDEES

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Date: September 25, 2014

Hosted by: Village of McCullom Lake

<u>NAME</u>		<u>ORGANIZATION</u>
Ders	Anderson	Openlands
Fran	Counley	Village of McCullom Lake
Terry	Counley	Village of McCullom Lake
Sue	Draffkorn	McHenry Co. Board
Dennis	Dreher	Boone Creek Watershed Alliance
Carol	Ellinghausen	Boone Creek Watershed Alliance
Ed	Ellinghausen	Boone Creek Watershed Alliance; Village of Bull Valley Board
Holly	Hudson	Chicago Metropolitan Agency for Planning
Tim	Loftus	Chicago Metropolitan Agency for Planning
Doug	Martin	City of McHenry
Jeff	Murray	McHenry Co. Conservation District
Katrina	Phillips	Sierra Club
Nancy	Schietzelt	Environmental Defenders of McHenry Co.
Randy	Schietzelt	The Land Conservancy of McHenry Co.
Paul	Siegfried	Baxter and Woodman
Cindy	Skrukrud	Sierra Club
Maggie	Soliz	Applied Ecological Services
Ralph	Stark	HR Green (representing Village of Johnsburg)
Mark	Willobee	Geosyntec Consultants
Brad	Woodson	McHenry Co. Conservation District

-- prepared by H. Hudson, CMAP, rev. 11/24/2014