Thursday, September 17, 2015
1:00 PM - 3:00 PM
Libertyville Township
359 Merrill Court
Libertyville, IL 60048

Meeting Agenda

I. Welcome and Introductions
Kathleen O’Connor, Libertyville Township
Patty Werner, Lake County Stormwater Management Commission

II. Review/Accept June Meeting Report – Kathleen O’Connor
Report on August Leadership Team Meeting
Request volunteer note taker(s) for meeting report

III. Program topic:
Nathan Aaberg, Liberty Prairie Foundation, and Joe Marencik, Prairie Crossing
Environmental Team will tell us about Prairie Crossing as the conservation community
in Grayslake celebrates its anniversary. They will describe the history, features,
community aspects, and will share information about the unique design of the important
natural features the community is nationally recognized for.

The natural areas of Prairie Crossing consist of an interwoven network of prairies, lake,
wetlands and ponds that drain to Bull’s Brook and Bull Creek. These systems work
together to form a stormwater treatment train. While the presentation will focus on Lake
Leopold, the 22-acre manmade lake that provides stormwater detention is one of the
cornerstones of the community, other aspects of the system, such as the prairies and
ponds, will also be covered. Joe will describe a recent shoreline stabilization project
underway on the north bay of the lake.

IV. Des Plaines River Watershed Plan – Patty Werner
   a. Bull Creek-Bull’s Brook Watershed Plan Update
   b. Stream inventory of Bull Creek-Brook in Fall 2015

V. Update on Watershed Council Work Plan for 2015 – Patty Werner/Kathleen
   O’Connor

VI. Upper Des Plaines Watershed Work Group Membership Discussion & Vote – Patty
   Werner

VII. Stakeholder Project Updates/Announcements

VIII. New Business

IX. Adjourn
Prairie Crossing at Twenty: Overview & Lessons Learned From a Conservation Community

September 17, 2015
Guiding Principles

- Environmental protection and enhancement
- Healthy lifestyle
- Sense of place
- Sense of community
- Economic and racial diversity
- Convenient and efficient transportation
- Energy conservation
- Lifelong learning
- Aesthetic design and high-quality construction
- Economic viability
1. 360 Single Family Homes, 36 Condominiums
2. Lots: 5,000 and 15,000 square feet
3. House sizes: 1,100 – 3,400 square feet
4. Total size: 675 acres
5. Open space: 470 acres (69% - includes natural areas, lakes & ponds, farm, and horse pasture); 190 acres under easement
6. All homes have views of common areas and/or open space
7. 10 miles of trails
8. 9 native fish species & 9 frog/toad species
9. 14 ongoing or annual social events organized by residents
10. 46 garden plots with 50% used by non-residents
NATIVE MEADOW RESTORATION

For more information call Mike Sands 847-548-4062
Developers’ Key Lessons

1. Create an analytical framework for making decisions
2. Plan for the landscape first
3. Design buildings that relate to the site and environment
4. Keep public purposes in mind in the design and in promoting a web of support organizations and services to meet many needs (schools, transportation, health, public buildings, advocacy, etc.)
Other Lessons & Challenges

1. Requiring vs. persuading – find the right balance
2. Education is critical for living with wildlife
3. The right rules are needed on homeowner burning
4. Find good contractors & develop good relationships with them
5. What happens when true believers transition out?
6. Do things the right the first time
Surveying fish in Sanctuary Pond (Jim Bland & Sandi Morris), Conserve Lake County 2010
A prairie or any other natural system, especially in a world of invasive plants and disturbed soils and hydrology, is not a maintenance free landscape.
Volunteer Engagement

2012
39 work events
30 individual residents attended at least one
424 volunteer hours on invasive species, prescribed burns and planting plugs

2013
48 workday events
40 individual residence participated
550 total volunteer hours on invasive species, prescribed burns, and plug planting

2014
38 events
42 individual residence participated in at least one event
463 total volunteer hours on invasive species, prescribed burns and plug planting
CONSERVATION@HOME

This property supports clean water, rich soil and resilient ecosystems

CONSERVE LAKE COUNTY
Healthy Land for a Better Life

Certified by Conserve Lake County
A program of The Conservation Foundation
Funded in Lake County in part by the Grand Victoria Foundation

www.ConserveLakeCounty.org
We welcome your feedback and questions.

Nathan Aaberg
Program Director
nathan@libertyprairie.org
847-548-4062, ext. 21
Environmental Management

- Prairies - 174.1 acres (62%)
- Wetlands - 29.7 acres (11%)
- Lake & Ponds - 27.3 acres (10%)
  - Lake Aldo Leopold - 22 acres
  - Sanctuary Pond 2.4 acres
  - Ponds 2 & 3 - 2.9 acres -0.8/2.1
- Turf - 29.9 acres (11%)
Prairies

- Mostly tall grass dominated w/ some forb based areas
- Most was seeded
  - Some supplemented with plugs
- Constant battle against invasives
  - Yellow and white sweet clover, thistle, teasel, RCG, crown vetch, birdsfoot trefoil
- Managed through hand pulling, herbicides and rotational burning
  - Contractor and volunteers
Wetlands

- All are cattail dominated
- Invasives biggest issue
  - Purple loosestrife, reed canary grass, Phragmites, willows, etc.
- Varying degrees of management
  - Herbicide
  - Fire (mostly in fall)
Ponds

- **Sanctuary Pond**
  - *Chara* and coontail dominated
  - 4 State of Illinois T&E fish species
  - Minimal management

- **Ponds 2 & 3**
  - Stormwater
  - Habitat
  - Minimal management
Long Term Management

- Identify problems quickly and act accordingly
- You need contractors
  - You won’t get it done with volunteers
- Try to focus on the long game and not get discouraged
- Be willing to try something different
Prairie Crossing and Bull's Brook Subwatershed

- Prairie Crossing
- Almond Marsh
- Des Plaines River
- Independence Grove
Lake Aldo Leopold

- Constructed in 1994 -1995
- 22 Acres
- Max/Avg Depth - 16 ft/6.5 ft
- 65% of the stormwater drainage from PC
- Long retention time (>3 years)
- Headwaters for Bull’s Brook
- Water quality data from 1995-present
  - Contracted 1995-2006
  - VLMP ~ 2007 - present
Water Quality

- Overall, very good water quality
  - Low total phosphorous (avg. 0.038 mg/L)
  - Low suspended solids (often ND)
    - Increasing overtime
Plants and Fish

- 17 Species of aquatic plants
- 8 species of fish
- IL T&E - Blackchin Shiner, Blacknose Shiner, Iowa Darter, Banded Killifish

QuickTime™ and a decompressor are needed to see this picture.
Management Issues
Beach

◆ Maintenance
◆ LCHD closures
◆ Sand migration
◆ Waterfowl
◆ Boat storage
Aquatic Plants

- Building densities of EWM late 90s-2012
- Stocked EWM weevils on several occasions
  - Unreliable results
- Whole lake treatment for EWM - May 2012
  - Still EWM free
- Misc. plants/filamentous algae control
  - Filamentous Algae, *Chara*, Coontail
  - Spot treatments
  - Harvesting
  - Beach, access points, north bay
Long Term Management Issues

- **Fisheries**
  - Overabundance of small bluegill
  - Bottleneck in LMB population
  - Channel Catfish stocking
  - Temporary guidelines
  - Revisit in 4 years

- **Muskrats**
  - Culling spring 2015
    - 18 muskrats
  - Follow up in Spring 2016
Shoreline Erosion

- Erosion along most of the shoreline
  - Steep slopes
  - Wind/waves
  - Muskrats

- Mid 2000s
  - Small cobble apron along several areas
  - 10 years on these areas have remained stabilized
  - Not much near shore habitat

- 2010 ILEPA 319 grant
  - Shoreline planting for stabilization and habitat
North Bay

- Widespread erosion
- Very steep slopes (2:1)
- Concentrated muskrat activity
- Undercutting/sloughing
North Bay Project

- 900 feet of shoreline
- Mix of cobble and bioremediation
  - Cobble apron
  - Vegetated soil lifts
  - Upslope plugs and seeding
  - Emergent plugs
- Herbivory protection
- Reset culvers
Des Plaines River Watershed Workgroup and Des Plaines River Watershed Planning and Projects

Lake County Stormwater Management Commission
Bull Creek-Bull’s Brook Watershed Council Meeting September 17, 2015
Des Plaines River Watershed

- Covers 200 square miles
- Kenosha, Lake, Cook and DuPage Counties
- Flows into the Kankakee, the Illinois and the Mississippi Rivers
Nine subwatersheds in Lake County: North Mill, Mill, Newport, Upper, Bull, Indian, Lower, Buffalo, Aptakisic

Watershed-Based Plan Status*

*per sub-watershed as of March 2014 including Illinois EPA 2012 303(d) Impaired Waters.
Status

• 250 miles of stream
  – 81 miles have been assessed
  – 57 miles are impaired
• 49 lakes (lake is greater than 20 acres)
  – All have been assessed
  – 28 are impaired
• 272,937 people in the watershed in Lake County
Water Quality

- Portions are listed as impaired by Illinois EPA
- Total Maximum Daily Loads (TMDLs – pollution diets) completed for southern half

Watershed impairments
- Arsenic
- Chloride
- Dissolved oxygen
- Fecal coliform
- Iron
- Manganese
- Methoxychlor
- Mercury
- Phosphorus
- Polychlorinated biphenyls
- Total suspended solids
Wastewater and Stormwater Permits

MS4s
- 33 municipalities
- 12 townships
- 2 drainage districts

POTWs
- 8 public wastewater treatment plants that discharge 80 MGD
  - Phosphorus restrictions
# TMDL Segments

<table>
<thead>
<tr>
<th>Waterbody Name</th>
<th>Segment ID</th>
<th>Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert Lake (outlet)</td>
<td>IL_VGG</td>
<td>Dissolved oxygen</td>
</tr>
<tr>
<td>Beck Lake</td>
<td>IL_RGE</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Big Bear Lake</td>
<td>IL_WGZU</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Big Bend Lake</td>
<td>IL_RGL</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Bresen Lake</td>
<td>IL_UGN</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Buffalo Creek</td>
<td>IL_GST</td>
<td>Chloride, dissolved oxygen, fecal coliform</td>
</tr>
<tr>
<td>Buffalo Creek Lake</td>
<td>IL_SGC</td>
<td>Dissolved oxygen, phosphorus</td>
</tr>
<tr>
<td>Countryside Lake</td>
<td>IL_RGQ</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Diamond Lake</td>
<td>IL_RGB</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Forest Lake</td>
<td>IL_RGZG</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Halfday Pit Lake</td>
<td>IL_UGB</td>
<td>Dissolved oxygen</td>
</tr>
<tr>
<td>Higgins Creek</td>
<td>IL_GOA-01</td>
<td>Chloride, fecal coliform</td>
</tr>
<tr>
<td>Higgins Creek</td>
<td>IL_GOA-02</td>
<td>Chloride, dissolved oxygen, fecal coliform</td>
</tr>
<tr>
<td>Lake Charles</td>
<td>IL_RGZJ</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Little Bear Lake</td>
<td>IL_WGZV</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>Pond-A-Rudy</td>
<td>IL_UGP</td>
<td>Dissolved oxygen</td>
</tr>
<tr>
<td>Salem-Reed Lake</td>
<td>IL_WGK</td>
<td>Phosphorus (total)</td>
</tr>
<tr>
<td>TMDL Stage 3</td>
<td></td>
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<tr>
<td>Sylvan Lake</td>
<td>IL_RGZF</td>
<td>Fecal coliform, phosphorus (total)</td>
</tr>
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*September 25, 2012*
The Problem

- Water quality and aquatic life – moving from fair to poor
- TMDLs need to be implemented – a.k.a. pollutants need to be reduced/limited
- Limited monitoring data – we don’t really know what the problem is:
  - 1) we don’t know how many stream segments and lakes are impaired, and
  - 2) we don’t know that removing the identified pollutants will actually improve aquatic life
Organization

- Dues paying, membership organization with the ultimate goal of improving water quality
- Dues based on daily average flows for wastewater POTWs and area within the watershed for MS4s. POTWs responsible for 66% of dues, MS4s for 33%
- Membership categories:
  - Agency members – NPDES permit holders
  - Associate members – no NPDES permit
  - Individual members
- Quarterly membership meetings
  - Executive committee meets as needed
  - Monitoring, lakes, & impairments committees
What will the DRWW do?

- Monitor water quality
  - Biological – fish and macroinvertebrates
  - Chemical – water and sediment
  - Physical – habitat
- Prioritize and implement water quality projects as a result of monitoring efforts
- Support watershed planning
DRWW Current Members

- Buffalo Grove
- Deerfield
- Grayslake
- Green Oaks
- Gurnee
- Kildeer
- Lake County
- Lake County Forest Preserve District
- Lake County Public Works
- Lake Zurich
- Libertyville
- Lincolnshire
- Lindenhurst
- North Shore Water Reclamation District
- Third Lake
- Vernon Hills
- SMC
- Sierra Club
- Cardno
Planning and Projects

SMC awarded an IL EPA Section 319 grant:

• Develop umbrella watershed-based plan for Des Plaines watershed in Lake County

• Pilot 2 Small Watershed Assessment and Action Plans (SWAAP)

• Implement 3 water quality BMP projects
  – Mundelein Park District Bull Creek and Community Pond - Bull Creek-Brook Watershed
  – College of Lake County parking lot bioswales - Mill Creek Watershed
  – Lake County Forest Preserves Agricultural BMPs - North Mill Creek Watershed
SWAPP

- 2 pilot projects to begin in 2016
- Planning will target lakesheds or smaller drainage areas
- Develop conceptual plans and budgets for in-the-ground BMP projects
- SMC will solicit stakeholder interest (Mike Novotney will be contact)
Watershed Plan Area

- Incorporate and update 5 existing subwatershed plans
- Develop umbrella plan to include 4 subwatersheds without plans
Inventories

- Stream
- River
- Detention basins
- Lake shorelines
DRWW

- Monitoring program begins in 2015
- Will provide monitoring data from 44 locations for watershed planning
Update Bull Creek-Brook Watershed Plan

- Update stream inventory/assessment (Fall of 2015)
- Update demographics
- Review and update the watershed action plan
- Other
  - additional updates dependent on Watershed Council and stakeholder feedback
# Bull Creek-Brook Watershed Council Draft 2015 Work Plan

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Status</th>
<th>Lead(s)</th>
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<tbody>
<tr>
<td><strong>1. Bull Creek-Brook Watershed Council (BC-BB WC) will meet 3 times in 2015</strong></td>
<td>February 17, June 18, September 17, 2015 - completed</td>
<td>Leadership T./Kathleen/Patty</td>
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<tr>
<td><strong>2. Develop annual work plan (budget sufficient to contract for E-News design/editing)</strong></td>
<td>Work Plan Draft February 2015/ Finalized June 2015 - completed Submitted funding proposal to Liberty Prairie Foundation to continue E-News in 2015 – completed and funding awarded</td>
<td>Ken/Paul/Patty/Kathleen</td>
</tr>
<tr>
<td><strong>3. Produce 3-4 E-News updates. (One issue will focus on BMP training)</strong></td>
<td>April, June, September, October-November 2015</td>
<td>Kathleen/Patty/Ken</td>
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<td><strong>4. Identify 3-4 educational messages for community websites, newsletters, high school projects</strong></td>
<td>Need to promote these topics for posting on community/organization websites and newsletters. Suggestions for future articles/features for messages include: • Continuing column on good/watershed-friendly practices based on the season. (It was suggested that parking lot and driveway best practices for winter maintenance be included.) – October E-News: winter maintenance practices for residents (Patty) • How to recover from the effects of emerald ash borers – October E-News (Valerie) • Use products that do not contain Neonics – June E-News (Chris) • History of watershed lakes – October E-News (Ken) • Libertyville Township Trail – October E-News (Kathleen) • Invasive plant feature – June &amp; October E-News (Jonathan)</td>
<td>Leadership T./Kathleen/Ken/Patty</td>
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<tr>
<td><strong>5. ID watershed champion for each community/organization and compile list. Involve high schools and additional HOAs. (lower priority)</strong></td>
<td>- Presentation to Mundelein/Vernon Hills Rotary Club Jan 2015 - Council members will provide community contacts as they are identified: ▪ Libertyville: John Heinz Village Engineer ▪ Mundelein: ▪ Grayslake: ▪ Libertyville Township: Kathleen O’Connor ▪ Warren Township: ▪ Fremont Township: ▪ Libertyville High School: Dave Lapish LEAF Club ▪ Prairie Crossing Charter School: Geoff Deigan, Naomi Hershiser ▪ Warren Township High School: Mike Meizela ▪ St. Mary’s University: Clayton Klaweit ▪ Mundelein Park District: Margaret Resnick, Barb Daudelin</td>
<td>Leadership T.</td>
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</tbody>
</table>
|   | Grayslake Park District: (Jeff Nehilia?)  
Liberty Prairie Foundation: Brad Leibov, Nathan Aaberg  
Conserve Lake County: Sarah Surroz  
Liberty Prairie Area Homeowner Assn: Chris and Paul Geiseltart  
Prairie Crossing HOA: Joe Marencik  
Loch Lomond POA: Fritz Chesek & Robin Meier  
Arbor Vista HOA: Rick Hoppel  
**SMC:** Patty Werner |
| 6. | **Reduce road salt usage watershed wide.**  
Lake County Training Workshops October 6 & 7, 2015 - *scheduled*  
Meet with Innovation Park |
| 7. | **Develop list of contacts for volunteer work**  
Organize or support one education/stewardship event/project  
**Incl. in E-News:** - [June E-News](#)  
*2016: Bull Creek clean-up at St. Mary’s (Clayton Kalweit)*  
**Butler Lake cleanup** Replace with Watershed Bus tour for high schools in 2016?  
Cops and Bobbers Mundelein Seminary – July 2015 (Clayton Kalweit & Mundelein Police Dept.)  
**Lochfest – August 2015 (Patty Werner, Mike Adam LCHD)** |
| 8. | **Convene a “planner’s forum” for community planners to include watershed recommendations in other community plans including roadway plans for Routes 53/120 and 83/137.**  
Representatives from Libertyville, Mundelein and Grayslake will be asked to host and present community plans at 2015 meetings.  
**Libertyville – watershed friendly projects February 2015; Mundelein – Rt 53/120 corridor planning June 2015; Grayslake – Prairie Crossing at 20 years: September 2015.**  
Jason Navota Route 53 land use planning committee will present at the June 2015 meeting. Outreach to planners in watershed communities to participate in this meeting. |
| 9. | **Partner with Conservation@Home to host training for riparian landowners on best lawn maintenance practices, managing stream buffers, controlling invasives.**  
Suggestion to conduct this workshop around the time of the native plant sale in May 2015. Maggie S volunteered to help Keith with taking the lead on this event.  
**Loch Lomond PO Association hosted C@Home Program at annual meeting.**  
Conserve and Grayslake introduce cost-share program for Conservation@Home |
| 10. | **Review progress status and update the watershed action plan.**  
2016: The umbrella Des Plaines River watershed plan proposed by SMC for the DRWW is planned to include an action plan update for the BC-BB watershed plan.  
**Stream inventory Fall 2015 (SMC)** |
<table>
<thead>
<tr>
<th>Implementation Progress:</th>
<th>Kathleen O’Connor</th>
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<tbody>
<tr>
<td>Libertyville Township developed and approved a conceptual land use plan for Casey Road agricultural properties. The plan addresses the WQ impacts from soil erosion. Implementation planning begins in 2015.</td>
<td></td>
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<tr>
<td>Loch Lomond POA with the Lake County SMC, Health Dept. and Village of Mundelein is developing a strategy to reduce pollutant inputs and better manage Loch Lomond. <strong>Met February 5, 2015</strong></td>
<td>Fritz C/Mike N and Patty W/Mike A /Bill E</td>
</tr>
</tbody>
</table>