Recent Revisions

• Addressed comments from 60-Day Notice
  – Clarity on Priority Areas
  – Lakes Goals – Used WRAPS
  – Ag Runoff Goals – Also in lbs
  – Stormwater Management – Goal added
  – Water Management Entities – BCWD and NCRWMO
  – Plan Implementation Programs – Re-formatted
  – Work Planning - Ranking

• Editorial and grammatical edits
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• Editorial and grammatical edits
Kelly), Fish, and Beaver), and three impaired lakes with summer eutrophication (algae bloom) problems that are closer to achieving the lake aquatic recreation water quality standards (Cedar, Fox, and Hunt) than other impaired lakes. Additionally, the Waseca area lakes are included in this Priority Area because there are lakes of biological significance in the drainage area that provide recreational value and are sensitive to stormwater impacts.

3. Cannon/Mississippi Bottoms which matches the boundary established for the Lower Cannon River Lobe and encompasses a majority of the karst area located in the Planning Area and the remaining Tier One trout streams (Little Cannon River, Spring Creek, and Trout Brook).

4. Large Communities which represents four of the MS4 communities concerned with issues related to flooding and drinking water quality including Faribault, Northfield, Owatonna, and Waseca. An additional call-out box was provided for Waseca since there are a number of lakes related (surface water) issues identified for this community.

Groundwater Priority Areas

5. Pollution Sensitivity Area represents that portion of the Planning Area that has high susceptibility to groundwater, and hence drinking water, contamination.

6. Groundwater Dominated Lakes which represents that portion of the Planning Area where groundwater dependent lakes are susceptible to land use changes that impact the quantity and quality of groundwater feeding these resources.

The call-out boxes on Figure 2-3 and Figure 2-4 identify the unique features and/or primary concerns and issues that made these areas stand out as higher priority for implementation. The information in the callout boxes was used to inform the development of issue statements, identification of priority areas, and potential implementation activities needed for each area. Note that the priority areas are where planning partners will measure progress towards goals, but implementation activities may be implemented upstream of the priority areas. It was also acknowledged by the Planning Work Group and Technical Advisory Group that many of these areas represent the headwaters to the Cannon River Straight River and a multitude of other streams and lakes. Because of their geographic location in the watershed, improvements in these parts of the Planning Area would have benefits to the resources located downstream, in those areas not identified as a high priority at this point in time. It was also recognized by the Planning Work Group and Technical Advisory Group that improvements in the priority areas would have benefits to systems downstream of the Cannon River Planning Area such as Lake Pepin and the Mississippi River.
Recent Revisions

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  – Work Planning - Ranking

• Editorial and grammatical edits
10-Year Measurable Goals

Goal 1: Maintain or improve water quality in the five high quality lakes (Beaver, Dudley, and Kelly, Fish, and Roenbildt) by achieving the 10-year Total Phosphorus Reduction Goals (lb/yr) listed in Table 3-2.

<table>
<thead>
<tr>
<th>Protection Lake</th>
<th>10-Year Total Phosphorus Reduction Goal (lb/yr)</th>
<th>10-Year Progress Towards Measurable Goal</th>
<th>Remaining Total Phosphorus Reductions to Achieve Measurable Goal (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver</td>
<td>2</td>
<td>2.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Dudley &amp; Kelly</td>
<td>3</td>
<td>1.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Fish</td>
<td>4</td>
<td>1.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Roenbildt</td>
<td>8</td>
<td>1.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

*Notes that Dudley & Kelly lakes are connected, and the two lake drainage areas were combined into one drainage area to represent that implementation of watershed activities benefit the water quality of both lake basins.

**Lake management plans will be completed by 2024 to identify activities to achieve the remaining phosphorus reductions needed to achieve the measurable goal.

Justification for Goals

The phosphorus reduction goals for the five Tier One Protection Lakes (Beaver, Dudley and Kelly, Fish, and Roenbildt) were based on the phosphorus reduction goals identified in the 2016 Cannon River WRAPS. These phosphorus reduction goals were based on an evaluation process developed by MPCA and Minnesota Department of Natural Resources (MDNR) that provides an initial attempt at prioritizing lakes within a WRAPS project. The preliminary TP concentration targets are computed as 25th percentile of the long-term mean annual TP concentration, estimated using the standard deviation of the annual data. A target load and load goal are also estimated. The target load level is an estimate of the load needed to achieve the TP concentration target for the lake. A log-log regression model based on lake TP concentration, lake volume, and hydric boundaries was used to estimate the target load. This load target provides a numeric mark to show for over the long-term, the load target is the estimated total phosphorus load (lb/year) to meet a 12% phosphorus load reduction goal for the lake. This goal provides the recommended reduction in the amount of pollution entering a lake (wetted and internal) that watershed partners can reasonably strive to achieve, which should help guide local stewardship practices in the context of a 10-year cycle WRAPS.

Section 3: Issues, Goals, and Implementation Activities
Recent Revisions

• Addressed comments from 60-Day Notice
  – Clarity on Priority Areas
  – Lakes Goals – Used WRAPS
  – **Ag Runoff Goals – Also in lbs**
  – Stormwater Management – Goal added
  – Water Management Entities – BCWD and NCRWMO
  – Plan Implementation Programs – Re-formatted
  – Work Planning - Ranking

• Editorial and grammatical edits
Table 3-13. Existing Total Phosphorus Loads and Load Reduction Goals for Tier One Protection and Impaired Lakes in the Cannon River Comprehensive Watershed Management Plan

<table>
<thead>
<tr>
<th>Tier One Lake</th>
<th>WRAPS/TMDL Existing Load (includes watershed and internal sources) [lb/yr]</th>
<th>WRAPS/TMDL Reduction (Long-term Future Condition Measurable Goal) [lb/yr]</th>
<th>5-year Total Phosphorus Reduction Goal [lb/yr]</th>
<th>10-year Total Phosphorus Reduction Goal [lb/yr]</th>
<th>10-year Progress Towards Measurable Goal</th>
<th>10-year Total Phosphorus Reduction from Existing Load [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver</td>
<td>82</td>
<td>8</td>
<td>1.4</td>
<td>2.3</td>
<td>54%</td>
<td>7%</td>
</tr>
<tr>
<td>Dudley &amp; Kelly*</td>
<td>723</td>
<td>82</td>
<td>2.0</td>
<td>4.0</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Fish</td>
<td>88</td>
<td>7</td>
<td>1.8</td>
<td>3.3</td>
<td>34%</td>
<td>11%</td>
</tr>
<tr>
<td>Roemhildts</td>
<td>701</td>
<td>84</td>
<td>1.3</td>
<td>2.6</td>
<td>3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Cedar</td>
<td>2,476</td>
<td>930</td>
<td>19</td>
<td>31</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Fox</td>
<td>3,922</td>
<td>2,264</td>
<td>48</td>
<td>96</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Hunc</td>
<td>295</td>
<td>142</td>
<td>3</td>
<td>6</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,810</strong></td>
<td><strong>4,146</strong></td>
<td><strong>77</strong></td>
<td><strong>153</strong></td>
<td><strong>4%</strong></td>
<td><strong>2%</strong></td>
</tr>
</tbody>
</table>

* Note that Dudley & Kelly lake basins are connected, and the two lake drainage areas were combined into one drainage area to represent that implementation of watershed activities benefit the water quality of both lake basins.

Goal 2: Achieve the 10-year Nitrate Reduction Goals listed in Table 3-14 (160,700 lb/yr) in the Tier One Impaired Stream drainage areas over the next 10 years (by 2029).

Table 3-14. Existing Nitrate Loads and Load Reduction Goals for Tier One Impaired Streams in the Cannon River Comprehensive Watershed Management Plan

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Vermillion</td>
<td>118,140</td>
<td>25,829</td>
<td>5,907</td>
<td>11,914</td>
<td>49%</td>
<td>10%</td>
</tr>
<tr>
<td>Belle Creek</td>
<td>729,946</td>
<td>145,889</td>
<td>21,493</td>
<td>42,985</td>
<td>29%</td>
<td>6%</td>
</tr>
<tr>
<td>Little Cannon River</td>
<td>809,139</td>
<td>161,828</td>
<td>24,917</td>
<td>49,934</td>
<td>31%</td>
<td>6%</td>
</tr>
<tr>
<td>Trout Brook</td>
<td>14,071</td>
<td>2,814</td>
<td>526</td>
<td>1,051</td>
<td>37%</td>
<td>7%</td>
</tr>
<tr>
<td>Prairie Creek</td>
<td>511,946</td>
<td>102,359</td>
<td>17,811</td>
<td>35,821</td>
<td>35%</td>
<td>7%</td>
</tr>
<tr>
<td>Rush Creek</td>
<td>135,326</td>
<td>27,065</td>
<td>5,126</td>
<td>10,262</td>
<td>38%</td>
<td>8%</td>
</tr>
<tr>
<td>Medford Creek</td>
<td>134,124</td>
<td>26,825</td>
<td>4,675</td>
<td>9,349</td>
<td>35%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Recent Revisions

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  – Work Planning - Ranking

• Editorial and grammatical edits
Pace of Progress
Implement two shoreline improvement projects annually over the 10-year timeframe of the Plan. Conduct periodic evaluations of Natural Environment Lakes to ensure no net loss and track the number of shoreline improvement projects to achieve a shoreline gain.

To measure improvements in landuse decisions relative to shoreland management, Planning Partners will compare and analyze variances and conditional use permits granted annually to what has been approved in the past.

3.2.2-C: STORMWATER MANAGEMENT

Issue Statement
Polluted stormwater runoff is often transported to municipal separate storm sewer systems (MS4) and ultimately discharged to local rivers, streams and lakes without treatment. EPA’s Stormwater Phase II Rule establishes a MS4 stormwater management program that is intended to improve the Nation’s waterways by reducing the quantity of pollutants that stormwater transports into storm sewer systems during storm events. The lack of stormwater management regulations, and construction inspections in non-MS4 communities has an adverse impact on surface water resources in the Planning Area. Of the 21 cities in the Cannon River Planning Area, only five are MS4 communities (Faribault, Northfield, Owatonna, Red Wing and Waseca). The remaining cities and townships need to adopt stormwater management requirements to protect the surface water and groundwater resources in the Cannon River Planning Area. These smaller communities lack the staffing, funds or the resources to develop or implement ordinances and a permitting program.

Desired Future Condition:
Each community has adopted stormwater management and erosion and sediment control ordinances to provide for public safety and resource protection needs and has an effective permitting program in place.

10-Year Measurable Goals

Goal 1: Promote the adoption of stormwater management and erosion control standards in all of the communities, including MS4 communities.

Goal 2: Partner with municipalities and individual landowners to retrofit voluntary stormwater practices and improve maintenance activities in developed areas (i.e. older neighborhoods).

Justification for Goals
Communities in the Planning Area regulate stormwater in a variety of ways: some communities have extensive stormwater ordinances while others regulate stormwater through general development standards (e.g., as part of the subdivision ordinance). The Planning Partners recognize that communities should consider a separate stormwater ordinance to meet the community’s (and the Planning Area’s) goals for water resource protection. Needs expressed by the communities
Recent Revisions

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- Editorial and grammatical edits
3.4. LOCAL PRIORITIES

Local priorities are specific actions or initiatives that are unique to a particular LSU, but have not been identified as priorities for the Cannon River Comprehensive Watershed Management Plan. Local priorities have been included in the Cannon River Comprehensive Watershed Management Plan so local governments can address those items that they intend to accomplish at the local level, independent of the Plan Partners. The identification of local priorities allows local governments to continue serving constituents outside of the priority areas. This section identifies the local priorities of the watershed management organizations and the counties and SWCDs located in the Planning Area.

3.4.1. Water Management Organizations

There are two Water Management Organizations located in the Cannon River 1W1P Planning Area: the Belle Creek Watershed District (BCWD), and the North Cannon River Watershed Management Organization (NCRWMO). Only the Belle Creek Watershed District intends to satisfy their statutory watershed management planning duties with this Comprehensive Watershed Management Plan. The NMBWMO will participate on the Cannon River Watershed Joint Powers Board (CRWJPB) but continue to operate under their current watershed management plan. The following two sections describe the entities’ watershed management plans requirements, and their Local Priorities.

BELLE CREEK WATERSHED DISTRICT

The Belle Creek Watershed District (BCWD) was formed in 1968 to oversee construction of flood prevention structures funded under the Watershed Protection and Flood Prevention Act (PL-566) and to conduct ongoing maintenance of these structures. In 1970 the appointed BCWD members adopted an Overall Plan which focused on issues of flooding and water resources. The mission statement of the BCWD is “to maintain the productivity of the soil by conserving and restoring soil fertility through the practical application of erosion control and land use practices so as to promote the general welfare and security of the families within the district.” These overall objectives remain in place today, however the focus of the BCWD is to protect the infrastructure in place while continuing to improve the water quality and quantity within the Belle Creek Watershed District.

More specifics on the local priorities of the BCWD are provided in Section 4.4.1 of the Plan. Specifically, the Belle Creek Watershed District’s 2019-2028 Implementation Plan and Capital Improvement Program is contained in section 4 Targeted Implementation Schedule.

NORTH CANNON RIVER WATERSHED MANAGEMENT ORGANIZATION

The North Cannon River Watershed Management Organization (NCRWMO) was established in 1983 as a result of the Metropolitan Surface Water Management Act to address concerns related to water quality in the watershed’s streams and lakes. The mission statement of the NCRWMO is “Managing groundwater and surface water to prevent property damage, maintain hydrologic balance, and protect water quality for the safety and enjoyment of citizens and the
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RESOURCE CONCERNS:

PROTECTION LAKES & IMPAIRED STREAMS
- Agricultural Structural BMP Cost-Share Program: All SWCDs in the planning area offer cost-share for structural BMPs. Program name, funding amounts, rates and policies may vary.
- Agricultural BMP Loan Program: Program through the Minnesota Department of Agriculture (MDA) that provides low-interest loans to landowners or homeowners. Applicants work with the local SWCD to ensure eligibility and then through their lender.
- Land Conservation Program: Program through the Minnesota Department of Agriculture (MDA) that provides low-interest loans to landowners or homeowners. Applicants work with the local SWCD to ensure eligibility and then through their lender.
- Pollinator Habitat: Many of the SWCDs in the planning area offer technical and financial assistance to property owners to restore native vegetation and increase habitat for pollinators.

WETLAND RESTORATION
- Wetland Restoration Program: Most SWCDs in the planning area utilize state programs, including Reinvest In Minnesota (RIM) and wetland banking. SWCDs also utilize federal programs such as Conservation Reserve Program (CRP) and Agricultural Conservation Easement Program (ACEP).

DRINKING WATER PROTECTION
- Wellhead Protection: Funding may be available to acquire conservation easements in vulnerable wellhead areas to permanently protect wellhead areas from potentially harmful land management practices.
- Septic System Replacement: Low-interest loans for septic system replacement may be available for qualified, low-income homeowners.
- Nitrate Testing: Many of the SWCDs in the planning area offer free nitrate testing to residents.
- Abandoned Well Sealing Program: Program policies vary by County/SWCD, however most are able to offer well sealing.

LANDSCAPE ALTERATIONS CONCERNS:

AGRICULTURAL RUNOFF AND LEACHING LOSS & SOIL HEALTH
- Agricultural Water Quality Certification Program: Producers who are certified for this program are provided regulatory certainty for up to 10 years and receive priority financial and technical assistance. Certified producers can also use their certified status to promote their business as valuing water quality.
- No-Till Drill Rental Program: Some SWCDs have more drill rental options than others, however majority have a drill rental program that enables landowners to implement the practices that protect water quality.

SHORELAND MANAGEMENT
- Shoreland Restoration: Maintaining a healthy, natural shoreline with an abundance of diverse plants is one of the most important ways shoreland owners can protect and improve water quality. Technical and financial assistance may be available to landowners who want to restore the shore.

FLOODING OF COMMUNITIES
- Stormwater Management: Technical and financial assistance is available to treat and reduce the impact of stormwater runoff into lakes, streams, and wetlands.
- Rain Barrels: Rain barrels that capture rainwater can reduce runoff and benefit lawns and rain gardens.
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Selection of project locations within the priority implementation areas will be determined by the Planning Partners during the annual work planning process. During the work planning process, Planning Partners will be guided by the CRWJPB, and they will use tools and a number of other criteria in order to select specific project locations, according to project type. The Planning Partners recognize that each individual tool has strengths and weaknesses in targeting project locations, and the use of a suite of BMP targeting tools will identify the most cost-effective project locations for each project type. A summary of targeting tools most appropriate for each project type is included in Table 6-1. Projects for agricultural runoff and leaching loss identified from targeting tools will be chosen within the applicable land use/crop type areas in the Tier One resource targeted implementation areas. See example for the Fox Lake Targeted Implementation Area of applicable land use/crop type areas for implementation in Figure 6-1 and Figure 6-2.

In addition to tools, the Planning Partners may take the following into consideration when selecting specific project locations. These are items that could be incorporated into an application ranking process:

- Higher priority will be placed first on implementation activities within a targeted implementation area, then on implementation activities within a broader priority area, and finally watershed-wide implementation activities.
- Leverage momentum in a targeted area to achieve a higher rate of implementation and make more progress toward the measurable goals (if the opportunity presents itself).
- Cost-benefit of installing the project compared with reduction estimates for pollutants of concern.
- Feasibility of installing a project or implementing a practice.
- Alternative sources of funding that can be leveraged.
- Innovative approaches that can lead to the advancement of watershed management.
- BMPs that provide stacked functions and/or multiple benefits.
- Landowner compliance with current state regulations or local ordinances such as the state buffer law, wetland conservation act, septic system compliance or feedlot regulations.
- Installation of multiple practices and willingness to achieve whole farm conservation planning efforts.
- Landowner or operator participation in other programs such as Minnesota Agricultural Water Quality Certification Program or Field to Market.
Do we have a good Plan?
Do we have a good Plan?

– Meets our watershed needs
  • For resources
  • For people
Do we have a good Plan?

– Meets state requirements
  • BWSR Plan Content Requirements
  • BWSR Operating Procedures
Do we have a good Plan?

– Uses best guidance
  - BWSR Guidance Documents
  - Past documents, research and modeling
Do we have a good Plan?

- Useable document
  - Interprets science
  - Activities, money and timelines
Do we have a good Plan?

– Leads to action
  • Projects
  • Partnerships
  • Better resources
Next Steps

• Begin 90-Day Review
• BWSR Board
  – Southern Region Committee - TBD
  – BWSR Board – August
• Adopt the Plan
  – Within 120 days
• Implement the Plan!