

Materials Packet: Thief 1W1P Meeting 6/13/18

Below is a list of items for you to review prior to the meeting. They have been included as .pdf attachments to this packet. For any questions, please contact Peter Nelson at Pennington SWCD. Peter's email address is peter.nelson@mn.nacdnet.net. He can be reached at 218-683-7075.

Please note that revisions on items have not been fully completed. The intent of this meeting is to gain consensus on the revisions that will be performed to finalize those where a decision is being asked for items for the policy committee.

1. Agenda Pg: 1-6
2. Section 3: Measurable Goals Table Pg: 7-24
3. Local Decisions – PTMApp Targeted Implementation Scenario Pg: 25-27

PLANNING PHASE

MEETING INFORMATION

Date:	June 13, 2018	Location:	Red Lake Watershed District Office
Time:	9AM to Noon	Call-In Number:	N/A
Invitees / Attendees:	Planning Work Group (PWG) Advisory Committee (AC) Policy Committee (PC)	Facilitator:	Drew Kessler, HEI
PWG Lead:	Myron Jesme		

PREPARATION FOR MEETING

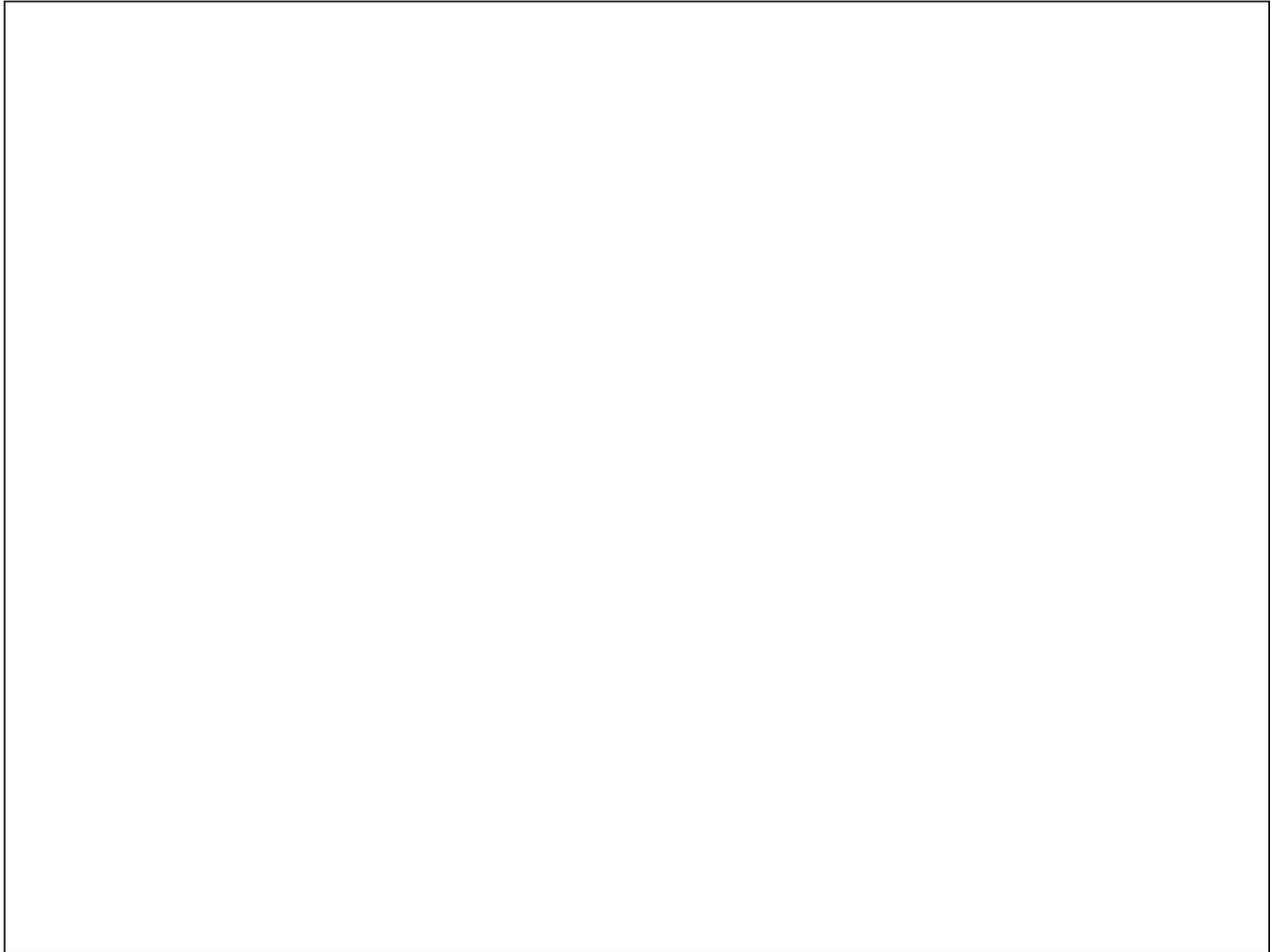
Review:	<i>Policy Committee reserves the last 30 min. of the meeting to conduct business. AC is invited to the full meeting and is called at 9AM.</i>
	<i>Come prepared to discuss setting Measurable Goals for Section 3 of the Plan Comments and Revisions</i>

AGENDA ITEMS

	ACTION	TIME
<u>AC Business</u>		
1. Recap on Progress and Direction		15 min.
2. Discuss – Plan Section 3: Measurable Goals <i>Meeting Goal:</i> Review and Approve comments on revisions to Plan Section 3.	Decide	60 min.
3. Introduce – Plan Section 4 – Tools for Targeting Practices	Discuss	45 min.
<u>PC Business (Add Time 11AM)</u>		
<ul style="list-style-type: none"> • <i>Approve Financials</i> • Introduce – Governance Structure - MCIT 	PC Business	30 min.
<u>Informational (All invited, optional attendance)–</u>		
Continuation of MCIT presentation on governance structure	Inform	30 min.

NOTES

agenda



agenda

Table 1. Policy Committee Members

Name	Designated (D) or Alternate (A)	Affiliation	Address	Phone	Email
Tim Sumner	D	Beltrami County			Timsumner15@gmail.com
Wally Byklum	A	Beltrami County			Wally.byklum@rcis.com
Ray Hendrickson	D	Beltrami SWCD			jackpine@gvtel.com
Gary Kiesow	D	Marshall County	25430 340 th Avenue NE Goodridge, MN 56725	218-689-3084	Gary.kiesow@co.marshall.mn.us
Rolland Miller	A	Marshall County	26817 420 th Avenue NW Warren, MN 56762	701-739-7396	Rolland.miller@co.marshall.mn.us
Brad Berg	D	Marshall SWCD			Bkberg83@gmail.com
Wallace Bengston	A	Marshall SWCD			wdbengtson@wiktel.com
Neil Peterson	D	Pennington County			ndpeterson@co.pennington.mn.us
Don Jensen	A	Pennington County	32094 120 th Street NE Goodridge, MN 56725	218-689-3084	donjensen52@gmail.com
Linda Hanson	A	Pennington SWCD			miliha@gvtel.com
Grant Nelson	D	Pennington SWCD	17349 110 th Street NW TRF, MN 56701		grantnelson@gvtel.com
LeRoy Ose	D	RLWD	15115 229 th Street NE TRF, MN 56701	218-689-6675	leroyose@gmail.com
Dale M. Nelson	A	RLWD	10367 140 th Street NW TRF, MN 56701	218-686-0032	Dalenelson62@gmail.com

Table 2. Advisory Committee Members

Name	Affiliation	Address	Phone	Email
Local Members				
Ralph Smith	Beltrami County Landowner	PO Box 142 Grygla, MN 56727	218-294-6358	
Zach Gutknecht	Beltrami SWCD Clean Water Specialist	Beltrami County Administration 701 MN Ave Suite 173 Bemidji, MN 56601	218-333-4157	Zachrie.Gutknecht@co.beltrami.mn.us
Lowell Smeby	Beltrami County Landowner	62881 Flintlock Road Grygla, MN 56727	218-280-6916	
Bill Neuschwander	Beltrami County Landowner	6252 Lee Rd NW Grygla, MN 56727	218-294-6000	
Darroid Rodahl	Marshall County Landowner	18646 270th Street NE Thief River Falls, MN 56701	218-681-7025	dkrodahl@wiktel.com
Raymond Benson	Beltrami SWCD Spruce Gove Township Chair	31217 Todroff Rd NW, Grygla, MN 56727	218-294-6290	
Curtiss Hunt	Beltrami County lakes and Rivers Association	9217 Oman Rd Ne Bemidji, MN 56601	218-766-4529	
Josh Johnston	Marshall County Water Planner/Zoning Administrator	Marshall County Water and Land Office 208 E. Colvin Avenue, Suite 3 Warren, MN 56762	218-745-4217	Josh.johnston@co.marshall.mn.us
Loiell Dyrud	Marshall County Landowner	23484 150th Ave NE Thief River Falls, MN 56701	218-681-6964	lod@wiktel.com
Lon Aune	Marshall County Hwy Dept.	447 S. Main St. Warren, MN 56762	218-745-4381	Lon.Aune@co.marshall.mn.us
Randy McMillian	Marshall County Landowner	38847 380th St NE Grygla, MN 56747	218-686-3320	ranmac@gvtel.com
Darren Carlson	Marshall SWCD SWCD Staff	105 South Division St. Warren, MN 56762	218-745-5010	Darren.carlson@mn.nacdnet.net
Steve Holte	Marshall SWCD Landowner	28770 State Hwy 219 NE Grygla, MN 56727	218-689-2953	sholte@gvtel.com
Elroy Aune	Marshall SWCD			djaune@gvtel.com

agenda

Mike Drangstveit	Marshall SWCD			mikeyd@gvtel.com
Mike Flaagan	Pennington County	250 125 th Ave NE, Thief River Falls, MN 56701	218-683-7017	mflaagan@co.pennington.mn.us
Wayne Johnson	Pennington County	PO Box 528 Thief River Falls, MN 56701	218-681-3809	wjohnson@cityrft.net
Kevin Sanders	Pennington County	19385 250 th Ave NE, Thief River Falls, MN 56701	218-681-2465 218-686-3462	kjsanders@wiktel.com krsanders@wiktel.com
Bryan Malone	Pennington SWCD	201 Sherwood Ave S. Thief River Falls, MN 56701	218-683-7075 ext. 118	Bryan.malone@mn.nacdn.net
Sportsman Club James Counter	Pennington SWCD	James Counter, Box 232, Thief River Falls, MN	218-791-9808 218681-1901	jcounter@mncable.net
Golf Club	Pennington SWCD	Tim Erickson	218-681-4020	Tim.erickson@nsbtrf.com
Dale Nelson	RLWD	10367 140 th St NW Thief River Falls, MN 56701	218-686-0032	Dalenelson62@gmail.com
Brian Dwight	RLWD	PO Box 427 Waskish MN 56685	218-556-7109	Waskish1954@gmail.com
State and Federal Agency Members				
Denise Oakes	MPCA Watershed Project Management	714 Lake Ave Suite 220 Detroit Lakes, MN 56501	218-846-8119	Denise.oakes@state.mn.us
Matt Fischer	BWSR Board Conservationist	403 4 th St NW Rm 200 Bemidji, MN 56601	218-755-2683	Matt.fischer@state.mn.us
Henry Van Offelen	BWSR Clean Water Specialist	26624 N. Tower Road Detroit Lakes, MN 56501	218-846-8406	henry.van.offelen@state.mn.us
Jenilynn Marchand	Principal Planner Environmental Health Division, MDH	705 5 th ST NW, Suite A Bemidji, MN 56601	218-308-5153	Jenilynn.marchand@state.mn.us
Robert Sip	MN Dept. of Ag.	625 N Robert Street St Paul, MN 55155	651-201-6456	Rob.Sip@state.mn.us
Annette Drewes	DNR	2532 Hannah Ave NW, Bemidji, MN 56601	218-308-2466	Annette.Drewes@state.mn.us
Stephanie Klamm	Area Hydrologist - DNR	246 125 th Ave NE Thief River Falls, MN 56701	218-681-0947	Stephanie.klamm@state.mn.us

Craig Mowry	Agassiz NWR	22996 290th Street NE Middle River, Minnesota 56737	218-449-4115	craig_mowry@fws.gov
Shane Bowe	Red Lake Tribal	PO Box 279 Red Lake MN 56671	218-679-3959	Shane.bowe@redklakenation.org
Laurie Fairchild	USFWS Private Lands Biologist	Rydell and Glacial Ridge, Erskine MN 56535	218-687-2229 701-425-9080	laurie_fairchild@fws.gov
Jeff Franson	Golf Club Grounds Superintendent	NA	NA	JDsDodge@hotmail.com

Table 3. Planning Work Group Members.

Name	Affiliation	Address	City/State/Zip	Phone	email
Peter Nelson	Pennington SWCD	201 Sherwood Ave S	Thief River Falls, MN 56701	218-683-7075	peter.nelson@mn.nacdnet.net
Myron Jesme	Red Lake WD	1000 Pennington Ave. S	Thief River Falls, MN 56701	218-681-5800	Myron.Jesme@redlakewatershed.org
Zach Gutknecht	Beltrami SWCD	701 Minnesota Ave NW, Suite 113	Bemidji, MN 56601	218-333-4158	zachrie.gutknecht@co.beltrami.mn.us
Darren Carlson	Marshall SWCD	105 Division Street South	Warren, MN 56772	218-745-5010	darren.carlson@mn.nacdnet.net
Josh Johnston	Marshall County	208 E Colvin Ave, Suite 5	Warren, MN 56762	218-745-5841	josh.johnston@co.marshall.mn.us
Corey Hanson	Red Lake WD	1000 Pennington Ave. S	Thief River Falls, MN 56701	218-681-5800	Corey.Hanson@redlakewatershed.org
Matt Fischer	BWSR	403 Fourth Street NW, Room 200	Bemidji, MN 56601	218-755-2683	matt.fischer@state.mn.us

Comment #	Entity	Reference	Comment	Will Revise	Recommended Revision
1	AC - DR	General	Drainage Water Management (Tile) was listed as Best Management Practice for storage throughout the Red lake River One Watershed One Plan. Ten sites were identified in the plan. I believe this would be a Best Management Practice for the Thief River One Watershed One Plan.	N	This will be addressed in Plan Section 4.
2	AC - DR	General	Since there are more than 30 impoundments and reservoirs in the Thief River Watershed and since they have very controversial operating plans and/or benefits, I am not in favor of any more new impoundments within this watershed district.	N	This will be addressed in Plan Section 4.
3	AC - BD	P. 19 MG 3.2.3	Long-Term Goals: Need to clarify reduction goal numbers	Y	Will be concentration based.
4	AC - BD	MG 3.2.5	Establish Runoff Reduction Goal for each Planning Region. Like at runoff depth or design events (24-48 hours) as metrics.	Y	PWG recommends planning region goals based on FDR reductions and professional judgment. No runoff increases for Marshall CD 20, Mud, Moose, Upper Thief, Middle Thief planning regions. 5,000 acre/feet reduction for Lower Thief, Lost River, and JD 30/18/13 planning regions.
5	AC - BD	General	Include narrative and figure in the introduction that touches on water quantity	Y	Will revise section 3.1.1 to give overview of Measurable Goal development including water quantity.
6	AC - General	P. 21 MG 3.2.6	Include table listing ditch authorities	N	Will include in Section 5 of plan.
7	AC - General	P. 23 MG 3.2.7	Long-Term Goal: Strike "perpetuity"	Y	Will revise
8	RLWD - CH	P. 1	Rename Measurable Goals to General Goals. Here is another option for addressing the different levels of goals, rather than changing the short-and-long-term goals to "objectives." As we discussed the goals during the advisory committee meeting, it became clear that changing "goals" to "objectives" wasn't really an improvement.	Y	Measurable Goals will be renamed, Measurable Goal Categories. Short and Long Term Measurable Goal naming convention will remain the same.

9	RLWD - CH/MNDNR - SK	P. 8, Table 3-2	Maximize the size of this table – use all the space that is available on the page.	Y	Will revise
10	RLWD - CH	General	General Comment - Figure captions should go under figure, table captions above figure.	Y	Will revise
11	RLWD - CH	Protection and Restoration Maps	Add Planning Regions?	Y	CH will revise maps
12	RLWD - CH	Protection and Restoration Maps	Maximize the size of each map on the page. Use “view gridlines” as a guide. Make sure that you lock the aspect ratio first.	Y	Will revise
13	RLWD - CH	General	Whichever way the issue numbers are presented (before or after the text), it might be good to be consistent throughout the sections. “Before the text” is probably more consistent with how they are presented in Section 2.	Y	Will revise
14	RLWD - CH	Short and Long-Term Goals	It might be best to leave these as “goals” and do something with the sentences that describes the more general goals that are in the sub-section titles.	Y	See comment 8
15	RLWD - CH	P. 17 MG 3.2.2	Would it be helpful to include a table that shows the total loads for each planning area and which HSPF sub-basins produced those numbers?	N	Load reductions for goals expressed as percentages and lbs./tons
16	RLWD - CH	P. 17 MG 3.2.2	The assessment units within the Middle Thief planning area were not assessable due to a lack of data, but there is a long-term monitoring site (CSAH 7, S002-088) that is located shortly downstream of the Middle Thief planning area and at the upstream end of the Lower Thief Planning area. The summer average TP at that site is <0.075 mg/L, so it would qualify for the “highest quality” category for TP.	Y	Will revise
17	RLWD - CH	P. 19 MG 3.2.3	There are multiple ways that we could measure progress toward E. coli goals. Some are more practical than others. While the sediment and nutrient load reductions for BMPs and erosion control projects can be estimated with equations, spatial measurements, or modeling, the estimation of bacteria load reduction is probably more difficult. I would recommend using the maximum monthly geometric mean as the metric for E. coli reductions. It is easy to calculate, easier to update, and accounts for the variability of E. coli sample results.	Y	Goals will be set at planning region scale with exception of Mud River as it has a TMDL. Mud River will be noted as having a reach-specific goal.
18	RLWD - CH	P. 19 MG 3.2.3	There may still be some room for improvement within Marshall CD20 (decrease max monthly geometric mean by >5% to <67 MPN/100ml), but maybe it should be left as “maintain current conditions” for consistency among “highest quality” waters.	N	Keep as is

19	RLWD - CH	P. 19 MG 3.2.3	The other question is whether to use site-specific goals or assessment unit-specific goals. I provided site specific goals for sites that represent conditions near a pour point of a planning region with a couple of additional locations where reductions are needed, but due to the variability of E. coli, are greater in magnitude than the pour point goals (Branch A of JD21 and the Mud River in Grygla).	Y	Will use assessment unit (Stream AUID) for Mud River Planning Region
20	RLWD - CH	P. 22 MG 3.2.5	There was a comment about the Red Lake River 1W1P recommending tile as an FDR solution. However, the plan only recommends regulation and BMPs (alternative tile intakes and drainage water management) for tile drainage, and it does not mention recommendations for the installation of more tile.	N	See comment 1
21	RLWD - CH	P. 22 MG 3.2.5	Short-Term Goals: HSPF-SAM can provide simulated maximum annual peak flow and average annual flow volume numbers for the watershed and the planning regions (in case we want to break this out by planning region) for the period that is simulated by the model (1/2/1996 – 12/31/2016). The USGS gauge would have real, measured values, but would not include drainage from one of the planning areas (the gauge is upstream of the JD30 outlet). A summary table has been uploaded to the HEI FTP site	N	See comment 4. Runoff reduction goals will be set for each planning region.
22	RLWD - CH	P. 22 MG 3.2.5	Metrics: Should there be more specifics in here about recommended data sources? How should progress toward these goals be measured/tracked?	?	Need to decide on metric for tracking runoff reduction in lower planning regions.
23	RLWD - CH	P. 22 MG 3.2.6	How will the numerical portions of these goals be established/estimated? PWG Meeting? PTMApp?	?	Discuss with Advisory Committee
24	RLWD - CH	P. 24 MG 3.2.7	Short-Term Goals: Improve the quality of riparian vegetation and streambank stability along “benchmark” reaches (Moose River, Mud River, Upper Thief River, Lower Thief River, and Marshall County Ditch 20) that were assessed with BANCS streambank erosion estimates during the 2015 Thief River Watershed Fluvial Geomorphology Study.	N	Will need to set goal in terms of # stream miles or % improved
25	RLWD - CH	P. 24 MG 3.2.7	Short-Term Goals: Reduce the percentages of the total assessed channel lengths that has high Bank Erosion Hazard Index (BEHI) ratings along the Moose River, Mud River, Upper Thief River, Lower Thief River, and Marshall County Ditch 20.	Y	
26	RLWD - CH	P. 24 MG 3.2.7	See above comment: It will be possible to get the “current” (2012) BEHIs and lengths from the DNR, but it might take a little time to get the data and convert it into GIS files (from separate KMZ and Excel files).	Y	See comment 25
27	RLWD - CH	P. 24 MG 3.2.7	Metrics BANCs model scores and BEHI ratings	Y	Will revise
28	RLWD - CH	P. 25 MG 3.2.8	Removed increase number of large terrestrial blocks from goal	Y	Will Revise
29	RLWD - CH	P. 26 MG 3.2.9	The 15/10/5% tiered improvement goals could be applied to planning regions or major reaches based on the MSHA ratings (15% for poor, 10% for fair, and 5% for good).	?	Discuss with Advisory Committee

30	RLWD - CH	P. 26 MG 3.2.9	Short-Term Goals added: • Improve the quality of existing riparian buffers by planting deep-rooted, woody vegetation and native vegetation. • Potential fish passage barriers are identified and modified where practical (changes to major dams and water control structures are not anticipated). • Meander restoration or 2-stage ditch conversion along a portion of the Moose River/JD21. • Meander restoration and/or 2-stage ditch conversion portions of the Mud River/JD11.	N	These could be included as actions in Plan Section 4.
31	RLWD - CH	P. 26 MG 3.2.9	Instead of picking or choosing reaches, I included measurable goals for the assessed portions of significant waterways. I left out intermittent/ephemeral tributary ditches that are obviously artificial watercourses like JD 23, CD 35, and CD 32.	?	How to best set this goal to Planning Region Scale? See comment 32
32	RLWD - CH	P. 27 MG 3.2.9	When targeting a particular score for a reach that was sampled in multiple locations, does it make more sense to improve the minimum or improve the average? Focusing on improving the minimum would prioritize the restoration of the most degraded portions of the stream. Improvements to the average would broaden the scope to the rest of the reach, not just the portions that scored the lowest.	?	Discuss with Advisory Committee
33	RLWD - CH	P. 27 MG 3.2.9	Remove Upper Thief River short-term goal to reduce peak flows and increase base flows.	Y	Will revise
34	RLWD - CH	P. 28 MG 3.2.9	Changed metrics: remove percentage peak flow reduction	Y	Will revise
35	RLWD - CH	P. 28 MG 3.2.9	Changed metrics: percentage base flow increase to percentage of days that meet minimum base flow requirements	Y	Will revise
36	RLWD - CH	P. 33 MG 3.2.14	Add to end of paragraph beginning with "Residents in areas...": Human fecal DNA markers were discovered in samples that were collected from the Mud River in Grygla.	Y	Will revise
37	RLWD - CH	P. 33 MG 3.2.14	Added goal: • Inspect all septic systems within the Mud River planning area that are located east of Grygla.	N	This goal could be an action included in Plan Section 4.
38	BWSR -MJF & HV	P. 1	This 3.1 is not just about goals. This entire paragraph is about setting priorities. consider adding this to the title of section 3.1	Y	See comment 5
39	BWSR -MJF & HV	P. 2 Section 3.1.1	This is great information. It really is. However, perhaps it dives too deep into one aspect of the plan (water quality) for this section. It might be better to put some/most of this in an appendix and just reference the information in this section. Maybe the table, maps, and a short narrative with reference to an appendix for the background info could stay in this section.	Y	Will move to appendix along with maps
40	BWSR -MJF & HV	P. 2	this list and the following paragraph contain the information about priorities. Need a simple table that has these four categories and then a list of subwatersheds by category. Here are the subwatershed priorities based on review of the data (appendix x)	Y	Will revise

41	BWSR -MJF & HV	P. 13	the header for 3.2 is "priority issue". This subheader is not a priority issue but a "resource category." Somewhere up above describe how this section is organized. the next section seems to have a header which is a "resource concern".	N	The subheader is the name of the measurable goal. The priority issues tied to the goal are listed below.
42	BWSR -MJF & HV	P. 15 MG 3.2.1	These needs a little work, but I will leave it up to MDH to provide alternative goal statements as discussed at the advisory meeting. Biggest thing is to keep them reading as goal statements instead of action items, which I understand can be hard when there is not a lot of information on current conditions.	Y	Will incorporate MDH suggested language
43	BWSR -MJF & HV	P. 16 MG 3.2.2	should this be "surface waters" to be consistent with previous subheader?	Y	Will revise groundwater to drinking water
44	BWSR -MJF & HV	P. 17 MG 3.2.2	Short-Term Goals: This has changed with setting planning region goals based on restoration and protection categories.	Y	Will revise
45	BWSR -MJF & HV	P. 18 MG 3.2.2	Short-Term Goals: What length? Only have 1 reach and not planning on getting all 36.942% reduced in 10-year plan. We may add length in 10 years if the "potential impairments" get formally listed. I don't think we even need these reach-specific goals because they're not even reach-specific but rather watershed wide. I recommend removing them and just using the planning region goals.	Y	Will drop reach-specific goals
46	BWSR -MJF & HV	P. 18 MG 3.2.2	Metrics: Should this say, "as estimated by PTMApp and/or HSPF" since PTMApp isn't able to estimate the in-channel sources? May also be good to remove "percentage" and just say "load reduction anticipated..." as we have those estimated amounts in here now.	Y	Discuss how to utilize both PTMApp and HSPF results to estimate load reduction goals.
47	BWSR -MJF & HV	P. 18 MG 3.2.3	Last sentence of last paragraph: This is confusing. If it's a "protection" goal, then why does it include streams designated in subsection 3.1.1 as Restoration (Impaired or Potential Impairment)?	Y	Preceding sentence addresses restoration, however, could be worded more clearly.
48	BWSR -MJF & HV	P. 21 MG 3.2.5	Short-Term Goal: As discussed at advisory committee meeting, set runoff reduction (maybe include both runoff reduction and corresponding volume amount) goal for each planning region.	Y	See comment 4

49	BWSR -MJF & HV	P. 21 MG 3.2.5	Long-Term Goals: This is too many different numbers. How about just one number for peak flow reductions and one for volume reductions? Don't specify using off-channel detention or mainstem storage. Leave the using/how part to Section 4, or at most just have a broad "how" here such as, "following the Red River Basin Flood Damage Reduction Framework outlined in the Flood Damage Reduction Work Group's Technical Paper 11." Also, include the location in the goal statement of where this will be measured.	Y	Discuss long-term goal with Advisory Committee. 10 or 100-year runoff event?
50	BWSR -MJF & HV	P. 21 MG 3.2.5	Metrics: Consider adding a metric related to reducing acres inundate in a 10-year summer storm event. consistent with the mediation agreement.	N	See comment 4 for goal. Metric TBD.
51	BWSR -MJF & HV	P. 21 MG 3.2.6	Al Kean and/or Tim Gillette could be a resource to help with this one.	Y	Use as resource for goal development if available.
52	BWSR -MJF & HV	P. 22 MG 3.2.6	the specifics here need more discussion. not exactly sure what is meant by floodplain. is this suggesting all ditches become a 2-stage channel???	Y	Agreed. Pulled from DNR Fluvial Geomorphology Report. Need clarification on this recommendation from report.
53	BWSR -MJF & HV	P. 23 MG 3.2.8	Since there isn't interest in increasing amount, perhaps could build in something into these goals on prioritizing sites for banking so when sites are impacted there are quality sites to replace them.	?	Discuss with Advisory Committee
54	BWSR -MJF & HV	P. 23 MG 3.2.8	Short-Term Goals: call this potentially restorable wetlands data	Y	Will revise
55	BWSR -MJF & HV	P. 25 MG 3.2.10	Issue 4.1.3: Needs to be a goal related to this issue. Maybe something like, "Hold (x) Thief River Watershed Advisory Committee meetings per year." It does read more like an action, but I don't know what you could measure a percent or amount change on other than the number of times you seek input.	Y	Will revise
56	Pennington SWCD -PAN	P. 22 MG 3.2.6	Short-Term Goals: Include Pennington CD 30/18/13	Y	Will revise
57	Pennington SWCD -PAN	P. 23 MG 3.2.7	Include the recommendation for implementing filter strips and buffers on other water not covered by the Buffer Law and use length of filter strip/buffer	Y	Will revise
58	Pennington SWCD -PAN	P. 24 MG 3.2.9	Short and Long-Term Goals: Include base flow objectives.	Y	Will revise
59	Pennington SWCD -PAN	P. 30 MG 3.2.14	Short-Term Goals: of xx% of feedlots are brought into compliance, a goal would be Maintain Feedlot Compliance if there are no known compliance issues	Y	Will revise
60	Pennington SWCD -PAN	P. 30 MG 3.2.14	Short-Term Goals: 100% of septic systems that are imminent threats to public health and safety (ITPHS) are brought into compliance	Y	Will revise
61	Pennington SWCD -PAN	P. 30 MG 3.2.14	Add goal: 30% of septic systems that are failing to protect groundwater are upgraded.	Y	Will revise

62	MNDNR - SK	P. 1	If we use high quality, does that correlate with protection? Should this be called protection?	Y	Restoration and Protection classes described in body of section but probably should be more clearly stated.
63	MNDNR - SK	P. 3	do we have a map that shows the different regions (MN nutrient regions)	Y	Add reference/link to MPCA River Nutrient Regions
64	MNDNR - SK	P. 4	How much of the low DO could be natural background on the Moose?	N	The causes of the DO impairments are described in detail in the TMDL and WRAPS documents. Those impairments are caused by a lack of base flow and the minimum flow levels suggested in the TMDL should be incorporated into measurable goals for those rivers
65	MNDNR - SK	P. 6 Table 3-1	should this box also have the same language as the others? (DO 2nd Potential Impairment box)	Y	The referenced cell in the methods table was intentionally left blank. If >10% of a sufficient number of discrete daily minimums are <5 mg/L, then the continuous DO data is unnecessary for the identification of a potential impairment. The continuous DO data almost always shows a greater frequency of low DO levels, so it's not likely that the continuous data would show full

					support if the discrete data shows an impairment. I see that the cell to the left, in the Restoration column, should also be blank for the same reason. Perhaps "n/a" would work – to show that we didn't accidentally leave it blank. I updated the methods table so that it has n/a in those two cells
66	MNDNR - SK	P. 7 Table 3-2	could combine these two for the IBI like the other columns (IBI for Lower Thief)	Y	The widths and heights of columns and rows are already minimized in the table, or pretty close. Based on the width of the figure caption, it looks like the space available on the page was not fully used when the table was inserted. It looks like the table could be expanded nearly an inch horizontally and vertically

67	MNDNR - SK	P. 8 Figure 3-2	Should this one be yellow? Above in the table it is listed as nearly impaired. (Mud River)	Y	The Mud River should be "purple" in the table. I have also revised that table in the attached Excel file. The map is correct, based on the local planning standard (15 mg/L). The MPCA might not formally list it as impaired if they use a different standard. The river has exceeded the 15 mg/L standard in a little more than 10% of samples
68	MNDNR - SK	P. 10 Figure 3-4	Should read 09020304-505 not -506 (Moose River)	Y	I had noticed that error in one of the maps and thought that I had corrected it in all of them but must have missed this one. Thanks for finding the error. I have created an edited version of the map and uploaded it to the FTP site
69	MNDNR - SK	General	Spacing issues between paragraphs	Y	Will revise

70	MNDNR - SK and AD	P. 17 MG 3.2.2	Why is the percent low but the lbs. high, the last one on the Upper Thief looks accurate? Are you basing this on the size of the subwatershed? (Lower Thief River P Short-Term Goal	Y	TSS/TP reduction goals were based on outputs from the HSPF model and/or TMDL calculations. I didn't have TP numbers for reaches without TMDLs, so I just used a 1 ton/1 pound TSS/TP ratio (based on a BWSR pollutant reduction estimator spreadsheet). I have asked the MPCA (Mike Vavricka) about the status of the Thief River HSPF-SAM. If we had that, we could get some better numbers for TP at the pour points of the HUC10 planning regions instead of basing them on TSS. The HSPF-SAM PATH process is being conducted on updated versions of the HSPF model – calibrated through 2016 (As of addressing this comment, it sounds like HSPF -SAM is complete and available to use).
71	MNDNR - SK	P. 18 MG 3.2.2	Missing ton/yr on these two. Mud and Upper Thief Sediment Short-Term Goal	Y	Will revise

72	MNDNR - SK	P. 18 MG 3.2.2	Metrics: How will the goals be measured? Number of BMPs'? Rerunning the PTMApp? SAM models? ELinK results?	?	See comment 46
73	MNDNR - SK	P. 19 MG 3.2.3	Metrics: how will this be measured?	?	Monthly Geometric Mean at pour point for all planning regions except for the Mud, which will be reach-specific to be consistent with TMDL
74	MNDNR - SK	P. 21 MG 3.2.5	Metrics: How will this be measured?	?	See comment 22
75	MNDNR - SK	P. 22 MG 3.2.6	Short-Term Goals: Where there any suggestions in the TR Geomorph report?	N	Yes, recommendations for long term goals reference Thief Geomorph Study
76	MNDNR - SK and AD	P. 22 MG 3.2.7	May want to look at this, this looks like it is about BWSR and not the buffer and soil loss legislation. I believe it is under 103F	?	Need clarification on comment
77	MNDNR - SK	P. 23 MG 3.2.7	Short-Term Goals Recommendation: There really is not a lot of watercourses that would not already or should be covered by the buffer law. There are a few systems that are possible private that are not part of the buffer map and some areas under state land ownership not currently covered but the number of buffers needed would be small.	Y	Discuss with Advisory Committee
78	MNDNR - SK	P. 23 MG 3.2.8	Short-Term Goals: Not sure we (DNR) created this layer, it may have been USFWS, but I don't see any restorable wetlands in the Thief River in my quick layers on ArcGIS.	N	Identify using HEI tool based on PTMApp inputs
79	MNDNR - SK	P. 24 MG 3.2.9	Issue 3.1.8: this one was already used above in the 3.2.7 category.		Discuss with Advisory Committee
80	MNDNR - SK	P. 26 MG 3.2.11	Short-Term Goals: Altered Hydrology - Do we have locations picked out. Can we look at pour points from the PTM App to use?	N	Use HUC10 Pour points per RLWD monitoring program.
81	MNDNR - SK	General	What goals can be taken from the WRAPs?	N	WRAPs document used where applicable.
82	MNDNR - AD	P. 16 MG 3.2.2	There are five issues listed under this goal in the document, however only three in the table that was provided. (2.4.1 and 2.6.1)	Y	Two issues were added that didn't make it into the May meeting table.

83	MNDNR - AD	P. 17 MG 3.2.2	this entire paragraph is difficult to read. I'm not sure there is a need to repeat the information from the beginning (Subsection 3.1.1. and categories). Rewriting this to highlight the reductions might clarify...with just a note on what standards /guidance were used as a preface 5% Reductions for Phosphorous and Sediment: Highest Quality 10% Reductions for Phosphorous and Sediment: Nearly Impaired 15% Reductions for Phosphorous and Sediment: Potential Impairment and Impaired	Y	See comment 5
84	MNDNR - AD	P. 17 MG 3.2.2	I'm not sure about using "Protection" and "Restoration" in the short-term goals list along with the Nearly Impaired, Potential...etc. I'm not sure they add any clarity because across all the streams we are planning for decreasing loads. They confuse me :o)	N	Protection and Restoration categories will help tie implementation to potential state funding. Will make categories clearer in Section 3.1.1
85	MNDNR - AD	P. 17 MG 3.2.2	If these numbers (lbs/yr and tons/yr) are from HSPF model, identify that in the description: Short-term goals are set at planning region and reach-specific scales using HSPF models ran with TMDL calculations...or something like that.	Y	Will revise
86	MNDNR - AD	P. 18 MG 3.2.2	Under the Long-Term Goals Planning Region Scale (Phosphorus): Why is there only the Restoration goal for the Mud River in the Long-Term? It is unlikely that we will meet the short-term goals for the other planning regions, so could we just say extend short-term goals for the planning regions, unless there is a specific TMDL goal?	Y	Will revise
87	MNDNR - AD	P. 20 MG 3.2.5	As Henry mentioned, and we concur, the goal as stated "Reduce Damages..." is not something we are able to measure. Runoff depth goals would hint at a goal like "Reduce Surface Runoff."	Y	See comment 4
88	MNDNR - AD	P. 21 MG 3.2.5	We agree with comments made at the meeting on May 9th to look at using runoff reduction goals in this section, and to look at 24-48-hour runoff events. Setting goals for a 10-year run-off event seem more applicable in this document than 100-year flood flow reductions.	Y	See comment 4
89	MNDNR - AD	P. 21 MG 3.2.5	Short-term goals to incorporate reduction goals for planning regions? DNR is willing to assist with this if needed.	Y	See comment 4.
90	MNDNR - AD	P. 21 MG 3.2.5	Metrics: Align with runoff reduction?	Y	See comment 4.

91	MNDNR - AD	P. 22 MG 3.2.7	Issue 3.1.3 is a habitat concern, and not addressed by Buffer Law implementation (a water quality issue). Although there are benefits from buffers, as written this goal leaves out opportunities to go beyond buffers, for example participation in CRP or other set aside programs for wildlife or riparian habitat. Suggest that this goal be expanded. I believe BWSR was going to suggest some language.	Y	Will revise
92	MNDNR - AD	P. 22 MG 3.2.7	Short-Term Goals: Stabilizing XX miles of drainage ditches. Any suggestions in the Thief River Geomorphic Report from DNR that could be used, could also be identified bi-annually.	Y	See comments 24-27
93	MNDNR - AD	P. 22 MG 3.2.7	Metrics: Length of ditch segments that are stable. What constitutes stable? Would length of ditch segments "improved" work?	Y	See comments 24-27
94	MNDNR - AD	P. 26 MG 3.2.11	Ground Water Quality: DNR does have an Ob Well monitoring program that SWCD can participate in.	N	This would be good to include in Plan Section 4.
95	MNDNR - AD	P. 23 MG 3.2.8	Change the goal to "Enhance Connectivity and Cover for Wildlife"	Y	Will revise
96	MNDNR - AD	P. 23 MG 3.2.8	Areas of focus by Planning Regions (DNR has just hired a person to be the lead for implementation of the state's Wildlife Action Plan Conservation Focus Areas, they can be a resource in planning activities). Opportunities for enhancement activities should build, where feasible, on existing habitat within Planning Regions. DNR can provide assistance in identifying these areas.	Y	Contact AD for more information.
97	MNDNR - AD	P. 23 MG 3.2.8	Suggested language: "Wetland loss and modification, as well as habitat fragmentation due to disturbance (development, agriculture, roads, etc.) are ongoing concerns for several local, state and federal agencies, and non-profit organizations. In addition to the habitat provided to animals and migratory birds, these areas of perennial cover help hold soil, reduce runoff and increase infiltration. Enhancing existing protected land and where there is opportunity, connecting habitat fragments will provide water quality and quantity benefits in addition to quality wildlife habitat."	Y	Will revise
98	MNDNR - AD	P. 23 MG 3.2.8	Suggested Short-Term Goals: • Enhance the quality of habitat along stream corridors, with planning region goals to be set bi-annually by the planning committee. (Not sure how to write this one) • Identify locations for wetland re-establishment and enhancement, with wildlife and water storage benefits.	N	Will be addressed in Section 4
99	MNDNR - AD	P. 23 MG 3.2.8	Metrics: • Projects implemented • Acres	Y	Acres enhanced could be a useful metric

100	MNDNR - AD	P. 24 MG 3.2.9	In opening sentence "...three priority issues" yet only two are listed	Y	Will confirm correct # of issues and revise.
101	MNDNR - AD	P. 24 MG 3.2.9	Include that the MSHA score has a range from 0-100, with the ranges for poor, fair and good. I can find them again if you need it. Also, MSHA scores incorporate land use, the riparian zone, instream substrate and siltation, cover type, and channel morphology. If using it, help us understand what it includes.	Y	Will revise
102	MNDNR - AD	P. 25 3.2.9	Metrics: Agree on taking out "peak flow"	Y	Will revise
103	MNDNR - AD	Section 3.1.1	I've provided input on this section already, regarding clarifying the language and organization. As written it is difficult to identify quickly how the categories were created. In addition, the following pages of technical data and statistics could be outlined with subheadings to break up the denseness or moved altogether to an appendix.	Y	See comment 5
104	MNDNR - AD	General	When other plans (WRAPS, TMDL's, etc.) are referenced as part of rationale development, providing a hyperlink when referencing would provide quick access.	Y	Will revise
105	MNDNR - AD	General	Recommend being consistent between goals as to what is provided for rationale. Some of the information provided tends to be background on what was done, rather than focused on the issue (3.2.11 is an example)	?	Need clarification
106	MDH - CP	P. 14 MG 3.2.1	WHP? In reference to Wellhead Protection Program	Y	Will revise
107	MDH - CP	P. 14 MG 3.2.1	MS 103I is for Well Management!	Y	Will revise with correct statute
108	MDH - CP & JLM	P. 15 MG 3.2.1	Short-Term Goals: public wells? what will the 1W1P do?	Y	As discussed during May meeting, will revise focus to private wells
109	MDH - CP & JLM	P. 28 Table 3.3	Criteria for Stormwater Management - Groundwater: This doesn't make sense to me. Perhaps change it to Do not use storm water or groundwater infiltration practices in highly vulnerable DWSMAs	Y	Goal to be struck and issue to be moved to MG 3.2.6
110	MDH - JLM	MG 3.2.1	I don't see surface water-Drinking Water quality included here. Also, for goals I think that proper well maintenance of individual wells is a good goal as well as sealing unused wells. Perhaps you were thinking of these action items? Well mgmt and well sealing will help with protecting water quality and is more of a long term practical approach.	N	Goal only addresses groundwater. Well management and sealing will likely be included in Plan Section 4.

111	MDH - JLM	MG 3.2.1	Short-Term Goals: I think better overall goals would be the protection of groundwater quality and quantity.	N	Goals need to be specific and measurable.
112	MDH - JLM	MG 3.2.1	Short-Term Goals - Arsenic: Overall, this measure should be removed as arsenic is naturally occurring and naturally fluctuates. The only way to do anything about the arsenic is for home owners to install treatment systems.	Y	Will revise
113	MDH - JLM	MG 3.2.1	Short-Term Goals - Arsenic: Should be parts per billion. Not achievable. Don't know what is out there yet.	Y	Will revise. See comment 112
114	USFWS - CM	P. 16 MG 3.2.2	Short paragraph on Agassiz impoundment. Change sentence to read, "Agassiz Pool, in the center of the Agassiz NWR, is the "hub" of the watershed, receiving all drainage and sediment from the..."	Y	Will revise
115	USFWS - CM	P. 16 MG 3.2.2	In the sedimentation paragraph at the bottom of the page, we would like to see inclusion of heavy precipitation events and spring snow melt runoff in the discussion about impacts on downstream water quality. Large rain/runoff events have caused issues with the city drinking water and tri-halo methane production in the past.	Y	Will revise
116	USFWS - CM	P. 17 MG 3.2.2	In the bulleted list does "remnants of JD11 that concentrate flow" refer to the segment within the pool? The word old should also be deleted from the fourth bullet. On page 21, it also states that dredging and sediment cleanouts are common practices, so the JD11 maintenance done on the refuge should not be identified as problematic.	Y	Will check with RLWD as they drafted language.
117	USFWS - CM	P. 21 MG 3.2.6	In the dredging and sediment cleanout paragraph, once again, big rain events ought to be included if we are including discharge rates from impoundments.	Y	Will revise
118	USFWS - CM	P. 26 MG 3.2.11	4th paragraph. It mentions that since the gauging station is downstream of Agassiz, that is heavily regulated.... results are not a good representation of what is occurring upstream.... we should monitor upstream reaches also. Yes, we should be monitoring upstream reaches, but those flows are also heavily regulated from the Thief Lake dam and the Moose River Impoundment dam. Let's not make it sound like above Agassiz the flow is natural.	Y	Will revise
119	MPCA - DO	P. 15 MG 3.2.1	I believe that MDH was going to provide comments and language for this one, but I wanted to reiterate that arsenic is a naturally occurring element in the aquifer and the concentrations of arsenic in groundwater is dependent of the underlying geology. So, reductions in arsenic concentrations in the groundwater is not possible. There are treatment options, but MDH probably has more information on those. Maybe a	Y	Will revise

			long-term goal would be to have a certain percentage of private wells tested for bacteria, arsenic and nitrates.		
120	MPCA - DO	P. 16 MG 3.2.2	Aquatic Live and Aquatic Recreation-Reduce Sediment and Phosphorus Delivery and Load Something that can be added to the rationale would be that reducing sediment will also reduce phosphorus since phosphorus binds to sediment particles. I know it was discussed that it would be good to have specific numbers in the short-term goals for reductions, but I think percentages are good enough for goals. For data analysis to determine if there is progress towards the goals, then specific numbers should be used, but I am ok with it either way. Just think it gets a bit too specific. I am having a hard time understanding the heading of 'Reach Specific Scale' throughout the table. The goals in here seem to be watershed wide, not reach specific. Also, the wording should be changed to 'reduction in the number of stream reaches classified as impaired by meeting a load allocation.'	Y	Will revise
121	MPCA - DO	p. 24 MG 3.2.9	Aquatic Habitat for Fish, Macroinvertebrates and Aquatic Live-Restore Connectivity, Habitat, Moderated Flow Regimes and Promoted Vegetated Banks and Buffers. Information on the Minnesota Stream Habitat Assessment https://www.pca.state.mn.us/sites/default/files/wq-bsm3-02.pdf Rationale: Intensive watershed Monitoring occurred in 2011 not 2014 and the assessments were completed in 2013. Seems the short-term goals in this section are not accurate. Looks like they were put under the wrong planning region. Corey probably has specific information on this. Just seems like the reduce peak flows and increase base flows should be under the Moose Rive and Mud River planning regions, not the Lower Thief River and Middle Thief River. Maybe a goal to get more info/data to determine what goals should be if we don't have enough data to specify percentages now.	Y	Will check with RLWD and revise
122	MPCA - DO	P. 25 MG 3.2.10	Short-Term Goals: The first goal should be something like: 'Improve the average citizen's awareness of water quality issues related to....' How we do that should be in Section 4.	?	How to measure goal?
123	MPCA - DO	P. 25 MG 3.2.10	Short-Term Goals: The second goal should be just left at 'increase farmer awareness and participation in BMPs, cost share programs and conservation delivery.' Again, how we get there should be in Section 4.	?	How to measure goal?

124	MPCA - DO	P. 25 MG 3.2.10	Add one goal related to public participation. Maybe something like 'increase public participation in cost-share and/or conservation programs, volunteerism related to water issues, and citizens requesting to be part of water quality improvement efforts.' In section 4 we can list some actions such as field walk overs, BMP demonstrations, surveys, developing interactive displays for events such as water festivals or county fairs, advertising for volunteers to do things such as citizen stream monitoring, participating in a water quality event, or assisting with presenting at a school, etc.	?	Discuss with Advisory Committee
125	MPCA - DO	P. 26 3.2.11	I don't understand this one. The title has to do with public knowledge and behavior, yet the goals all have to do with gathering more data as water resource professionals. Also, the goals all look more like actions than goals. For example, do we want to increase our baseline data on groundwater quantity? That should be our goal. Collecting 10 years of groundwater level monitoring data should be an action towards that goal in Section 4.	N	Public Knowledge of and Behavior Related to Water Resources is the overarching Resource Category. The "public" component is addressed by MG 3.2.10. The other component falling under this resource category is to enhance knowledge of baseline conditions, which is addressed through this goal. Additionally, this goal is meant to increase baseline knowledge of these resources. Though it does read like an action, the goal is written in a way to make it measurable.

126	MPCA - DO	P. 30 MG 3.2.14	What is the current compliance rates for septic systems and feedlots? If those are known maybe a goal can be to increase compliance by a certain percentage. If not, maybe a goal can be to determine compliance rates. This probably doesn't need to be done for septics, but maybe for feedlots (most likely there are feedlots out there that are not registered that should be).	Y	Will revise based on input from SWCDs
127	BWSR - MJF	P. 21-22 MG 3.2.6	Set goal around... Before establishing a drainage project, the drainage authority, in consultation with the SWCD where the project is located, will consider the other goals identified in this plan to manage the drainage system for multiple purposes including protecting and improving water quality, reducing erosion and sedimentation, and reducing downstream peak flows and flooding, while providing adequate drainage system capacity.	?	
128	BWSR- MJF	P. 21-22 MG 3.2.6	Set goal around.... A review of available literature indicates most Red River Basin crops can tolerate standing water for a period of 24 to 48 hours (Attachment A). The goal of the design guidance is remove backwater from intensively farmed land over a period of about 24 hours following a 10-year 24-hour summer rainfall event. The primary objectives of the design guidance include: <ul style="list-style-type: none"> • Remove excess water from a field before it causes extensive crop damage. • Minimize the potential for damages to roads • Prevent overflow onto lands in ways likely to cause frequent and severe erosion of cultivated soil. For larger than 10-year rainfall events, crop damages should be expected but, in the interest of fairness, the damages should be distributed as equally as practical throughout the drainage system.	?	
129	BWSR - HV	Add to Comment 127	103E.015 clearly provides for use of outside funding for multipurpose drainage water management	?	

Local Decisions Needed for the Thief River Watershed 1W1P Prioritize, Target and Measure Application (PTMApp) Implementation Scenario

#	Decision Point	Decision	Implications	Thief River 1W1P Recommendation
1	Run PTMApp or Implementation Scenario	Method used to estimate practice costs. Options include the use of annual life cycle cost, EQIP cost, or some other cost.	Costs can represent the “cost” share or total cost. For example, EQIP is the government cost share.	Use INRS 2016 estimated annual life cycle costs. Better identifies the “true” cost. Requires in some cases a representative cost be identified for a group of similar practices.
2	Implementation Scenario	How to use planning regions within the watershed for the purposes of developing the Implementation Scenario.	In the Thief River plan measurable goals, load reduction goals will be established for each planning region. The types, numbers, and processes for selecting conservation practices can vary across planning regions. The use of planning regions allows more “tailoring” of the plan regionally.	Recommend spreading practices out according to area in each planning region.
3	Implementation Scenario	Which PTMApp treatment groups to include in the Implementation Scenario. The primary reason for eliminating one or more treatment groups could be a low likelihood of use as a conservation practice. (For example, in the past, infiltration practices have not been considered because it is unlikely they will use it).	Primarily affects the shape of the cost-effectiveness curves and potentially the estimated ability to achieve load reduction goals using structural conservation practices.	Include all PTMApp treatment groups and evaluate the preliminary results for modification of the approach prior to final plan assembly. A decision can be made once the cost-effectiveness curves are developed.
4	Implementation Scenario	Percent annual average load reduction used to establish the water quality goals for the Implementation Scenario.	Affects the number and types of practices selected as “best.”	Recommend using sediment and total phosphorus load reduction goals for each planning region, as defined in the plan measurable goals.
5	Implementation Scenario	The spatial scale for the load goal and selecting the most cost-effective practices. Options include edge of field (flowline), catchment outlet, first downstream priority resource point, 12-digit HUC, 10-digit-HUC or 8-digit HUC.	The decision reflects the spatial scale for application of the load reduction goals. (Note: rarely is this identified from a policy perspective). For example, will the ability of the proposed BMPs to achieve the sediment	Recommend setting goals at the HUC12s within each planning region to better distribute practices within each planning region.

Local Decisions Needed for the Thief River Watershed 1W1P Prioritize, Target and Measure Application (PTMApp) Implementation Scenario

#	Decision Point	Decision	Implications	Thief River 1W1P Recommendation
			<p>and TP load reduction goal be assessed at the field edge or some other spatial scale?</p> <p>This decision also affects which BMPs are “selected” as best. The “best” practice locations tend to be near the location where the load reduction is desired. Using the edge of field will tend to “spread” practices more evenly across the landscape. Use of a planning region outlet will tend to concentrate the practices upstream of that location.</p>	
6	Implementation Scenario	<p>Parameters and method used to “rank” the “best” conservation practices. Options are one or more of the following: total phosphorus, total nitrogen, and sediment.</p> <p>These parameters can also be weighted when selecting the practices (e.g., equal weight for total phosphorus and sediment reduction).</p>	<p>The “best” conservation practices will differ depending on which parameters are used, and whether they are weighted.</p> <p>Weighting can exclude some practices that largely remove a single parameter (e.g., woodchip bioreactors tend to remove nitrate-N but not P).</p>	Recommend using sediment and TP to rank the “best” practices, using resource goals to guide weighting.
7	Implementation Scenario	<p>Process for identifying the number of practices which will be included in the Implementation Scenario. Options include:</p> <ol style="list-style-type: none"> 1) achieving the water quality reduction goal (load); 2) dollars available to implement; 3) capacity to implement; and 4) reasonable practice cost range. 	Decision ultimately affects the “cost(s)” of the Implementation Scenario and ability to achieve the load reduction goals.	<p>Recommend beginning by number of practices needed to meet load reduction goals set at HUC12 outlets. These may be the practices run through treatment trains (see decision point #10).</p> <p>Then, use efficiency frontier curves for load reduction goals applied at the 10-digit HUC scale (Planning</p>

Local Decisions Needed for the Thief River Watershed 1W1P Prioritize, Target and Measure Application (PTMApp) Implementation Scenario

#	Decision Point	Decision	Implications	Thief River 1W1P Recommendation
				Regions) to estimate the implementation cost of achieving sediment and TP goals with structural practices.
8	Implementation Scenario	The target for the percentage of cropland acres placed into non-structural practices (cover crop, conservation tillage, permanent cover) and whether the percentage should vary across the watershed (e.g., by planning region).	<p>Experience shows that the source reduction practices tend to be most cost-effective. Affects the “mix” of non-structural and structural practices within the Implementation Scenario.</p> <p>Although these are often most cost-effective, they can also be hardest to sell landowners on, so you may not want to put all eggs in this basket.</p>	Recommend evaluating after rural stewardship analysis (and measurable goal) has been set.
10	Implementation Scenario	Analysis of combined water quality benefits of the conservation practices (i.e., run treatment trains).	The cost-effectiveness curves assume the conservation practices function independently, so the reduction in load is overestimated.	Run treatment trains to better reflect effectiveness of the combined practices. Summarize cumulative benefits in the Plan and include treatment train results in a separate deliverable (or Plan appendix / addendum).