

Appendix L

PTMApp Local Decisions and Practice Benefits



Prioritize, Target, and Measure Application (PTMApp) Implementation Scenario Local Decisions

Decision	Implications	LOCAL DECISION
1. Criteria used to further screen practices.	Criteria are used to further screen practices considered technically feasible for implementation but are not practicable to implement.	Screen practices as shown in Table 1.
2. 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.	Primarily affects the estimated ability to achieve load reduction goals using structural conservation practices.	Include all PTMApp treatment groups
3. 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.	Double EQIP Costs; Annualize soil management costs.
4. How to use planning regions within the watershed for the purposes of developing the Implementation Scenario.	Load reduction goals have been 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.	Spreading practices out according weighted average of area, sediment, and phosphorus contribution.
5. 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, TP, and TN load reduction goal be assessed at the field edge or some other spatial scale? 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.	Group will use priority resource points, representing planning region outlets to set goals. The benefits of practices will be summarized both at the planning region outlet and the edge of the field. The “best” practices will be selected based on the highest load reduction at the edge of the field (spreads out practices within the planning region). Practices for the Projects and Practices Implementation Program will be capped at \$250,000.



Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Decision	Implications	LOCAL DECISION
6. Parameters and method used to rank the “best” conservation practices. Options are one or more of the following: total phosphorus, total nitrogen, and sediment. These parameters can also be weighted when selecting the practices (e.g., equal weight for total phosphorus and total nitrogen reduction).	The “best” conservation practices will differ depending on which parameters are used, and whether they are weighted. Weighting can exclude some practices that largely remove a single parameter (e.g., woodchip bioreactors tend to remove nitrate-N but not P).	For all planning regions, Sediment 75% and TP 25% of rank.
7. Process for identifying the number of practices which will be included in the Implementation Scenario. Options include achieving the water quality reduction goal (load); dollars available to implement; capacity to implement; and reasonable practice cost range.	Decision ultimately affects the “cost(s)” of the Implementation Scenario and ability to achieve the load reduction goals.	Number of practices that can be afforded under the “baseline” Funding Level 1.
8. Types of practices selected for implementation scenario.	Experience shows that sometimes, practices are most cost-effective that do not reflect what types of practices are realistic for voluntary implementation.	Set fixed percentages based on budgets and types of practices practical for voluntary implementation.
9. 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).	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.	Set fixed percentages based on budgets and types of practices practical for voluntary implementation.
10. The budget for practices that are not included within PTMApp.	Some practices are not analyzed within PTMApp, but are still included in the draft targeted implementation schedule. Examples: Rental tillage equipment; easements; livestock access; field wind breaks; levees; ring dikes)	Set fixed percentages based on budgets and types of practices practical for voluntary implementation.



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Table 1: Screening criteria recommended for the BdS-Mustinka 1W1P:

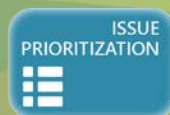
Table 1. Criteria used for screening PTMApp-Desktop BMP data.

Group Code	Treatment Group	Total BMPs Generated	Remove BMPs with little runoff volume delivery or constituent removal efficiency				Remove BMPs with low removal magnitudes at the edge-of-field			BMPs Not Meeting Criteria	BMPs Remaining After Criteria Applied	% of Original BMPs Remaining
			Delivery and Efficiency Selection Criteria (value must be greater than)				Reduction Magnitude Selection Criteria (value must be greater than)					
			Percent of, 2-Year, 24-hour event treated	Sediment Reduction, %	TP Reduction*, %	TN Reduction*, %	Sediment Reduction @ Catchment Outlet, tons/year	TP Reduction @ Catchment Outlet, tons/year	TN Reduction @ Catchment Outlet, tons/year			
1	Storage		50%	10%	10%	10%	0.25	0.25	0.5			
2	Filtration		50%	10%	10%	10%	0.25	0.25	0.5			
3	Biofiltration		50%	10%	10%	10%	0.25	0.25	0.5			
4	Infiltration		50%	10%	10%	10%	0.25	0.25	0.5			
5	Protection						0.25	0.25	0.5			
6	Source reduction						0.25	0.25	1			

* For the filtration treatment group, the upper quartile reduction was used. All other treatment groups used the median treatment efficiency.



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

PTMApp Implementation Scenario Practice Benefits

Lake Traverse & Bois de Sioux River

The table below shows the PTMApp results for the Lake Traverse & Bois de Sioux River Planning Region.

- Funding Level 1: Existing dollars
- Funding Level 2: Existing dollars + additional Watershed-Based Implementation Funding

BMP Treatment Group	Funding Level	Number of Practices	Total 10-Year Cost (\$)	Values at Catchment Outlet			Values at Planning Region Outlet			Water storage (ac-ft)	Surface area (acres)
				Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)		
Storage	1	1	\$ 50,097	30	11	345	18	10	300	6	3
Filtration	1	518	\$ 1,436,248	1,446	350	9,585	165	99	2,699	0	1,515
Protection	1	1	\$ 31,419	23	3	45	2	1	19	0	7
Source Reduction	1	-	\$ -	121	32	252	27	20	168	0	228
Level 1 Total		522	\$ 1,517,763	1,620	396	10,226	211	130	3,186	6	1,752
Storage	2	2	\$ 108,324	59	23	688	21	16	490	12	5
Filtration	2	530	\$ 1,472,820	1,465	356	9,748	168	101	2,771	0	1,553
Protection	2	2	\$ 116,661	66	10	183	13	6	117	0	27
Source Reduction	2	3	\$ -	165	47	380	31	26	224	0	343
Level 2 Total		537	\$ 1,697,805	1,756	436	10,999	234	149	3,602	12	1,929



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Rabbit River

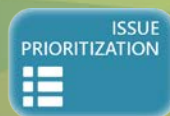
The table below shows the PTMApp results for the Rabbit River Planning Region.

- Funding Level 1: Existing dollars
- Funding Level 2: Existing dollars + additional Watershed-Based Implementation Funding

BMP Treatment Group	Funding Level	Number of Practices	Total 10-Year Cost (\$)	Values at Catchment Outlet			Values at Planning Region Outlet			Water storage (ac-ft)	Surface area (acres)
				Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)		
Storage	1	2	\$ 251,041	134	32	932	10	12	348	29	15
Filtration	1	569	\$ 1,533,853	2,143	498	13,357	150	103	2,781	0	1,618
Source Reduction	1	-	\$ -	175	49	395	8	18	151	0	356
Level 1 Total		574	\$ 1,784,894	2,452	579	14,684	168	133	3,280	29	1,989
Storage	2	4	\$ 450,954	235	77	2,252	27	40	1,169	52	27
Filtration	2	609	\$ 1,631,810	2,220	524	14,091	158	109	2,954	0	1,721
Protection	2	3	\$ 192,836	226	16	305	29	9	170	0	45
Source Reduction	2	-	\$ -	381	97	774	12	29	261	0	698
Level 2 Total		622	\$ 2,275,600	3,063	714	17,423	226	188	4,553	52	2,491



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Upper Mustinka River

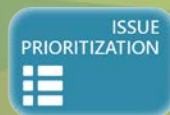
The table below shows the PTMApp results for the Upper Mustinka River Planning Region.

- Funding Level 1: Existing dollars
- Funding Level 2: Existing dollars + additional Watershed-Based Implementation Funding

BMP Treatment Group	Funding Level	Number of Practices	Total 10-Year Cost (\$)	Values at Catchment Outlet			Values at Planning Region Outlet			Water storage (ac-ft)	Surface area (acres)
				Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)		
Storage	1	4	\$ 438,518	719	88	2,537	96	35	1,265	50	16
Filtration	1	260	\$ 1,143,004	1,507	167	4,701	48	10	286	0	1,206
Source Reduction	1	-	\$ -	407	50	401	30	13	132	0	361
Level 1 Total		267	\$ 1,581,522	2,634	305	7,639	174	58	1,682	50	1,582
Storage	2	9	\$ 703,428	1,238	153	4,351	199	68	2,219	81	24
Filtration	2	284	\$ 1,279,238	1,580	178	5,000	50	10	299	0	1,349
Protection	2	3	\$ 183,558	118	15	296	33	8	176	0	43
Source Reduction	2	-	\$ -	766	92	738	63	25	256	0	665
Level 2 Total		302	\$ 2,166,224	3,703	438	10,385	346	111	2,951	81	2,081



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Lower Mustinka and Twelvemile Creek

The table below shows the PTMApp results for the Lower Mustinka and Twelvemile Creek Planning Region.

- Funding Level 1: Existing dollars
- Funding Level 2: Existing dollars + additional Watershed-Based Implementation Funding

BMP Treatment Group	Funding Level	Number of Practices	Total Cost (\$)	Values at Catchment Outlet			Values at Planning Region Outlet			Water storage (ac-ft)	Surface area (acres)
				Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)		
Storage	1	2	\$ 196,838	115	38	1,005	66	33	859	23	73
Filtration	1	675	\$ 1,579,387	2,074	512	13,920	371	176	4,800	0	1,666
Protection	1	1	\$ 32,341	16	4	46	9	3	39	0	8
Source Reduction	1	-	\$ -	39	17	137	13	13	102	0	124
Level 1 Total		679	\$ 1,808,567	2,245	571	15,109	459	224	5,801	23	1,870
Storage	2	3	\$ 265,394	159	48	1,177	107	42	1,028	30	73
Filtration	2	692	\$ 1,614,800	2,106	521	14,176	378	180	4,918	0	1,703
Protection	2	2	\$ 124,542	61	11	195	41	10	175	0	29
Source Reduction	2	-	\$ -	80	33	264	21	23	186	0	238
Level 2 Total		699	\$ 2,004,736	2,405	613	15,811	547	255	6,307	30	2,043



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS

Bois de Sioux – Mustinka

Comprehensive Watershed Management Plan

Fivemile and Twelvemile Creek Headwaters

The table below shows the PTMApp results for the Fivemile and Twelvemile Creek Headwaters Planning Region.

- Funding Level 1: Existing dollars
- Funding Level 2: Existing dollars + additional Watershed-Based Implementation Funding

BMP Treatment Group	Funding Level	Number of Practices	Total 10-Year Cost (\$)	Values at Catchment Outlet			Values at Planning Region Outlet			Water storage (ac-ft)	Surface area (acres)
				Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)	Sediment Reduction (tons/yr.)	TP Reduction (lbs./yr.)	TN Reduction (lbs./yr.)		
Storage	1	2	\$ 236,850	156	74	1,972	27	27	690	27	12
Filtration		780	\$ 2,536,206	2,726	584	16,126	262	94	2,601	0	2,675
Source Reduction		-	\$ -	91	13	105	11	4	46	0	94
Level 1 Total		783	\$ 2,773,057	2,973	671	18,203	300	125	3,337	27	2,781
Storage	2	4	\$ 429,156	334	99	2,596	34	31	854	49	16
Filtration		836	\$ 2,719,129	2,852	615	16,984	277	101	2,777	0	2,868
Protection		3	\$ 191,281	96	17	298	43	13	237	0	45
Source Reduction		-	\$ -	329	52	419	29	14	157	0	377
Level 2 Total		847	\$ 3,339,566	3,611	782	20,296	382	158	4,025	49	3,306



INTRO



ISSUE
PRIORITIZATION



MEASURABLE
GOALS



TARGETED
IMPLEMENTATION



IMPLEMENTATION
PROGRAMS