Natural Resource Protection and Stewardship System Framework
Technical Advisory Committee
Thursday, April 4, 2019
Washington County Gov't Center, Room 5599
14949 62nd St. N., Stillwater, MN
9 a.m. to 12 noon

FRESHWATER

Special thanks to Jen Kader of Freshwater for pro bono agenda preparation and facilitation.

Agenda

1. **Welcome and introductions**

2. **Presentation**
   A. Framing
      a) Plan Purpose — June Mathiowetz, Washington County
      b) Integrating Plans — Jay Riggs, Washington Conservation District (WCD)
      c) Principles — Dan MacSwain, Washington County (**Attach. A**)
      d) Review of Prior TAC Feedback — Tara Kelly, WCD (**Attach. B**–Most Urgent Issues)

   B. Strategies/Implementation Steps Overview — June Mathiowetz, Jay Riggs, Tara Kelly, Dan McSwain (**Attach. C**-Strategies/Implementation Steps)

3. **Interactive activity: Modified Gallery Walk** — Jen Kader, Freshwater
   A. Break into stations
   B. Review "Strategy" and its related "Implementation Steps" on poster
   C. Record responses to the following:
      a) What do you like?
      b) What do you dislike?
      c) What's missing?
   D. Share written feedback with your group and place Post It Notes on Flip Chart
   E. Discuss and summarize the three most important points on large sheet
   F. Groups rotate and repeat exercise
   G. Review all the new Post It Note feedback that has been left at your original station
   H. Discuss, summarize on Flip Chart and prepare to report outcomes to the larger group

4. **Prioritization exercise and Break**
   A. Each person selects top 3 implementation steps for each strategy
   B. Review added feedback at other stations if interested
   C. Restrooms/food/water

5. **Large group report out**
   A. Outcomes from each of the stations
   B. Anything missing?

6. **Next steps** — June Mathiowetz
   - Update on mapping and next TAC discussion — Aaron DeRusha, WCD (**Attach. D**-Map Layers)

Principles of Natural Resource Protection and Management

1. *Attributes and Importance of Natural Resources*

    1.1. Natural resources and natural communities exist as **complex, interrelated, dynamic systems**.

    1.2. Ecosystem services provided by interactions between organisms and their environment are **fundamental to life on earth**.

    1.3. **Biodiversity** is an important measure of site quality, community resilience and biotic potential.

    1.4. **Natural resources** are essential for maintaining healthy communities.

2. *Protection and Stewardship of Natural Resources*

    2.1. Protection of **larger, contiguous and connected habitat areas** provide more ecological success than many smaller or linear areas.

    2.2. Strategic natural resource protection and **careful, science-based stewardship** are necessary for ecosystem health.

    2.3. Protection of natural resources is **a shared responsibility** – government, industry, business, communities and individuals.

    2.4. **Integrating working lands** thoughtfully into stewardship activities improves the ecosystem health and services they provide to the community.

    2.5. Protection and enhancement of natural resources must be **integral part** of all public or private development or improvement projects.

ATTACHMENT B - FEEDBACK RECEIVED AT SECOND TAC MEETING		
Most Urgent Natural Resource Need Facing the County	**Action steps**	**Related Strategies**
Building internal County and external capacity to implement a future plan	Determine County role and increase dedicated staff	2, 11, 13,14
	Build consensus and participation in plan and implementation	3, 4, 5, 6, 11, 15,16, 17, 18, 19, 20, 21, 22
Funding	Develop this NRSF plan	IN PROCESS
	Develop public engagement and partnerships	2, 13,14
Capacity building	Develop buy-in from local government units	11,18
	Identify all funding sources and make sure this plan reflects funding sources' goals	IN PROCESS
	Write a giant NRSF with clearly defined goals, strategies, implementation steps and measurements	IN PROCESS
Protection of ag land and conversion of this land to perennial crops…including conservation grazing, prairie for energy production, etc.	Ag land easement program	3, 4, 16
	Work on a MN Farm Bill that provides perennial crop incentives and perennial crop insurance	20
Decompartmentalize water, habitat, biophysical, social systems	Invite and involve those affected by environment - but not directly environmental groups - to contribute to this process	IN PROCESS - Will be part of plan outreach and public comment period
	Establish values (including equity) to frame action items	Under discussion
Land protection either by ownership or easement	How: Develop goals of desired amount (acres) to protect by 2025, 2030, 2040, etc. and how much it might cost.	IN PROCESS - Will be discussed as part of developing the "Measures" of this plan
Funding for staff and projects	Hire dedicated natural resource staff - via county departments and WCD	2, 11, 13,14
	Goals for outreach and monitoring	IN PROCESS - Will be discussed as part of developing the "Measures" of this plan
Protection of natural resources from human impacts - including development and climate change	Community engagement - local/city governments	11, 18, 20
	Strong program to protect natural resources through acquisition	1, 2, 3, 4, 5, 6, 7, 10, 11, 12
Competent and proactive protection from climate change impacts	Work collaboratively to steer county and local governments toward a rapid transition to a renewable energy system (organizationally and communitywide) to protect the state of our natural resources.	11, 18, 20
	Protect and better manage as much land as rapidly as possible so we are as resilient as possible to extreme weather conditions	ALL
Multiple benefit (ecosystem service) protection	Policy, public engagement and financial resources to take protection action	ALL
	Collaborative partnerships to secure public support → action, necessary politics, and secure and leverage funds necessary	11, 20, 21
Overall land degradation on public and private	Communication to stakeholders	20, 21
	Unique options for funding	2, 13, 14
Plan should address County-managed areas while also recognizing and identifying opportunities on private lands		20, 21
Protecting high quality resources (e.g. lakes and wetlands in northern Washington County	Targeted, strategic permanent conservation easements	1,3,4,5,6
Groundwater → Drinking water	Strategic, targeted restrictive zoning/land use	7,8
Water → conservation AND quality	Stricter mandates	11, 12, 20
	Real economic/financial incentives/drivers	2, 14, 11, 18
Limit development of ag lands to ensure opportunities for protection/restoration aren't lost permanently	Engage and collaborate with private owners of working lands	3, 4, 16
	How many acres or number of landowner engagements/protection/restoration are sufficient?	IN PROCESS - Will be discussed as part of developing the "Measures" of this plan
Increase connectivity to existing protected areas (particularly east to west) across the county.	Develop parcel ranking for natural resources	IN PROCESS - Will be discussed as part of developing the "Measures" of this plan
	Provide a comprehensive greenway plan; include watershed districts in process	5, 11, 18
	Work with local community managers to carry out resource management and access	11, 18, 19, 20

ATTACHMENT C - DRAFT STRATEGIES AND IMPLEMENTATION STEPS

Please note: Below is a first draft of Strategies and Implementation Steps by the Natural Resources Leadership Team subject to further rounds of edits by staff, the Parks and Open Space Commission, the Planning and Advisory Commission, and the County Board as they discuss policy and budget priorities. The next steps in the development of this document will likely involve developing Tactics and Measurement columns. Feedback and comments can be sent to: june.mathiowetz@co.washington.mn.us

GOAL: Protect, enhance and provide access to public land, water and open space through protection and stewardship.			
	POLICIES	**STRATEGIES**	**IMPLEMENTATION STEPS**
PROTECTION	**Prioritize Investment in Natural Resource Protection**	**Develop and Implement Protection Priorities**	1. Implement the Land and Water Legacy Program.
			2. Develop new funding sources.
			3. Develop and implement a Working Lands Protection Plan.
			4. Develop and implement a Rural Character and Scenic View Protection Plan.
			5. Develop and implement a multi-purpose Regional Greenways Plan.
			6. Develop and implement guidelines for County Park Conservation Areas.
			7. Continue to regulate land uses in shoreland areas, and along the Mississippi and the St. Croix Rivers.
			8. Continue to support township ordinances allowing residential developments that protect open space, natural areas, shoreland and scenic views.
			9. Implement regular monitoring of all County conservation easements on public and private land.
			10. Develop, implement and update stewardship plans for all publicly owned and protected private lands.
			11. Engage stakeholders to identify priorities and next steps.
			12. Develop policies regarding public access and protection of at-risk or fragile natural resources.
STEWARDSHIP	**Prioritize Investment in Natural Resource Stewardship**	**Develop and Implement Stewardship Priorities**	13. Develop baseline funding for increased stewardship.
			14. Pursue supplemental funding for implementation of stewardship plans.
			15. Develop, implement and update stewardship plans for all parks.
			16. Develop and implement a Working Lands Stewardship Program.
			17. Develop and support green infrastructure practices to treat stormwater and protect natural hydrologic systems.
			18. Engage stakeholders in developing and implementing stewardship opportunities.
			19. Develop and implement a comprehensive Invasive Species Management Plan as part of the Cooperative Weed Management Area program.
			20. Create collaboratives focusing on Land and Water Legacy Priority Areas.
			21. Develop partnerships for stewardship across public and private property boundaries.
			22. Develop and implement an outreach program as part of the Cooperative Weed Management Area program.

ATTACHMENT D FROM AARON DERUSHA - MAPPING

4/4/2019

Washington County NRPMSF Parcel Ranking Shapefile- Weighting

Through feedback from the TAC, WCD staff, and other interested parties, it seems the best way to address the priorities of the NRPMSF is a modifiable database or shapefile that can be tailored to identify and implement specific goals at a parcel level scale (protection of rural land, restoration of degraded land, etc.). Additionally, this single shapefile, along with an operating document, could be distributed to conservation partners throughout the county for their own purposes, such as writing grants or protecting lands in their areas of influence. Using these ideas for guidance, a draft of a single shapefile has been developed for the county, described below in further detail.

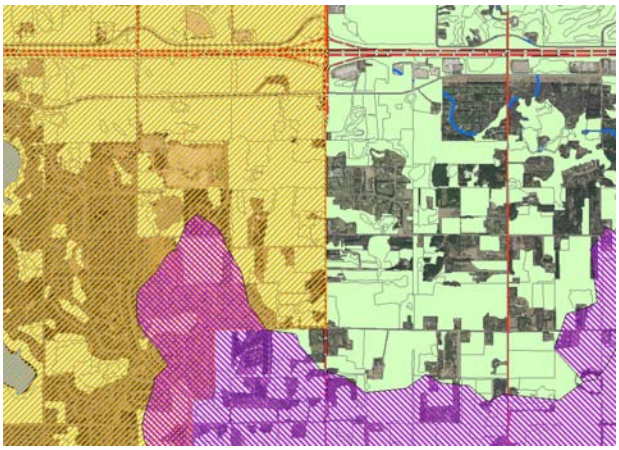
Incorporated Layers

The layers used to develop this shapefile have been presented to the TAC in previous mapping efforts. All layers used and a description of each layer can be found in Appendix A. It is important to note that some layers include other layers. For example, Native Habitats includes Native Forests, Grasslands, Wetlands, and Degraded Forests, Grasslands, and Wetlands because they are all native land covers. This gives the flexibility of being more general using an umbrella layer (Native Habitats), or assigning more specific weights using targeted layers (Native Wetlands or Degraded Grasslands) in future analyses. Additional layers and information can easily be added if they are deemed useful.

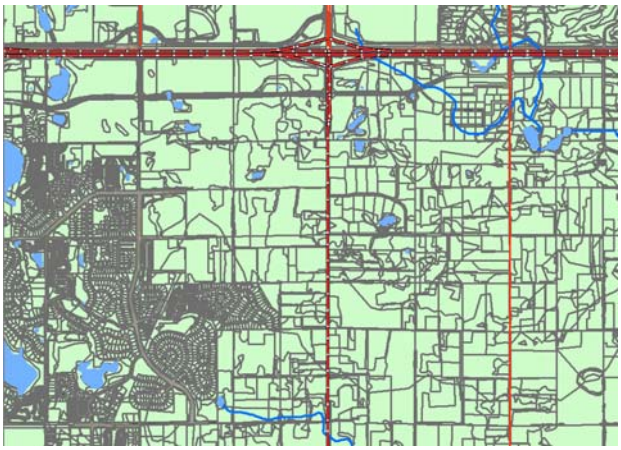
Development of Data

- Identify and create layers for land covers from updated MLCCS data ideal for protection or restoration, i.e. high quality native communities, non-native communities, etc.
- Identify and create a layer for undeveloped corridors which connect habitats to one another as stepping stones
- Identify other layers that influence the addition to or loss of these areas, and enhance the investment of protection or restoration, i.e. sensitive groundwater, impaired drainages, development boundaries (MUSA)
- For each layer, add a presence/absence field to indicate if a layer exists at a given point and populate with a “1” for all records in each layer, a weight field, and acreage field, delete unnecessary fields
- Merge land cover layers and connectivity corridors layer together
- Union merged land cover with MUSA, Priority Catchments, Sensitive Groundwater, Pollinator Sweet Spots, and Parcel data
- Dissolve shapefile on Parcel PIN to recombine fragmented layers within parcel boundaries
- Join table of Parcels to PIN to repopulate shapefile with landowner information

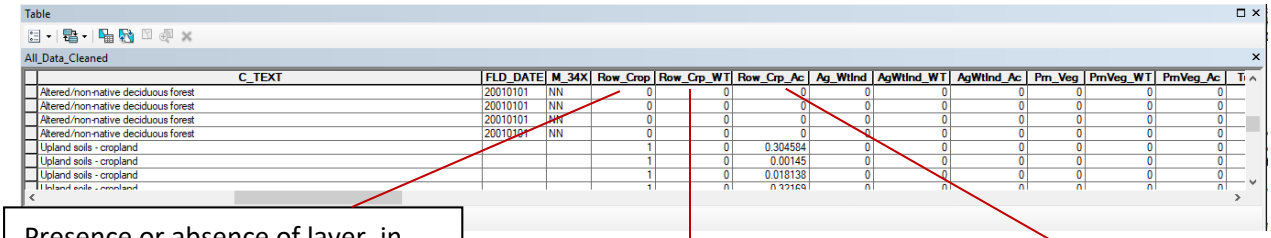
- Add field named “SUM” to use for overlay analysis



Relevant land covers merged together (green), MUSA boundary (orange hatching), and priority catchments (purple hatching) overlayed before the Union with parcel data. Note that parcels are not illustrated here.



Land covers, MUSA boundary, and priority catchments after the Union operation, combined into a single file. Note the parcels are broken into fragments depending on how many land cover polygons occurred within them, whether or not they were within the MUSA boundary, and if they were within a priority catchment.



Presence or absence of layer, in this field 1 indicates row crops are present, 0 indicates no row crops.

Weight field for row crops.

Acres of coverage for each polygon where row crops are present.

Overlays

- Once weights have been determined for each layer relevant to the analysis being performed, select records for each layer populated with a “1”
- Assign the chosen weight of a layer for all records with a “1” for that layer
- Add all layers using field calculator on the “SUM” field at the end of the table
- Symbolize the map using ranges of values on the “SUM” field using a green to red “heat map” approach
- Export the shapefile to create a new shapefile to preserve the results, and use field calculator to set the “SUM” field to 0 before starting a new overlay analysis
- An example of the final attribute table with all fields can be seen in Appendix B

Next Steps

The TAC Leadership team expects to have three maps to accompany the final NRPMSF document; Protection, Stewardship, and Working Lands.

- **Protection**: This map will be an update to the 2010 Land and Water Legacy Program (LWLP) model, which identified priority protection areas throughout the county. New habitats and additional corridor, groundwater, and administrative data will be considered and added to the model scores of the previous analysis to update priority areas with current data.
- **Stewardship**: This map will consider degraded, non-native, and cultivated land covers, and incorporate their relation to habitat corridors, and surface and groundwater resources. The parcels identified will be targeted for restoration or enhancement of land cover to higher quality native habitats.
- **Working Lands**: This map will identify lands that are "working lands" (in crops or grazed) that can be preserved for the rural character of the county, or be targeted for engagement with landowners to adopt practices like conservation grazing. The analysis will take into account proximity and potential impacts to water resources and corridors. For example, row crops may be preserved for rural character outside impaired drainages or sensitive groundwater areas, and row crops within those areas may be engaged to adopt conservation grazing or perennial cover crops.

Each map will be a "heat map" using a green to red color scheme depending on the sum of weights, or score, for each parcel. Low scoring parcels will appear green, and high scoring parcels where protection or enhancement should be implemented will appear red. Each map will have parcels with easements or parcels that are government owned highlighted to show the lands that will be easiest to implement the NRPMSF on.

A summary of the layers included and justification for inclusion for each of the three maps can be found in Appendix C. As the Protection map will be an update to the LWLP analysis, a similar weighting scheme should be employed so that the importance of new layers is comparable to the method used to calculate scores in the original analysis. A summary of the LWLP weighting scheme can be seen in Appendix D.

The next and one of the most important steps is to assign weight to each layer in each map. Your input is highly desired for this next step in the process. Please consider the layers and descriptions in Appendix A carefully, and how they relate to one another in each map as

described in Appendix C. The TAC Leadership will open the weighting process to the TAC for as much input as possible through a comment period. In the interest of time and organization, the final weighting process will likely be an online poll open to all TAC members to assign weight to each layer in each map, with comments received taken into consideration.

Benefits

- The shapefile can be used to create heat maps to show priority areas based on a variety of goals
- Tailorable to specific strategies (protection vs. stewardship)
- Can be distributed to partner agencies to be used for their own goals
- Can be manipulated with a Basic ArcGIS license, does not require Spatial Analyst extension

Limitations

- User needs an intermediate knowledge of ArcGIS to effectively manipulate the data
- Attention to detail is important- selections must be cleared between each calculation, and the "SUM" field must be reset to 0 after each calculation
- Presence/absence fields could be accidently be overwritten by inadvertently using field calculator on the wrong field. It is important these fields are never modified
- Somewhat difficult to update with new land cover data and parcel data

Appendix A. Layer descriptions.

Layer Group	Layer Number	Layer Name	Layer Includes Layers*	Description
Native Natural Land Covers	1	Native Habitats	Fully Includes: 2, 3, 4, 5, 6, 7, 8	All habitats and habitat qualities where native communities are present or likely to occur. Excludes all non native dominated descriptions. Derived from MLCCS.
	2	Highest Quality Habitats	Partially Includes: 3, 4, 5	All habitats where native communities are present and have been field verified with a plant community ranking (Scale A-F, NN, NA) of A, AB, or B. Excludes all non native dominated descriptions. Derived from MLCCS.
	3	Native Forests	Fully Includes: 2, 6 Partially Includes: 2	All native forest types and habitat qualities including forested wetlands and oak savannas. Exlcudes all non native dominated descriptions. Derived from MLCCS.
	4	Native Grasslands	Fully Includes: 7 Partially Includes: 2	All native grasslands and habitat qualities including oak savannas and wet meadows/prairies. Excludes all non native dominated descriptions. Derived from MLCCS.
	5	Native Wetlands	Fully Includes: 8 Partially Includes: 2	All native wetlands and habitat qualities including forested wetlands and wet grasslands. Excludes all non native dominated habitats with wet hydrology. Derived from MLCCS.
	6	Degraded Forests	Unique	Native forests with a native plant community rank (Scale A-F, NN, NA) of CD, D, F, NA, and NN to isolate restorable forests. Derived from MLCCS.
	7	Degraded Grasslands	Unique	Native grasslands with a native plant community rank (Scale A-F, NN, NA) of CD, D, F, NA, and NN to isolate restorable grasslands. Derived from MLCCS.
	8	Degraded Wetlands	Unique	Native wetlands with a native plant community rank (Scale A-F, NN, NA) of CD, D, F, NA, and NN to isolate restorable wetlands. Derived from MLCCS.
Non Native Natural Land Covers	9	Non Native Forests	Unique	All non native dominated forest types including non native forested wetlands. Derived from MLCCS.
	10	Non Native Grasslands	Unique	Non-native dominated grasslands which contain little to no native species to isolate restorable grasslands. Derived from MLCCS.
	11	Non Native Wetlands	Unique	All non native dominated wetlands including non native forested wetlands and grasslands. Derived from MLCCS.
Cultivated Land Covers	12	Cultivated Wetlands	Partially Includes: 13, 14, 15	Cropland and planted grasses with a hydric soils component to isolate suspected wetlands converted to farmland.
	13	Row Cropland	Partially Includes: 12	All row croplands with upland and hydric soils. Derived from MLCCS.
	14	Planted Perennial Vegetation	Partially Includes: 12, 15	Lands with planted long grasses, fallow fields, etc. where conditions are prime to engage landowners for adoption of practices like conservation grazing to preserve rural character and protect water resources. Derived from MLCCS.
	15	Turf Grass	Partially Includes: 12, 14	Short grasses with and without sparse trees and up to 10% impervious surfaces to isolate maintained grasses. Derived from MLCCS.
Additional Data	16	Pollinator Sweet Spots	Unique	Areas to restore pollinator habitat to link existing habitats to one another that will do the best job of creating corridors. Derived from BWSR model.
	17	Sensitive Groundwater	Unique	Areas of karst and high sensitivity of surficial aquifers to groundwater pollution. Derived from the Minnesota Hydrogeologic Atlas.
	18	Priority Catchments	Unique	Catchments which border or contain waters listed as impaired by the MPCA for nutrients or chlorides. Catchments with streams discharging to impaired waters were included from the discharge point up to the first major water body or wetland which would provide deposition or uptake of sediment and nutrients. Derived from MNDNR Catchments.
	19	MUSA 2030	Unique	Extent of the 2030 Metropolitan Urban Service Area. Land within this boundary is at a higher risk of development as it would be serviced by centralized waste water treatment and other urban services.
	20	Connectivity Corridors	Unique	Undeveloped (less than 4% impervious) MLCCS landcover polygons ideal for protection or restoration to link core habitats to one another using a "stepping stone" approach. Polygons greater than 5 acres from the Native Habitats layer and the LWLP Priority Areas were merged together to be treated as "core habitats", then buffered outward one quarter mile. Overlapping buffer areas were extracted and used to identify restoreable undeveloped lands, including agricultural lands.
	21	Eradicate Species	Unique	Point data describing locations of prohibited noxious weeds targeted for eradication by the Minnesota Department of Agriculture.

*This column describes layers that are inclusive of other layers. For example, Native Habitats contains Native Forests, Grasslands, and Wetlands, and Degraded Forests, Grasslands, and Wetlands because they are all native land covers. This gives the option of being more general using an umbrella layer, or more specific using targeted land covers during the weighting process.

Appendix B. NRPMSF shapefile example final attribute table.

Field Name	Field Type	Field Values	Layer Number	Field Description
FID	Number			Holds a default ID number for each record.
Sens_GW	Number	1, 0	17	Sensitive groundwater. 1=present, 0=not present
SensGW_WT	Number		17	Sensitive groundwater weight.
SensGW_Ac	Number		17	Acres of sensitive groundwater.
P_Catch	Number	1, 0	18	Priority catchment to an impaired water. 1=present, 0=not present
P_Cat_WT	Number		18	Priority catchment weight.
P_Cat_Ac	Number		18	Acres of priority catchment.
Row_Crop	Number	1, 0	13	Row cropland. 1=present, 0=not present
Row_Crp_WT	Number		13	Row crop weight.
Row_Crp_Ac	Number		13	Acres of row crop
Ag_Wtlnd	Number	1, 0	12	Farmed wetland. 1=present, 0=not present
AgWtlnd_WT	Number		12	Farmed wetland weight.
AgWtlnd_Ac	Number		12	Acres of farmed wetland.
Prn_Veg	Number	1, 0	14	Planted perennial vegetation. 1=present, 0=not present
PrnVeg_WT	Number		14	Planted perennial vegetation weight.
PrnVeg_Ac	Number		14	Acres of planted perennial vegetation.
Turf_Grass	Number	1, 0	15	Turf grass. 1=present, 0=not present
Turf_WT	Number		15	Turf grass weight.
Turf_Ac	Number		15	Acres of turf grass.
Nat_Habt	Number	1, 0	1	Native habitats. 1=present, 0=not present
NatHabt_WT	Number		1	Native habitat weight.
NatHabt_Ac	Number		1	Acres of native habitat.
NatAB	Number	1, 0	2	Highest Quality Habitat, A or B. 1=present, 0=not present.
NatAB_WT	Number		2	Highest Quality Habitat weight.
NatAB_Ac	Number		2	Acres of highest quality habitat.
Nat_Forest	Number	1, 0	3	Native forest. 1=present, 0=not present
Nat_For_WT	Number		3	Native forest weight.
NatFor_Ac	Number		3	Acres of native forest.
Nat_Wtlnd	Number	1, 0	5	Native wetland. 1=present, 0=not present
Na_Wtd_WT	Number		5	Native wetland weight.
Na_Wtd_Ac	Number		5	Acres of native wetland.
Nat_Grslnd	Number	1, 0	4	Native grassland. 1=present, 0=not present
Na_Grs_WT	Number		4	Native grassland weight.
Na_Grs_Ac	Number		4	Acres of native grassland.
Deg_Forest	Number	1, 0	6	Degraded native forest. 1=present, 0=not present
Deg_For_WT	Number		6	Degraded native forest weight.
Deg_For_Ac	Number		6	Acres of degraded native forest.
Deg_Wtlnd	Number	1, 0	8	Degraded native wetland. 1=present, 0=not present
Deg_Wtd_WT	Number		8	Degraded native wetland weight.
Deg_Wtd_Ac	Number		8	Acres of degraded native wetland.
Deg_Grslnd	Number	1, 0	7	Degraded native grassland. 1=present, 0=not present
Deg_Grs_WT	Number		7	Degraded native grassland weight.
Deg_Grs_Ac	Number		7	Acres of degraded native grassland.
NN_Forest	Number	1, 0	9	Non native dominated forest. 1=present, 0=not present
NN_For_WT	Number		9	Non native dominated forest weight.
NN_For_Ac	Number		9	Acres of non native dominated forest.
NN_Wtlnd	Number	1, 0	11	Non native dominated wetland. 1=present, 0=not present
NN_Wtd_WT	Number		11	Non native dominated wetland weight.
NN_Wtd_Ac	Number		11	Acres of non native dominated wetland.
NN_Grslnd	Number	1, 0	10	Non native dominated grassland. 1=present, 0=not present
NN_Grs_WT	Number		10	Non native dominated grassland weight.
NN_Grs_Ac	Number		10	Acres of non native dominated grassland.
Poll_SS	Number	1, 0	16	Pollinator sweet spot. 1=present, 0=not present
PollSS_WT	Number		16	Pollinator sweet spot weight.
PollSS_Ac	Number		16	Acres of pollinator sweet spot.
MUSA	Number	1, 0	19	MUSA boundary. 1=within boundary, 0=outside boundary
MUSA_WT	Number		19	MUSA weight.
MUSA_Ac	Number		19	Acres within the MUSA
Corridor	Number	1, 0	20	Habitat connectivity corridor. 1=present, 0=not present.
Corr_WT	Number		20	Habitat connectivity corridor weight.
Corr_Ac	Number		20	Acres of habitat connectivity corridor.
PIN	Number			Parcel ID number.
BLDG_NUM	Number			Parcel building number
PREFIX_DIR	Text	Text		Parcel direction prefix.
PREFIXTYPE	Text	Text		Parce type of prefix.
STREETNAME	Text	Text		Parcel street name.
STREETTYPE	Text	Text		Parcel street type.
SUFFIX_DIR	Text	Text		Parcel street direction suffix.
CITY	Text	Text		Parcel city.
CITY_USPS	Text	Text		Parcel mailing city.
ZIP	Number			Parcel zip code.
STATE_1	Text	Text		Parcel state.
PLAT_NAME	Text	Text		Parcel plat name.
Acres_Poly	Number			Acres of the polygon.
USE1_DESC	Text	Text		Parcel land use description 1.
USE2_DESC	Text	Text		Parcel land use description 2.
USE3_DESC	Text	Text		Parcel land use description 3.
USE4_DESC	Text	Text		Parcel land use description 4.
OWNER_NAME	Text	Text		Parcel owner name.
OWN_ADD_L1	Text	Text		Owner address line 1.
OWN_ADD_L2	Text	Text		Owner address line 2.
OWN_ADD_L3	Text	Text		Owner address line 3.
WSHD_DIST	Text	Text		Watershed district of the parcel.
GREEN_ACRE	Text	Y,N		Parcel enrolled in MN Dept of Revenue Green Acres program, yes/no.
OPEN_SPACE	Text	Y,N		Parcel has open space tax deferment, yes/no.
AG_PRESERV	Text	Y,N		Parcel enrolled as agricultural preserve, yes/no.
SUM	Number			Field used to sum chosen layers. Must be cleared after each overlay.

Appendix C. Example layer inclusion for three maps to be used for weighting

Possible Layers

Native Habitats (Total of all native layers)

Highest Quality Habitats

Native Forests

Native Grasslands

Native Wetlands

Degraded Forests

Degraded Grasslands

Degraded Wetlands

Non Native Forests

Non Native Grasslands

Non Native Wetlands

Cultivated Wetlands

Row Cropland

Planted Perennial Vegetation

Turf Grass

Pollinator Sweet Spots

Sensitive Groundwater

Priority Catchments

MUSA 2030

Connectivity Corridors

Eradicate Species

Protection (LWLP Update)		
Layer	Justification for Inclusion	Weight
Native Habitats (Total of all nat	All native habitats should be protected.	XX
Highest Quality Habitats	Highest quality habitats should receive additional weight to ensure protection.	XX
Pollinator Sweet Spots	Areas identified as sweet spots should be preserved for future habitat.	XX
Sensitive Groundwater	Areas over sensitive groundwater should be protected from development or cropland conversion.	XX
Connectivity Corridors	Areas linking habitats to one another should be protected.	XX
Priority Catchments	Areas draining to impaired waters should be protected from development.	XX
MUSA 2030	Natural areas within the MUSA boundary should be protected from development.	XX
Conditions		
Weighting should be comparable to 2010 LWLP weight scheme.		
Add on weight of new layers to the score of LWLP analysis.		

Stewardship (Habitat Restoration)		
Layer	Justification for Inclusion	Weight
Degraded Forests	Low quality native habitats should be enhanced.	XX
Degraded Grasslands	Low quality native habitats should be enhanced.	XX
Degraded Wetlands	Low quality native habitats should be enhanced.	XX
Non Native Forests	Non native habitats should be restored to native habitats.	XX
Non Native Grasslands	Non native habitats should be restored to native habitats.	XX
Non Native Wetlands	Non native habitats should be restored to native habitats.	XX
Cultivated Wetlands	Converted wetlands should be restored to native wetlands.	XX
Row Cropland	Some row cropland (in corridors, sweet spots, etc.) should be restored to native habitats.	XX
Turf Grass	Some turf grass (in corridors, sweet spots, etc.) should be restored to native habitats.	XX
Pollinator Sweet Spots	Lands identified as sweet spots should be restored to preserve pollinator species.	XX
Sensitive Groundwater	Lands overlying sensitive groundwater should be restored to prevent groundwater pollution.	XX
Priority Catchments	Lands within an impaired drainage should be restored to prevent surface water pollution.	XX
Connectivity Corridors	Lands linking habitats to one another should be restored or enhanced to increase core habitat areas.	XX
Eradicate Species	Lands with eradicate species should be targeted for restoration to prevent the spread of invasive species.	XX
Conditions		
Analysis performed countywide.		

Working Lands (Rural Character)		
Layer	Justification for Inclusion	Weight
Cultivated Wetlands	Converted wetlands should be restored to native wetlands.	XX
Row Cropland	Row croplands may be preserved as rural character outside critical areas (priority catchments, sensitive groundwater, etc.), but should be restored to native habitat or perennial cover (conservation grazing) within those areas.	XX
Planted Perennial Vegetation	Cultivated perennial vegetation should be preserved as rural character and engaged for practices such as conservation grazing.	XX
Turf Grass	Areas of turf grass should be restored to native habitats or engaged for better conservation practices.	XX
Pollinator Sweet Spots	Working lands identified as being within a sweet spot should be converted to a native habitat preferable to pollinators.	XX
Sensitive Groundwater	Lands overlying sensitive groundwater should be converted to native habitats or perennial cover with proper conservation practices.	XX
Priority Catchments	Lands within impaired drainages should be converted to native habitats or perennial cover with proper conservation practices.	XX
MUSA 2030	Lands within the MUSA development boundary should be preserved for rural character.	XX
Connectivity Corridors	Lands identified as being within a habitat corridor should be converted to native habitats.	XX
Conditions		
Row crops outside priority catchments, sensitive groundwater areas, sweet spots, and corridors could be weighted positively, and row crops within those areas weighted negatively.		
Extent of analysis could be limited to only areas that are currently row crops, farmed wetlands, perennial vegetaion, and turf grass.		

Appendix D. 2010 Land and Water Legacy Program weighting scheme, for reference only.

2010 LWLP Model Weighting

Surface Water Module		Drinking Water Module		Ecological Module		Connectivity Module		Maximum Score
Criteria	Weight	Criteria	Weight	Criteria	Weight	Criteria	Weight	
100m buffers	2-3	Vulnerability Areas	1-3	Woodlands	1-2, 3-5, 6-13	Ecological Connections	1	
Tributary Wetlands	1	Infiltration Potential	1	Grasslands	1-2, 3-5, 6-13			
Unique Resources	1	Upland Depressional Areas	1	Wetlands	1-2, 3-5, 6-13			
Highly Erodible Lands	1-2			Native Plant Communities	1-2, 3-5, 6-13			
Flood Prone Lands	1			Natural Buffers to Eco Patches	1-3			
Maximum Weight	**8**		**5**		**16**		**1**	**30**
Percent of Total Weight	**27**		**17**		**53**		**3**	**100**