Map Unit Description (MN)

Pine County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

C148--Mahtomedi sand, 0 to 2 percent slopes

Mahtomedi

Extent: 85 to 100 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains
Slope gradient: 0 to 2 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	sand	rapid	0.35 to 0.89 in	4.5 to 6.5
Bw -- 6 to 35 in	sand	rapid	1.17 to 2.62 in	4.5 to 6.5
C -- 35 to 80 in	gravelly coarse sand	very rapid	0.90 to 2.69 in	4.5 to 6.5

C149--Mahtomedi sand, 0 to 7 percent slopes

Mahtomedi

Extent: 85 to 95 percent of the unit
Landform(s): rises on outwash plains, flats on outwash plains
Slope gradient: 0 to 7 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	sand	rapid	0.35 to 0.89 in	4.5 to 6.5
Bw -- 6 to 35 in	sand	rapid	1.17 to 2.62 in	4.5 to 6.5
C -- 35 to 80 in	gravelly coarse sand	very rapid	0.90 to 2.69 in	4.5 to 6.5

C150--Mahtomedi sand, 2 to 17 percent slopes

Mahtomedi

Extent: 60 to 95 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 17 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	sand	rapid	0.35 to 0.89 in	4.5 to 6.5
Bw -- 6 to 35 in	sand	rapid	1.17 to 2.62 in	4.5 to 6.5
C -- 35 to 80 in	gravelly coarse sand	very rapid	0.90 to 2.69 in	4.5 to 6.5

C151--Mahtomedi sand, 17 to 35 percent slopes

Mahtomedi

Extent: 70 to 95 percent of the unit
Landform(s): outwash plains
Slope gradient: 17 to 35 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	sand	rapid	0.35 to 0.89 in	4.5 to 6.5
Bw -- 6 to 35 in	sand	rapid	1.17 to 2.62 in	4.5 to 6.5
C -- 35 to 80 in	gravelly coarse sand	very rapid	0.90 to 2.69 in	4.5 to 6.5

C152--Grayling sand, 0 to 3 percent slopes

Grayling

Extent: 90 to 100 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains
Slope gradient: 0 to 3 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	sand	rapid	0.24 to 0.59 in	4.5 to 6.5
Bw -- 4 to 56 in	sand	rapid	2.60 to 4.68 in	4.5 to 6.5
C -- 56 to 80 in	sand	rapid	1.20 to 1.92 in	4.5 to 6.5

C153--Grayling sand, 0 to 7 percent slopes

Grayling

Extent: 85 to 100 percent of the unit
Landform(s): rises on outwash plains, flats on outwash plains
Slope gradient: 0 to 7 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	sand	rapid	0.24 to 0.59 in	4.5 to 6.5
Bw -- 4 to 56 in	sand	rapid	2.60 to 4.68 in	4.5 to 6.5
C -- 56 to 80 in	sand	rapid	1.20 to 1.92 in	4.5 to 6.5

C154--Grayling sand, 2 to 17 percent slopes

Grayling

Extent: 65 to 100 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 17 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	sand	rapid	0.24 to 0.59 in	4.5 to 6.5
Bw -- 4 to 56 in	sand	rapid	2.60 to 4.68 in	4.5 to 6.5
C -- 56 to 80 in	sand	rapid	1.20 to 1.92 in	4.5 to 6.5

C155--Grayling sand, 17 to 35 percent slopes

Grayling

Extent: 70 to 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 17 to 35 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .10
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	sand	rapid	0.24 to 0.59 in	4.5 to 6.5
Bw -- 4 to 56 in	sand	rapid	2.60 to 4.68 in	4.5 to 6.5
C -- 56 to 80 in	sand	rapid	1.20 to 1.92 in	4.5 to 6.5

C156--Lougee peat, 0 to 1 percent slopes

Lougee

Extent: 90 to 98 percent of the unit
Landform(s): swamps on outwash plains
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 2 in	peat	very rapid	1.08 to 1.28 in	
Oe -- 2 to 21 in	mucky peat	rapid	8.50 to 10.39 in	
2Cg -- 21 to 80 in	sand	rapid	2.95 to 4.13 in	4.5 to 6.5

C157--Merwin peat, 0 to 1 percent slopes

Merwin

Extent: 60 to 90 percent of the unit
Landform(s): bogs on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 6 in	peat	very rapid	3.25 to 3.84 in	
Oe -- 6 to 46 in	mucky peat	rapid	18.07 to 22.09 in	
2Cg -- 46 to 80 in	stratified loamy fine sand to loam	moderate	4.40 to 6.43 in	5.1 to 7.3

C158--Rifle mucky peat, 0 to 1 percent slopes

Rifle

Extent: 80 to 95 percent of the unit
Landform(s): swamps on outwash plains
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

C159--Greenwood peat, 0 to 1 percent slopes

Greenwood

Extent: 80 to 95 percent of the unit
Landform(s): bogs on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

C160--Tacoosh mucky peat, 0 to 1 percent slopes

Tacoosh

Extent: 60 to 90 percent of the unit
Landform(s): swamps on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Oe1 --	0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 --	12 to 32 in	mucky peat	rapid	9.04 to 11.04 in	
Oa --	32 to 36 in	muck	moderately rapid	1.38 to 1.77 in	
2Cg --	36 to 80 in	stratified loamy fine sand to loam	moderate	5.73 to 8.38 in	5.1 to 6.5

C162--Udifluvents, loamy, 0 to 2 percent slopes, occasionally flooded

Udifluvents, occas. flooded, moderately well drained

Extent: 25 to 65 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
C --	6 to 80 in	stratified silt loam to gravelly loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

Udifluvents, occas. flooded, somewhat poorly drained

Extent: 15 to 50 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg --	6 to 80 in	stratified silt loam to gravelly loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

C211--Bowstring muck and Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded

Bowstring, frequently flooded

Extent: 25 to 75 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 percent
Parent material: highly decomposed organic materials containing strata of alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 38 in	muck	moderately rapid	13.37 to 17.19 in	
Cg -- 38 to 47 in	stratified fine sand to loamy fine sand	rapid	0.43 to 0.87 in	5.6 to 7.3
Oa' -- 47 to 80 in	muck	moderately rapid	11.57 to 14.88 in	

Fluvaquents, frequently flooded, very poorly drained

Extent: 20 to 60 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	mucky silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg -- 6 to 80 in	stratified silt loam to gravelly loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

C223--Cathro muck, 0 to 1 percent slopes

Cathro

Extent: 60 to 90 percent of the unit
Landform(s): swamps on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
2Cg -- 40 to 80 in	stratified loamy fine sand to loam	moderate	5.17 to 7.56 in	5.1 to 7.3

C305--Uskabwanka peat, 0 to 1 percent slopes

Uskabwanka

Extent: 80 to 100 percent of the unit
Landform(s): bogs on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 40 in	mucky peat	rapid	13.64 to 16.67 in	
2Oe2 -- 40 to 70 in	water	impermeable		
Oe3 -- 70 to 80 in	mucky peat	rapid	4.43 to 5.41 in	

C312--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 60 to 95 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 50 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

Udipsamments

Extent: 5 to 40 percent of the unit
Landform(s): moraines, outwash plains, stream terraces
Slope gradient: 0 to 25 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

DA--Denied Access

Denied Access

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

NOTCOM--No Digital Data Available

NOTCOM

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

Map Unit Description (MN)

Pine County, Minnesota

W--Water

Water

Extent: 100 percent of the unit
Landform(s): lakes
Slope gradient: 0 to 0 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.