

New Hampshire Fish and Game Department Spatial Data Notes

DATA LAYER: Marsh/wet meadow/shrub swamp habitats of New Hampshire
COVER NAME: MARSHEs_250COMPLEX
COVER CONTENTS: marsh complexes
COVER TYPE: Poly
SOURCE: NH Natural Heritage Bureau (NHB) marsh complexes.
SOURCE SCALE: 1:24,000
SOURCE MEDIA: digital
COORDINATE SYSTEM: NH State Plane feet, horizontal datum NAD83
TILE: State
AUTOMATED BY: NH Natural Heritage Bureau
STATUS: Complete
LAST REVISION: March 2005; attributes revised April 2006 (NHFGD)

General Description of the Data

- Development of this coverage provides condition assessment of marsh-wet meadow-scrub shrub wetland complexes within the state of New Hampshire. Analysis was completed for incorporation into the New Hampshire Wildlife Action Plan. Funding for the Plan was provided by State Wildlife Grants administered by the US Fish & Wildlife Service.
- This habitat was initially mapped using the NH Natural Heritage Bureau classification of the emergent marsh-shrub swamp system (Sperduto 2004). National Wetlands Inventory classes were categorized as potentially describing each of the diagnostic communities within this system. For each community, vegetation classes and subclasses were selected that corresponded to the list of plants typically found in that community (Sperduto and Nichols 2004). Hydrologic regimes were selected through consultation with community ecologists (Sperduto and Nichols, pers. comm.) Table 1 lists the subclasses and hydrologic regimes that were ascribed to these communities. Wetlands with certain modifiers were then excluded: g (organic) – this modifier indicates a peatland; a (acidic) – this modifier also indicates a peatland; x (excavated) – anthropogenic changes to the sediment, vegetation and hydrology of these wetlands would likely render them unsuitable; and d (partially drained/ditched) – anthropogenic changes to the hydrology of these wetlands likely render them unsuitable.

Table 1. NWI characteristics potentially associated with natural communities.

Community	Classes/Subclasses	Water Regimes
1) Tall graminoid emergent marsh	EM1; EM	ABCE
2) Northern medium sedge meadow marsh	EM1; EM	ABCE
3) Peaty marsh	EM1; EM	BCE
4) Short graminoid – forb emergent marsh/mud flat	EM1; EM	CEFG
5) Medium-depth emergent marsh	EM2	CEF
6) Deep emergent marsh – aquatic bed	EM; EM1; EM2; EM1/EM2; EM2/EM1; AB/EM; EM/AB; AB/EM1; AB/EM2; EM1/AB; EM2/AB; UB/EM; EM/UB; UB/EM1; UB/EM2; EM1/UB; EM2/UB	EFG
7) Cattail marsh	EM; EM/SS1; EM/SS3; EM/SS; EM1; EM1/SS1; EM1/SS3	CEF
8) Aquatic bed	EM2; AB; EM2/AB; AB/EM2; UB; EM2/UB; UB/EM2; AB/UB; UB/AB	FGH
9) Herbaceous seepage marsh	EM1; EM	BE

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10) Mixed tall graminoid – scrub-shrub marsh	EM; EM1; SS; SS1; SS3; EM/SS; EM/SS1; EM1/SS1; EM/SS3; EM1/SS3; SS1/EM; SS3/EM; SS/EM; SS1/EM1; SS3/EM1; SS1/SS3; SS/EM1	ABCE
11) Highbush blueberry – winterberry shrub thicket	SS; SS3; SS1/SS3; SS3/SS1	ACE
12) Buttonbush basin swamp	SS; SS1; SS1/SS3	CEF
13) Alder alluvial shrubland	SS; SS1	ACE
14) Alder – dogwood – arrowwood alluvial thicket	SS; SS1; SS1/SS3	ACE
15) Meadowsweet alluvial thicket	SS; SS1; SS1/SS3; SS1/SS4	ABE
16) Alluvial mixed shrub thicket	SS; SS1	A
17) Meadowsweet robust graminoid sand plain marsh	EM/SS; SS/EM; EM1/SS; SS/EM1; EM1/SS1; SS1/EM1; SS1	CE
18) Meadow beauty sand plain marsh	EM; EM1	CF
19) Three-way sedge – manna grass mud flat	EM; EM/UB; UB/EM; EM1; EM1/UB; UB; UB/EM1; (not UB1 or combinations thereof)	CEF
20) Spike-rush – floating-leaved aquatic mud flat	EM; EM/UB; UB/EM; EM1; EM1/UB; UB/EM1; UB	CFG
21) Sharp-flowered manna-grass shallow peat marsh	EM; EM/UB; UB/EM; EM1; EM1/UB; UB/EM1; UB	EFG
22) Montane sandy basin marsh	EM; EM/SS; EM/SS1; EM/SS3; EM1; EM1/SS1; EM1/SS3	ABCE

- These NWI wetlands were then further restricted through soil analyses. However, these soil restrictions were only for those areas included in the digital NH Soil Units coverage. Thus, wetlands in Belknap and Merrimack Counties as well as the White Mountain National Forest were not restricted by soil types, and marsh/wet meadow/shrub swamp may be overpredicted in these areas. Wetlands on tidal flat organic soils were eliminated. There were relatively few of these, in coastal saltmarsh areas of southeastern New Hampshire. One wetland on peat soil was also eliminated. Wetlands on other organic soils were restricted to communities other than the four sand plain basin marsh communities (communities 17, 18, 19, and 22, which do not have a significant overlying organic layer).
- Wetlands that overlapped known peatlands (from the NHHB peatbound shapefile) were deleted from this habitat.
- Sandplain basin marshes (communities 17-22) exist only in isolated basins. Thus, only those wetlands that fell within a group of adjacent wetlands that were not adjacent to a stream (from the hydrography layer) and with a total area of 20 acres or less were classed as sandplain basin marsh communities.
- For alluvial wetlands, certain restrictions were made based on proximity to rivers and streams. Wetlands were selected for communities 13, 14 and 15 only if they fell within a complex of suitable wetlands that was <10m from a stream or small river (hydrography layer), or 50m from a major river (U.S. EPA/OW Reach File3). Wetlands were selected for community 16 (which is typically associated only with larger rivers) if they fell within a complex of suitable wetlands that was <50m from a major river.
- Wetlands were selected for herbaceous seepage marshes if they fell on the upland edge of a group of wetlands. Both herbaceous seepage marshes and peaty marshes were restricted to wetlands adjacent to a stream (hydrography layer) or other wetland, which eliminated isolated wetlands from these two communities.

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- Montane sandy basin marsh wetlands were restricted to areas above 800ft elevation.
- Most communities were restricted to certain ecoregion subsections (Table 2).

Table 2. Ecoregion subsections associated with each community.

Community	Connecticut Lakes	Mahoosic-Rangely Lakes	White Mountain	Vermont Piedmont	Sunapee Uplands	Northern Connecticut River Valley	Sebago – Ossipee Hills and Plain	Hillsboro Inland Hills and Plains	Gulf of Maine Coastal Plain	Gulf of Maine Coastal Lowland
1) Tall graminoid emergent marsh	X	X	X	X	X	X	X	X	X	X
2) Northern medium sedge meadow marsh	X	X	X							
3) Peaty marsh	X	X		X	X	X	X	X	X	X
4) Short graminoid – forb emergent marsh/mud flat	X	X	X	X	X	X	X	X	X	X
5) Medium-depth emergent marsh	X	X	X	X	X	X	X	X	X	X
6) Deep emergent marsh – aquatic bed	X	X	X	X	X	X	X	X	X	X
7) Cattail marsh	X	X		X	X	X	X	X	X	X
8) Aquatic bed	X	X	X	X	X	X	X	X	X	X
9) Herbaceous seepage marsh	X	X		X	X	X	X	X	X	X
10) Mixed tall graminoid – scrub-shrub marsh	X	X	X	X	X	X	X	X	X	X
11) Highbush blueberry – winterberry shrub thicket					X	X	X	X	X	X
12) Buttonbush basin swamp					X	X	X	X	X	X
13) Alder alluvial shrubland	X	X	X	X	X	X	X	X	X	
14) Alder – dogwood – arrowwood alluvial thicket	X	X	X	X	X	X	X	X	X	X
15) Meadowsweet alluvial thicket	X	X	X	X	X	X	X	X	X	X
16) Alluvial mixed shrub thicket	X	X	X	X	X	X	X	X	X	X
17) Meadowsweet – robust graminoid sand plain marsh							X		X	X
18) Meadow beauty sand plain marsh									X	
19) Three-way sedge – manna-grass mud flat							X		X	
20) Spike-rush – floating-leaved aquatic mud flat							X		X	
21) Sharp-flowered manna-grass shallow peat marsh									X	
22) Montane sandy basin marsh	X	X	X				X			

- Other shrubby and emergent wetlands that were not classed as one of the Natural Heritage communities were added to the shapefile if they were predominantly SS, SS6 or SS1 (with SS, SS6 or SS1 listed first) or predominantly EM, EM1 or EM2 (with EM, EM1 or EM2 listed first). However, of these wetlands, those mixed with unconsolidated shore (US) or with SS4, SS2, FO4, or FO2 (likely peatland vegetation) were excluded.
- Wetlands were classed as shrub, emergent, or mixed using the criteria in Table 3. The “mixed” category refers to emergent/woody mixes that are not predominantly forested. Other classes beginning with SS were classed as “shrubby,” and other classes beginning with EM, UB or AB were classed as “emergent.” Mixes of emergent vegetation with dead forest or shrub were classed as emergent, because with the death of the woody vegetation, these wetlands will typically become entirely emergent.

Table3. Criteria for classifying wetland structure.

Category	Vegetation Classes
Shrub	SS, SS/UB, SS/FO
Emergent	EM, UB, AB, EM/UB, UB/EM, EM/AB, AB/EM, UB/AB, AB/UB, EM/FO (for FO5 only), EM/SS (for SS5 only)
Mixed	SS/EM, EM/SS (not SS5), EM/FO (not FO5)

- Several other wetland categories were added to the map. These are not marsh/wet meadow/shrub swamp specifically, but generally contribute to this habitat overall in the landscape. Wetlands that were predominantly SS5 and FO5 were included, as dead vegetation likely would be useful habitat. Predominantly FO1 wetlands mixed with any EM, with SS1 or with FO5 were added in. Solely FO1 wetlands with a beaver modifier were included. Wetlands with UB or UB combined with FO1, SS1, or EM, and with a hydrologic regime of H or F, were added in. Wetlands with primary vegetation subclasses of EM1, SS1, or FO5, and secondary vegetation subclasses of FO4 or SS4, AND which had a beaver modifier were included. All of these wetlands were classed as “Other” in the “shrub, emergent, mixed” category.
- Wetlands were dissolved based on their “type” attribute – emergent, shrub, mixed, and other, to create a new layer, Marshes_type.
- Wetlands were merged into complexes to create a second new layer, Marshes_250complex, with the criterion that a complex consisted of wetlands separated by no more than 250m. Wetlands initially within the same complex but with a major route (from the Routes layer) between them were assigned to different complexes. In a few cases, a wetland slightly overlapped a route, due to differences in spatial accuracy between the layers. In these cases, the wetland was not split, but was assigned to the complex in which most of the wetland fell.

Potential Errors in the Data

National Wetlands Inventory classifications may be erroneous, particularly in underestimating peatlands (resulting in an overabundance of peatlands incorrectly included in this habitat). Water regimes can be incorrect as well. However, incorrect water regimes would not influence whether a wetland was included overall; rather it would only influence whether the wetland was assigned the proper community classification within the shapefile.

Soil Units data were only available for part of the state, excluding Merrimack and Belknap counties as well as the White Mountains. Thus, any elimination of wetlands using soil data did not occur in these regions, so the habitat may overpredict in these regions.

Community classification based on proximity to other wetlands, streams or rivers may have errors depending on the spatial accuracy of all hydrologic data. Any polygons or lines that are not correctly located in the layer could result in incorrect assumptions about proximity to other water bodies. This does not affect whether a wetland is included overall, but it does influence which communities the wetland may be assigned to.

Item definitions for MARSHEs_250COMPLEX polygon attributes:

<u>ITEM NAME</u>	<u>WDTH</u>	<u>TYPE</u>	<u>N.DEC</u>	<u>DESCRIPTION</u>
ID250	5	I	0	Sequential number assigned to buffer polygons
NUM_MARSH	8	I	0	Number of marsh polygons in the complex
E_AREA_HA	20	N	5	Hectares of emergent type marsh in the complex
S_AREA_HA	20	N	5	Hectares of shrub type marsh in the complex
M_AREA_HA	20	N	5	Hectares of mixed type marsh in the complex
O_AREA_HA	20	N	5	Hectares of other type marsh in the complex

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Item definitions for MARSHEs_250COMPLEX polygon attributes: (continued)

ITEM NAME	WDTH	TYPE	N.DEC	DESCRIPTION
E_PERCENT	16	N	5	Percent of complex that is emergent marsh
S_PERCENT	16	N	5	Percent of complex that is shrub marsh
M_PERCENT	16	N	5	Percent of complex that is mixed type marsh
O_PERCENT	16	N	5	Percent of complex that is other type marsh
VEG_RICH	16	I	0	Number of dominant NWI vegetation classes in the complex
HYDRO_RICH	16	I	0	Number of NWI water regime modifiers within the complex
AVG_KM RTE	16	N	3	Mean minimum distance (km) to major trans. route
KM_MARSH	16	N	3	Distance to nearest marsh complex (km)
KM_ROUTE	16	N	3	Distance to nearest major transportation route (km)
FGID	5	I	0	Temp unique sequential ID assigned by NHFGD
AREA_M2	8	F	3	Area of buffer in sqft (<i>software assigned</i>)
PERIM_M	8	F	3	Perimeter of buffer in feet (<i>software assigned</i>)
NEARDIST	8	I	0	Distance to nearest neighbor (meters)
NEAR_FGID	5	I	0	ID of nearest neighbor
SHAPEINDEX	12	N	1	Shape index (1 = square)
A_RICH_BUF	3	I	0	Species richness of rare animals within their dispersal distances from the polygon
A_SF_BUF	3	I	0	Number of source features of rare animals within their dispersal distances from the polygon
A_SHAN_BUF	3	N	3	Shannon diversity index of rare animal source features within their dispersal distances from the polygon
A_RICH_POL	3	I	0	Species richness of rare animals within polygon
A_SF_POLY	3	I	0	Number of source features of rare animals within polygon
A_SHAN_POL	3	N	3	Shannon diversity index of rare animal source features in poly
P_RICH_BUF	3	I	0	Species richness of rare plants within 1km of polygon
P_SF_BUF	3	I	0	Number of source features of rare plants within 1km of polygon
P_SHAN_BUF	3	N	3	Shannon diversity index of rare plant source features within 1km
P_COND_BUF	2	C	0	Average rank of rare plant source features within 1km of polygon
P_DISP_BUF	3	N	3	Dispersal of rare plant source features within 1km of polygon
P_RICH_POL	3	I	0	Species richness of rare plants in polygon
P_SF_POLY	3	I	0	Number of source features of rare plants in polygon
P_SHAN_POL	3	N	3	Shannon diversity index of rare plant source features in polygon
C_RICH_BUF	3	I	0	Richness of rare and exemplary natural communities within 1km
C_SF_BUF	3	I	0	Number of source features of rare and exemplary natural communities within 1km of polygon
C_COND_BUF	2	C	0	Average rank of rare and exemplary natural community source features within 1km of polygon
C_AREA_BUF	3	N	3	Percent of area within 1km of polygon that is rare or exemplary natural community
C_AREA_POL	6	N	3	Percent of polygon that is rare or exemplary natural community
C_RICH_POL	3	I	0	Richness of rare and exemplary natural communities in polygon
C_SF_POLY	3	I	0	Number of source features of rare and exemplary natural communities in polygon
HECTARES	8	N	2	Area of the complex (hectares)
LGMARSHHA	8	N	2	Area of largest marsh in the complex (hectares)
ROADDENS	5	N	2	Road density within 250m of the complex
DISTROAD	8	I	0	Distance to nearest road (meters)
CONS_PCT	5	N	1	Percent of 250m buffer that is in conservation
GAP123HA	8	N	1	Area in conservation GAP management status 1,2 or 3 (TNC 2005)
GAP123PCT	5	N	1	Percent in conservation GAP management status 1, 2 or 3
IFESMEAN	2	I	0	Mean Integrated Fragmentation Effects score (Zankel 2005)
ECOSUB	40	C	0	Ecoregional subsection

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Item definitions for MARSHEs_250COMPLEX polygon attributes: (continued)

ITEM NAME	WDTH	TYPE	N.DEC	DESCRIPTION
WSGROUP	1	C	0	Watershed Group (single character ID; TNC classification)
WSGNAME	30	C	0	Watershed Group name (TNC classification)
HAB	8	C	0	Habitat name (abbrv)
BIO	8	N	2	Raw biological score (high score = high quality)
LAND	8	N	2	Raw landscape score (high score = high quality)
HUMAN	8	N	2	Raw human impact score (high score = low impact)
COND	8	N	3	Raw habitat condition score (high score = good condition)
DEV	8	N	3	Raw development risk (high score = high risk)
RISK	8	N	3	Raw risk score (high score = high risk)
WSGBIO	3	I	0	Watershed Group biological rank (high rank = high quality)
WSGLAND	3	I	0	Watershed Group landscape rank (high rank = high quality)
WSGHUMN	3	I	0	Watershed Group human impact rank (high rank = low impact)
WSGCOND	3	I	0	Watershed Group habitat condition (high rank = good condition)
WSGDEV	3	I	0	Watershed Group development risk (high rank = high risk)
WSGRISK	3	I	0	Subsection risk rank (high rank = high risk)
NHBIO	3	I	0	Statewide biological rank (high rank = high quality)
NHLAND	3	I	0	Statewide landscape rank (high rank = high quality)
NHHUMN	3	I	0	Statewide human impact rank (high rank = low impact)
NHCOND	3	I	0	Statewide habitat condition rank (high rank = good condition)
NHDEV	3	I	0	Statewide development risk rank (high rank = high risk)
NHRISK	3	I	0	Statewide risk rank (high rank = high risk)
PRIORITY	50	C	0	Priority (based on statewide and regional condition rank)
S1	1	C	0	Contains an EO of an S1 rank wildlife species
S2	1	C	0	Contains an EO of an S2 rank wildlife species
LEVEL1	1	C	0	Contains an EO of a WAP Level 1 wildlife species
LEVEL2	1	C	0	Contains an EO of a WAP Level 2 wildlife species
LEVEL3	1	C	0	Contains an EO of a WAP Level 3 wildlife species
LEVEL4	1	C	0	Contains an EO of a WAP Level 4 wildlife species

Item Definitions for WETCMPLXBUF polygon attributes (250m buffer of the complexes):

ITEM NAME	WDTH	TYPE	N.DEC	DESCRIPTION
ACRES	12	N	1	Area of buffer in acres
SQKM	12	N	3	Area of buffer in square kilometers
HECTARES	8	N	1	Area of buffer in hectares
PRIMEWET	1	C	0	Y or N, designated prime wetland area
NONBBIRD	1	C	0	Y or N, in non-breeding bird area
WETPERMITS	5	I	0	# Wetlands Bureau permits (non-forestry) ¹
FORPERMITS	5	I	0	# Wetlands Bureau forestry permits
KNOWNCS	5	I	0	Number of known contamination sites
POTENTCS	5	I	0	Number of potential contamination sites
EXOTICS	1	C	0	Downstream of exotic aquatic plant infestation
DRAWDOWN	1	C	0	Within 100m of a water body subject to fall draw down ²
WATERUSER	1	C	0	Within 4000 ft of large water withdrawal
DOTMAJORKM	8	N	1	Kilometers of NHDOT maintained state & local roads
DOTMINORKM	8	N	1	Kilometers of private or gravel roads
DENSMAJOR	5	N	2	Density of NHDOT roads (km/km ²)
DENSMINOR	5	N	2	Density of private or gravel roads (km/km ²)
NREL4HA	8	N	2	Nat'l Renewable Energy Laboratory wind power class 4
NREL4PCT	5	N	1	hectares, percent (commercial turbine potential)
NREL2HA	8	N	2	Nat'l Renewable Energy Laboratory wind power class 2
NREL2PCT	5	N	1	hectares, percent (small turbine potential)
DISTNREL4	8	N	0	Distance (m) to nearest NREL class 4 polygon 4+ acres

Item Definitions for WETCMLXBUF 250m buffer polygon attributes (continued):

ITEM NAME	WIDTH	TYPE	N.DEC	DESCRIPTION
DISTTOWER	8	I	0	Distance to nearest communication tower (meters)
DISTROAD	8	I	0	Distance to nearest road (meters)
DISTRAIL	8	I	0	Distance to nearest railroad
CONSFO	8	N	2	Area in conservation fee ownership (hectares)
CONSFO_PCT	5	N	1	Percent land area in conservation fee ownership (%)
CONSCE	8	N	2	Area in conservation easement/other (hectares)
CONSCE_PCT	5	N	1	Percent land area in conservation easement/other (%)
ELU30_VAR	3	I	0	Variety of ecological land units (ELU30 = elevation, substrate, landform)

BIO1 Condition score = $(A_RICH_BUFF_R*.25) + (A_RICH_POL_R*.25) + (P_RICH_POL_R*.25) + (C_RICH_POL_R*.25)$
 where all biological variables are positive indicators of biological quality and subscript denotes percentile rank, thus "good" sites score high (maximum percentile rank=100) and "poor" sites score low (minimum percentile rank=0).

LAND1 Condition score = $(LGMARSHHA_R*.34) + (VEG_RICH_R*.33) + (NUM_MARSH_R*.33)$
 where all landscape variables are positive indicators of landscape integrity and subscript R denotes percentile rank, thus "good" sites score high (maximum percentile rank=100) and "poor" sites score low (minimum percentile rank=0).

HUMAN2 Condition score = $(IFESMEAN_R*.34) + (ROADDENS_R*.33) + (DISTROAD_R*.33)$
 where deleterious human impact variables have been transformed so that all variables are positive indicators of ecological integrity and subscript R denotes percentile rank, thus "good" sites score high (maximum percentile rank=100) and "poor" sites score low (minimum percentile rank=0).

COND2 The condition index = $(BIO1+LAND1+HUMAN1)/3$ as defined above

NOTES:

¹ Count of Wetlands permits represents five year total: 2000, 2001, 2002, 2003, 2004

"Dock notifications" were excluded from the permit count

² 2004 List of water bodies subject to drawdown (NHDES)

The list above represents the complete set of attributes developed for the WAP habitat data layer. Only select attributes are distributed in the public release version WAP data layers. For more information, please contact the NH Fish and Game Department, Wildlife Division, 11 Hazen Dr, Concord NH 03301 Phone: (603) 271-2461 E-mail: wilddiv@wildlife.state.nh.us

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Item definitions for MARSHEs_RAW polygon attributes:

Item Name	Width	Type	Dec	Description
Nwicode	16	C	0	National Wetlands Inventory code
Area	16	N	3	Area (square feet) calculated by software
Perimeter	16	N	3	Perimeter (feet) calculated by software
Acres	16	N	3	Area in acres
Comm1	16	N	0	1 = could be, 0 = could not be community 1 (tall graminoid emergent marsh)
Comm2	16	N	0	1 = could be, 0 = could not be community 2 (northern medium sedge meadow marsh)
Comm3	16	N	0	1 = could be, 0 = could not be community 3 (peaty marsh)
Comm4	16	N	0	1 = could be, 0 = could not be community 4 (short graminoid – forb emergent marsh/mud flat)
Comm5	16	N	0	1 = could be, 0 = could not be community 5 (medium-depth emergent marsh)
Comm6	16	N	0	1 = could be, 0 = could not be community 6 (deep emergent marsh/aquatic bed)
Comm7	16	N	0	1 = could be, 0 = could not be community 7 (cattail marsh)
Comm8	16	N	0	1 = could be, 0 = could not be community 8 (Aquatic bed)
Comm9	16	N	0	1 = could be, 0 = could not be community 9 (herbaceous seepage marsh)
Comm10	16	N	0	1 = could be, 0 = could not be community 10 (mixed tall graminoid – scrub-shrub marsh)
Comm11	16	N	0	1 = could be, 0 = could not be community 11 (highbush blueberry – winterberry shrub thicket)
Comm12	16	N	0	1 = could be, 0 = could not be community 12 (buttonbush basin swamp)
Comm13	16	N	0	1 = could be, 0 = could not be community 13 (alder alluvial shrubland)
Comm14	16	N	0	1 = could be, 0 = could not be community 14 (alder – dogwood – arrowwood alluvial thicket)
Comm15	16	N	0	1 = could be, 0 = could not be community 15 (meadowsweet alluvial thicket)
Comm16	16	N	0	1 = could be, 0 = could not be community 16 (alluvial mixed shrub thicket)
Comm17	16	N	0	1 = could be, 0 = could not be community 17 (meadowsweet – robust graminoid sand plain marsh)
Comm18	16	N	0	1 = could be, 0 = could not be community 18 (meadow beauty sand plain marsh)
Comm19	16	N	0	1 = could be, 0 = could not be community 19 (three-way sedge – manna-grass mud flat)
Comm20	16	N	0	1 = could be, 0 = could not be community 20 (spike-rush – floating-leaved aquatic mud flat)
Comm21	16	N	0	1 = could be, 0 = could not be community 21 (sharp-flowered manna-grass shallow peat marsh)
Comm22	16	N	0	1 = could be, 0 = could not be community 22 (montane sandy basin marsh)
VegClass	16	C	0	National Wetlands Inventory vegetation class
VegClass2	16	C	0	National Wetlands Inventory vegetation class with subclass
Hydrology	16	C	0	National Wetlands Inventory water regime modifier

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Beaver	16	C	0	Y = has, N = does not have National Wetlands Inventory beaver modifier
Type	16	C	0	Broad vegetation structure class. E = emergent, S = shrub, M = mixed, O = other
ID250	16	N	0	Identification number of which 250-m wetland complex the polygon belongs to

Item definitions for MARSHEs_TYPE polygon attributes:

Item Name	Width	Type	Dec	Description
Type	16	C	0	Broad vegetation structure class. E = emergent, S = shrub, M = mixed, O = other
Area	16	F	3	Area (square feet) calculated by software
Perimeter	16	F	3	Perimeter (feet) calculated by software
Acres	16	N	3	Area in acres
ID250	16	N	0	Identification number of which 250-m wetland complex the polygon belongs to