

**SITE NAME:** Strafford Town Forest Wetland

**TOWN:** Strafford

**MAPS:** 2009 NAIP 1m Color Orthophotography

**LATITUDE/LONGITUDE:** 43.919228/72.364694

**LOCATION:** From Old City Falls Road in southern Vershire, turn right onto Van Dyke Road and follow it into Strafford, approximately 1.6 miles. After passing Town Highway 76 find an area to park the near the second culvert with flow under the road, cross to the south side of the road and hike the compass bearing 248 southwest; use the GPS coordinates provided above to locate the transect start point.

**SOURCE OF INFORMATION:** Site visit July 14, 2010

**OWNERSHIP:** Town of Strafford; contact the Town of Strafford Select Board Chair, Steve Wilbanks at 802-765-4530 for permission to bioassess the wetland.

**SIGNIFICANCE:**

1. Strafford Town Forest, a Black Ash-Alderleaf Buckthorn Swamp & Sedge Meadow Complex, Cowardin type PFO/PEM1, had minimal disturbance and was in good current condition at the time of the survey.
2. The vegetation within the wetland exhibited high species richness and low species evenness, resulting in moderate species diversity. No non-native species were identified at this wetland.
3. Water chemistry, taken from a small stream down slope of wetland, was unremarkable.

**PHYSICAL SETTING:**

Strafford Town Forest Wetland is situated in an upland basin, at 534 meters elevation, with surrounding mountains ranging between 579 – 640 meters in this wetland/upland corridor. The wetland outlet was a seepage area that developed into a small intermittent stream, which then contributed to a tributary of Old City Brook, a part of the Ompompanoosuc Watershed. The landscape included farmed lands, residential use, forested mountains, other wetlands of various types, and lands managed for wildlife.

**SURROUNDING LANDSCAPE CONDITION:**

The immediate area surrounding the bioassessed portion of the wetland is Northern Hardwood Forested interspersed with stands of Red Spruce Forest. The surrounding wetland buffer was wide, greater than 50 meters surrounding the wetland, and no anthropogenic disturbance was noted during the bioassessment. Water that discharged from the wetland flowed south into an unnamed tributary of Old City Brook.

**VEGETATION:**

The vegetation identified at this site represents a moderate diversity Black Ash-Alderleaf Buckthorn Swamp & Sedge Meadow Complex with low species evenness, and high species richness throughout the tree, shrub, and herb strata. A total of 83 plant species were found at the site with Alderleaf buckthorn (*Rhamnus alnifolia*) as the dominant shrub strata species at 17 percent coverage. Dominant herb species were Bluejoint grass (*Calamagrostis canadensis*), Red osier dogwood (*Cornus sericea*), Fowl mannagrass (*Glyceria canadensis*), Broadleaf cattail

(*Typha latifolia*), Flat-topped aster (*Doellingeria umbellatus*), Purple stem aster (*Symphotrichum puniceum*), Dwarf red blackberry (*Rubus pubescens*), Marsh marigold (*Caltha palustris*), and *Fringed sedge* (*Carex crinita*). Common herb strata species included Golden alexander (*Zizia aurea*), Chestnut sedge (*Carex castanea*), *Crested woodfern* (*Dryopteris cristata*), Star sedge (*Carex echinata*), Spotted Joe pye weed (*Eupatorium maculatum*), White edge sedge (*Carex debilis*), Woodland horsetail (*Equisetum sylvaticum*), Panicked bulrush (*Scirpus microcarpus*), and Jewelweed (*Impatiens capensis*). Lower presence species in the wetland transect were *Bristly stalked sedge* (*Carex leptalea*), Largeleaf avens (*Geum macrophyllum*), Marsh pennywort (*Hydrocotyle americana*), Common selfheal (*Prunella vulgaris*), Marsh skullcap (*Scutellaria galericulata*), Wrinkleleaf goldenrod (*Solidago rugosa*), Drooping woodland sedge (*Carex arctata*), Greater bladder sedge (*Carex intumescens*), Awlfruit sedge (*Carex stipata*), Strawberry (*Fragaria* spp.), Rough bedstraw (*Galium asprellum*), Common rush (*Juncus effusus*), Northern bugleweed (*Lycopus uniflorus*), Sorel spp. (*Oxalis* spp.), Flat-topped goldenrod (*Euthamia graminifolia*), King of the meadow (*Thalictrum pubescens*), and Star flower (*Trientalis borealis*). Other less common herb species included Lady fern (*Athyrium filix-femina*), Yellow sedge (*Carex flava*), Bottlebrush sedge (*Carex hystericina*), Rough sedge (*Carex scabrata*), Broom sedge (*Carex scoparia*), White turtlehead (*Chelone glabra*), Devil's darning needles (*Clematis virginiana*), Spinulose woodfern (*Dryopteris carthusiana*), Slender spikerush (*Eleocharis tenuis*), Purpleleaf willowherb (*Epilobium coloratum*), Fragrant bedstraw (*Galium triflorum*), Northern green orchid (*Plantanthera aquilonis*), Knotted rush (*Juncus nosodus*), Poverty rush (*Juncus tenuis*), American water horehound (*Lycopus americanus*), Sensitive fern (*Onoclea sensibilis*), Cinnamon fern (*Osmunda cinnamomea*), Interrupted fern (*Osmunda claytonia*) Royal fern (*Osmunda regalis*), Arrowleaf tearthumb (*Polygonum sagittatum*), Gooseberry spp. (*Ribes* spp.), Red raspberry (*Rubus idaeus*), Canada goldenrod (*Solidago canadensis*), Marsh fern (*Thelypteris palustris*), Heartleaf foamflower (*Tiarella cordifolia*), and Green false helleborine (*Veratrum viride*). Shrubs identified at the site were Broadleaf meadowsweet (*Spiraea latifolia*), Pussy willow (*Salix discolor*), Willow spp. (*Salix* spp.), Chokecherry (*Prunus virginiana*), Black chokeberry (*Photinia melanocarpa*), Striped maple (*Acer pensylvanicum*), Bebb's willow (*Salix bebbiana*), Beaked hazelnut (*Corylus cornuta*), and Dogwood spp. (*Cornus* spp.). Many tree species were present including Balsam fir (*Abies balsamea*), Red maple (*Acer rubrum*), Green ash (*Fraxinus pennsylvanica*), Sugar maple (*Acer saccharum*), Black ash (*Fraxinus nigra*), Black spruce (*Picea mariana*), Red spruce (*Picea rubens*), Scotch pine (*Pinus sylvestris*), Black cherry (*Prunus serotina*), Quacking aspen (*Populus tremuloides*), and Yellow birch (*Betula allegheniensis*).

The wetland vegetation community had moderately high horizontal interspersions with herb, shrub, and tree strata occurring throughout the wetland. The microtopography of the wetland was low, with low amounts of vegetated hummocks and tussocks, coarse woody debris and standing snags.

The maximum water depth was 0.4 meters, and the wetland's duration of inundation/saturation was semi-to permanently saturated. The matrix soil types were mineral histic and histosol, with soil textures that included loamy and sandy muck.

**PHYSICAL AND CHEMICAL CHARACTERISTICS:**

The wetland is fed by precipitation and ground water seepage.

The water sample was collected from a pooled area of the small intermitted stream that contributes to Old City Brook.

Please see the laboratory report enclosed with this report for specific water quality results.

Vermont Bioassessment Program, Stafford Wetland Complex  
Private land, Town of Stafford Property Owner



- Legend
- 2008 National Wetland Inventory
  - Vermont Significant Wetlands Inventory
  - NEW\_CLASS
  - Class 1 wetland
  - Class 2 wetland
  - Class 3 wetland

0 25 50 100 Meters

DEC VT Wetlands Office, December 17th, 2010  
P. E. Greene-Swift, Bioassessment Ecologist  
Sawyer Mountain Road, Stafford Town Property  
Stafford, VT Orange Co.

Plant Name	1	2	3	4	5	6	7	8	9	10	Avg	CoC Score	Native	Wetness Coeff
Abies balsamea	*	*	*		5	10	*	*	*	*	1.5	3	Y	0 FAC
Acer pensylvanicum	*						*	*			0.0	5	Y	-3 FACU
Acer rubrum	*	5	1	*	5	*					1.1	2	Y	0 FAC
Acer saccharum	*	*	*			*	5		*		0.5	2	Y	-3 FACU
Aronia melanocarpa		*	*								0.0	6	Y	0 FAC
Athyrium filix-femina	*										0.0	2	Y	0 FAC
Betula alleghaniensis	*		*	*	*						0.0	2	Y	0 FAC
Calamagrostis canadensis		15	60			*					7.5	3	Y	5 OBL
Caltha palustris		10	10	10							3.0	4	Y	5 OBL
Carex arctata					1						0.1	4	Y	
Carex castanea							20	*			2.0	6	Y	3 FACW
Carex crinita	10			*	15					*	2.5	3	Y	5 OBL
Carex debilis						5	*	5	*		1.0	3	Y	3 FACW
Carex echinata	3	5	*		*			1	5		1.4	6	Y	5 OBL
Carex flava					*	*		*			0.0	4	Y	5 OBL
Carex hystericina					*						0.0	2	Y	5 OBL
Carex intumescens	*		*			*	1	*			0.1	4	Y	3 FACW
Carex leptalea					*	5		*			0.5	6	Y	5 OBL
Carex scabrata					*						0.0	8	Y	5 OBL
Carex scoparia					*						0.0	2	Y	3 FACW
Carex stipata			*	*	1						0.1	4	Y	5 OBL
Chelone glabra	*	*	*	*							0.0	5	Y	5 OBL
Clematis virginiana						*					0.0	3	Y	0 FAC
Cornus sericea		*	5	10		*		*	10	30	5.5	4	Y	3 FACW
Cornus sp.	*										0.0		Y	
Corylus cornuta	*		*	*							0.0	3	Y	-3 FACU
Doellingeria umbellata			1	*	20	15	10	1		*	4.7	2	Y	3 FACW
Dryopteris carthusiana	*										0.0	5	Y	3 FACW
Dryopteris cristata		15		*							1.5	7	Y	5 OBL
Eleocharis tenuis					*					*	0.0	4	Y	3 FACW
Epilobium coloratum		*									0.0	3	Y	5 OBL
Equisetum palustre	10	10	*	1	10	10	15	20	5	5	8.6	7	Y	3 FACW

<i>Equisetum sylvaticum</i>	10										1.0	4 Y		3 FACW
<i>Euthamia graminifolia</i>				*	*	*		1		*	0.1	1 Y		0 FAC
<i>Eutrochium maculatum</i>	1	10	1							*	1.2	4 Y		5 OBL
<i>Fragaria sp.</i>						*	*	1		*	0.1	Y		
<i>Fraxinus nigra</i>	*	*		*			*				0.0	6 Y		3 FACW
<i>Fraxinus pennsylvanica</i>						1	10				1.1	5 Y		3 FACW
<i>Galium asprellum</i>						1					0.1	5 Y		5 OBL
<i>Galium trifidum</i>							*				0.0	5 Y		3 FACW
<i>Geum macrophyllum</i>					5				*		0.5	7 Y		3 FACW
<i>Glyceria striata</i>	10	*	*	10	5			10	15	1	5.1	3 Y		5 OBL
<i>Hydrocotyle americana</i>		*	5		*						0.5	4 Y		5 OBL
<i>Impatiens capensis</i>			3	5	1						0.9	3 Y		3 FACW
<i>Juncus effusus</i>					1					*	0.1	3 Y		5 OBL
<i>Juncus nodosus</i>					*				*		0.0	5 Y		5 OBL
<i>Juncus tenuis</i>					*	*		*			0.0	2 Y		0 FAC
<i>Lycopus americanus</i>				*							0.0	6 Y		5 OBL
<i>Lycopus uniflorus</i>			*	*	1						0.1	6 Y		5 OBL
<i>Onoclea sensibilis</i>		*									0.0	2 Y		3 FACW
<i>Osmunda claytoniana</i>								*			0.0	5 Y		0 FAC
<i>Osmunda regalis</i>								*			0.0	5 Y		5 OBL
<i>Osmundastrum cinnamomeum</i>	*										0.0	5 Y		3 FACW
<i>Oxalis sp.</i>					*	1	*				0.1	Y		-3 FACU
<i>Persicaria sagittata</i>					*						0.0	4 Y		5 OBL
<i>Picea mariana</i>			*	*							0.0	8 Y		3 FACW
<i>Picea rubens</i>	*										0.0	4 Y		-3 FACU
<i>Pinus sylvestris</i>									*		0.0	N		
<i>Platanthera aquilonis</i>				*							0.0	7 Y		3 FACW
<i>Populus tremuloides</i>						*			*		0.0	2 Y		-3 FACU
<i>Prunella vulgaris</i>					*	5					0.5	2 Y		0 FAC
<i>Prunus serotina</i>						*					0.0	2 Y		-3 FACU
<i>Prunus virginiana</i>							1				0.1	3 Y		-3 FACU
<i>Rhamnus alnifolia</i>	50		*	25	30			10	25	15	15	17.0	8 Y	5 OBL

Ribes sp.			*											<b>0.0</b>		Y		
Rubus idaeus			*											<b>0.0</b>	2	Y		<b>-3 FACU</b>
Rubus pubescens	1	20	*	5			*	1	5	*				<b>3.2</b>	7	Y		<b>3 FACW</b>
Salix bebbiana	*				*			*						<b>0.0</b>	3	Y		<b>3 FACW</b>
Salix discolor					5					*				<b>0.5</b>	4	Y		<b>3 FACW</b>
Salix sp.		5												<b>0.5</b>		Y		
Scirpus microcarpus				5	5			*	*					<b>1.0</b>	5	Y		<b>5 OBL</b>
Scutellaria galericulata			1	1								*		<b>0.2</b>	6	Y		<b>5 OBL</b>
Solidago canadensis							*					*		<b>0.0</b>	3	Y		<b>-3 FACU</b>
Solidago rugosa								5						<b>0.5</b>	3	Y		<b>0 FAC</b>
Solidago sp.	1	*	*	5		*						*		<b>0.6</b>		Y		
Spiraea alba var. latifolia							*	10	10	20				<b>4.0</b>	2	Y		<b>3 FACW</b>
Symphotrichum puniceum	1	1	5	*	10	10	*	5	*	1				<b>3.3</b>	5	Y		<b>5 OBL</b>
Thalictrum pubescens		1	*											<b>0.1</b>	4	Y		<b>3 FACW</b>
Thelypteris palustris	*						*							<b>0.0</b>		Y		<b>3 FACW</b>
Tiarella cordifolia	*													<b>0.0</b>	5	Y		<b>-3 FACU</b>
Trientalis borealis								1						<b>0.1</b>	5	Y		<b>0 FAC</b>
Typha latifolia		*	10	25	*			5	*	10				<b>5.0</b>	4	Y		<b>5 OBL</b>
Veratrum viride	*	*	*		*									<b>0.0</b>	7	Y		<b>3 FACW</b>
Zizia aurea					*	5	5	10	1					<b>2.1</b>	4	Y		<b>0 FAC</b>