Appendix A

Data Sources

Sources of Data Used for the JLUS Figures and Constraints Model

City of Auburn

-GIS Base Map; parcels layer and zoning layer, May, 2013

Beginning with Habitat Web Site

-State of Maine; Primary Maps 1 through 3 and Supplemental Maps 7 and 8; May, 2013.

Maine Army National Guard

-High resolution aerial photos; May, 2010.

Maine Office of GIS

- -Conserved Lands layer; May, 2013.
- -Flood Rate Insurance Map layer; May, 2013.
- -Significant Vernal Pools layer; May, 2013.
- -Inland Waterfowl and Wading Bird Habitat layer; May, 2013.
- -USGS 1:24000 7.5' topography maps; May, 2013.
- -U.S. Fish and Wildlife Service, National Wetland Inventory Maps; May, 2013.

Normandeau Associates, Inc.

-Field data collected in spring 2013 including vernal pool data, wetland data, GPS location data, and stream data.

Appendix B

5. VERNAL POOL HABITAT INFORMATION	polID: Wy WI-VPI
a. Habitat survey date (only if different from indicator	survey dates on page 3): 4 -16-13
b. Wetland habitat characterization	
■ Choose the best descriptor for the landscape setting: ○ Isolated depression ○ Floodplain depression ○ Other:	sociated with larger wetland complex
■ Check all wetland types that best apply to this pool: ☐ Forested swamp ☐ Wet meadow ☐ Lake/Pond ☐ Peatland (fen or bog) ☐ Emergent marsh ☐ Active beaver flowage	Other:
c. Vernal pool status under the Natural Resources Pr	otection Act (NRPA)
i. Pool Origin: O Natural O Natural-Modified O U If modified, unnatural or unknown, describe any mod Temporaded by effect roads + fe	dern or historic human impacts to the pool (required):
■ Select the pool's <u>estimated</u> hydroperiod AND <u>provide</u>	e rationale for opinion.
C Permanent (drying partially in all years an completely in drought years)	C Ephemeral C Unknown
Explain:	
Some day pook with no vagatation ■ Maximum depth at survey: ○ 0-12" (0-1 ft.) € 12	
■ Approximate size of pool (at spring highwater): Wid	
■ Predominate substrate in order of increasing hydrop	and the state of t
Mineral soil (bare, leaf-litter bottom, or upland mosses present)	Organic matter (peat/muck) shallow or restricted to deepest portion
C Mineral soil (sphagnum moss present)	Organic matter (peat/muck) deep and widespread
■ Pool vegetation indicators in order of increasing hyd	droperiod (check all that apply):
Terrestrial nonvascular spp. (e.g. haircap	Wet site ferns (e.g. royal fern, marsh fern)
moss, lycopodium spp.) Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)	Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)	Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
√Moist site vasculars (e.g. skunk cabbage,	Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
jewelweed, blue flag iris, swamp candle) Sphagnum moss (anchored or suspended)	Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
■ Faunal indicators (check all that apply):	No vegetation in pool
Fish Bullfrog or Green Frog tadpoles	Other:
iii. Inlet/Outlet Flow Permanency Type of inlet or outlet (a seasonal or permanent chan	nel providing water flowing into or out of the pool):
	et (channel with well-defined banks and permanent flow)
Other or Unknown (explored or outlet	lain): ephonoid neove

	Urvev	datee		ORMA 16-1			ol ID: WI-VA				
. Indicator a				f F.	<i>R</i>	The state of the s	1	_			
				for ear	macca	es? O Yes O No; v	what 0/ of pool o		^		
							The state of the s				-
determinat	ion, an	d egg	mass	maturi	tne exac ty. Sepa	ct number of egg mas arate cells are provid	sses, confidence ed for separate s	level fo urvey d	r specie ates.	es	
NDICATOR						adult Fairy Shrimp)		Tadpole	s/Larvae		
SPECIES					nfidence Level ¹	Egg Mass Maturity ²	Observ	red	Confidence Level ¹		
Vood Frog	63			3		F		-		Leve	T
potted alamander	1										
Blue-spotted Balamander	_										
airy Shrimp ³	1					STATE OF THE PARTY	And Washing	DAY.	TOTAL	III PE	
Fairy Shrimp: X . Rarity crite ■ Note any ra	<pre>(= prese eria are spe elevel (</pre>	ent ecies a (CL) fo	ssocia r each	ated wi	th verna	al pools. Check the m	ethod(s) of verific	ation a	nd fill in	the	
	III ODS			ification*		and date).		Methor	d of Verifi	ication*	
SPECIES		Р	Н	s	CL**	SPECIES		P	H	S	CL**
Blanding's T	urtle					Wood Turtle					
						William Carasar	- V				
Spotted Turt	tle			П		Ribbon Snake	X X				
Ringed Bogh	aunter verificat	tion: P	Photospecie	graphe	ed, H = H	Ribbon Snake Other: andled, S = Seen 1= <60%, 2= 60-95%,	3= >95%				
*Method of **CL - Confi Optional ob SVP General ver	aunter verificat idence l server Pote nal po	tion: P : level in r recor	specie mmen VP nment	ographes determined the North Stand	mination: in Signifi or obse	Other: andled, S = Seen	r Breeding Area				
Ringed Bogh *Method of **CL - Confi Optional ob SVP General ver Eggs (4)	aunter verificat dence server Pote nal po	tion: P selevel in record record control of control co	specie mmen VP nment	ographes deterning dation Nones and/	mination: in Signifi or obse	other: andled, S = Seen 1= <60%, 2= 60-95%, cant VP	or Breeding Area ildlife: of Inland Fisheric Pools reet, Bangor, ME	es and \			
Ringed Bogh *Method of **CL - Confi Optional ob CSVP General ver Eggs (4)	aunter verificat dence server Pote nal po (16) d form	ition: Palevel in record record and su	specie mmen VP mment upporti	orgraphes determined ation Notes and/	in Significor observed and another observed and another observed and another observed and another observed a	other: andled, S = Seen 1= <60%, 2= 60-95%, cant VP	or Breeding Area ildlife: of Inland Fisheric Pools reet, Bangor, ME	es and \ 04401	graphs	is only	/ ess.

5. VERNAL POOL HABITAT INFORMATION	
a. Habitat survey date (only if different from indicator	survey dates on page 3): 4-/6-/3
b. Wetland habitat characterization	
The state of the s	sociated with larger wetland complex
Check all wetland types that best apply to this pool: Forested swamp Shrub swamp Peatland (fen or bog) Emergent marsh Active beaver flowage	
c. Vernal pool status under the Natural Resources Pr	otection Act (NRPA)
i. Pool Origin: Natural C Natural-Modified C U	nnatural C Unknown
If modified, unnatural or unknown, describe any mod	dern or historic human impacts to the pool (required):
ii. Pool Hydrology	
■ Select the pool's <u>estimated</u> hydroperiod AND <u>providence</u>	
C Permanent	· · · ·
Explain:	in most years)
Some wear without vegetation, bu	to make a complete to a contract
Joine July 10 1 July 10	i ending organization sugarior
 ■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ② 12 ■ Approximate size of pool (at spring highwater): Wide ■ Predominate substrate in order of increasing hydrogen 	lth: 150 Om Oft Length: 200 Om Oft
Mineral soil (bare, leaf-litter bottom, or upland mosses present)	Organic matter (peat/muck) shallow or restricted to deepest portion
C Mineral soil (sphagnum moss present)	C Organic matter (peat/muck) deep and widespread
■ Pool vegetation indicators in order of increasing hyd	droperiod (check all that apply):
Terrestrial nonvascular spp. (e.g. haircap	Wet site ferns (e.g. royal fern, marsh fern)
moss, lycopodium spp.) ☐ Dry site ferns (e.g. spinulose wood fern,	Wet site shrubs (e.g. highbush blueberry, maleberry,
lady fern, bracken fern) Moist site ferns (e.g. sensitive fern, cinnamon	winterberry, mountain holly) Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
fern, interrupted fern, New York fern) Moist site vasculars (e.g. skunk cabbage,	Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
jewelweed, blue flag iris, swamp candle)	Floating or submerged aquatics (e.g. water lily,
Sphagnum moss (anchored or suspended)	water shield, pond weed, bladderwort) No vegetation in pool
■ Faunal indicators (check all that apply):	
☐ Fish ☐ Bullfrog or Green Frog tadpoles	Other:
iii. Inlet/Outlet Flow Permanency Type of inlet or outlet (a seasonal or permanent chan	nel providing water flowing into or out of the pool):
	t (channel with well-defined banks and permanent flow)
	ain): Surface we for connection possible
or outlet	to other parts of we House

VERNAL POOL	INDICATOR INF		. 6				
a. Indicator sur	vey dates:	4-16-	/3				
b. Indicator abu	ındance criteria		2				
■ Was the enti	re pool surveyed	for egg masses	s? O Yes Ø No; what	% of pool surveyed	?_~	5 P	5
			t number of egg masses trate cells are provided fo			s	
4	MAIL OF THE STATE	the state of the s	adult Fairy Shrimp)	Self-representation of the contract of the con	s/Larvae		
INDICATOR SPECIES	# Leve		Egg Mass Maturity ²	Observed	С	Confidence Level ¹	
Wood Frog Spotted	1,000+	3	F				
Salamander			-				
Blue-spotted Salamander		-		-			_
Fairy Shrimp ³	-		AND REAL PROPERTY.				
confidence I	evel (CL) for each observer name,	n species obser pool location, a	I pools. Check the methor vation. <u>Observations shand date)</u> .	ould be accompanie	d by pho	otogra	iphs
SPECIES	Method of Ve	CL**	SPECIES	100000000000000000000000000000000000000	d of Verific		CL**
Blanding's Tu	tle F F	S	Wood Turtle	P	H	S	
Spotted Turtle			Ribbon Snake				
Ringed Boghau			Other:	F		Г	
*Method of ve	erification: P = Phot		andled, S = Seen 1= <60%, 2= 60-95%, 3= 3				()
O SVP O	al pool commen	C Non Signifi	ervations of other wildli	ife:	hors,	m	
NOTE: Digital s	ubmission (to Jas ble for projects w Reviewed by MDII	on.Czapiga@m ith 3 or fewer a: -W Date:	tion to: Maine Dept. of I Attn: Vernal Poo 650 State Stree naine.gov) of vernal pool ssessed pools; larger pro Initials:	ols t, Bangor, ME 04401 field forms and phot ojects must be maile	l tographs d as har	s is on	
mments:		ing critical data		does not meet MDEP ve		criteria.	1947

5. VERNAL POOL HABITAT INFORMATION PO	ool ID: W3 VP2
a. Habitat survey date (only if different from indicator	survey dates on page 3):
b. Wetland habitat characterization	
■ Choose the best descriptor for the landscape setting: ○ Isolated depression ○ Floodplain depression ○ Other: _	sociated with larger wetland complex
☐ Check all wetland types that best apply to this pool: ☐ Forested swamp ☐ Wet meadow ☐ Shrub swamp ☐ Lake/Pond ☐ Peatland (fen or bog) ☐ Abandoned beaver flowage ☐ Emergent marsh ☐ Active beaver flowage	e Other:
c. Vernal pool status under the Natural Resources Pr	
i. Pool Origin: 《Natural O Natural-Modified O U	
If modified, unnatural or unknown, describe any mod	dern or historic human impacts to the pool (required):
ii. Pool Hydrology	
■ Select the pool's <u>estimated</u> hydroperiod AND <u>provid</u>	
Permanent C Semi-permanent (drying partially in all years an completely in drought years)	
Explain:	
•	
72' deep in some overs, no we	5.
 ■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ■ Approximate size of pool (at spring highwater): Wide ■ Predominate substrate in order of increasing hydrogen 	dth: <u>80</u> Cm Cft Length: <u>80</u> Cm Cft
 Mineral soil (bare, leaf-litter bottom, or upland mosses present) 	Organic matter (peat/muck) shallow or restricted to deepest portion
C Mineral soil (sphagnum moss present)	Organic matter (peat/muck) deep and widespread
■ Pool vegetation indicators in order of increasing hyd	droperiod (check all that apply):
Terrestrial nonvascular spp. (e.g. haircap	Wet site ferns (e.g. royal fern, marsh fern)
moss, lycopodium spp.) Dry site ferns (e.g. spinulose wood fern,	Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
lady fern, bracken fern) Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)	Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
Moist site vasculars (e.g. skunk cabbage,	Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
jewelweed, blue flag iris, swamp candle) Sphagnum moss (anchored or suspended)	Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
-	No vegetation in pool
■ Faunal indicators (check all that apply):	•
Fish Bullfrog or Green Frog tadpoles	Other:
iii. Inlet/Outlet Flow Permanency Type of inlet or outlet (a seasonal or permanent char	nnel providing water flowing into or out of the pool):
No inlet or outlet Permanent inlet or outle	et (channel with well-defined banks and permanent flow)
Other or Unknown (export or outlet	olain):

. VERNAL POO	L INDICA	TOR INF	ORMA	TION	←	—Pool	ID:いう	3-VP	2			
a. Indicator su	irvey date	es: <u>4-</u>	16-1	3								
b. Indicator at	oundance	criteria										
■ Was the en	itire pool s	surveyed	for egg	masses	? O Yes	O No; wh	at % of p	ool surv	eyed?			
■ For each in determinati	dicator sp	ecies, ind	dicate t	ne exact	number o	egg mass	es, confid	ence lev	vel for	specie	es	
INDICATOR					adult Fairy			Та	dpoles		-	
SPECIES	#	•		nfidence _evel ¹	_ E	gg Mass Maturity ²	(Observed	i	(Confide Leve	
Wood Frog	425		3	-0401	F						1	
Spotted Salamander	-											
Blue-spotted Salamander	~						- 1					
Fairy Shrimp 3	-				977							
 Rarity crite Note any racconfidence (labeled with 	are specie level (CL) for each	specie	s obser	vation. Ob	eck the met servations	hod(s) of should be	verificate accom	tion ar panied	id fill ir I by ph	n the notogra	aphs
SPECIES		ethod of Ver		CL**					Method	of Veri	fication*	CL**
Blanding's T		P H	S		SPECIES Wood Turtle				Р	H	s	
Spotted Turt					Ribbon Sna		1		-	_	-	
Ringed Bogh			F		Other:	ve			_	_	_	
*Method of	verification		ographe		andled, S =		da pra umatos		Ь.		-	
d. Optional ob	Server re	commen	dation O Nor	: n Signific	cant VP (= 60-95%, 3 Indicator	Breeding	Area		ψ.		-
NOTE: Digital saccept or MDIFW use only	submissio able for pi Review	n (to Jaso rojects wi	on.Czaj th 3 or W Date	oiga@m fewer as :	Att 65 aine.gov) (sessed po	n: Vernal P 0 State Stre of vernal po ols; larger p s:	ools eet, Bang ol field for projects m	or, ME 0	photomailed	graph as ha	s is on	
omments:	rusq Bris			AURIL	Shell W.		Odoes not	meet MD	EP verr	nal pool	criteria.	NAV.

5. VERNAL POOL HABITAT INFORMATION	ool ID: W3-VP1
a. Habitat survey date (only if different from indicator	survey dates on page 3):
b. Wetland habitat characterization	
■ Choose the best descriptor for the landscape setting: ○ Isolated depression ○ Floodplain depression ○ Other:	sociated with larger wetland complex
☐ Check all wetland types that best apply to this pool: ☐ Forested swamp ☐ Wet meadow ☐ Shrub swamp ☐ Lake/Pond ☐ Peatland (fen or bog) ☐ Abandoned beaver flowage ☐ Emergent marsh ☐ Active beaver flowage ☐ C. Vernal pool status under the Natural Resources Pr	Other:
i. Pool Origin: Natural O Natural-Modified O U	
	dern or historic human impacts to the pool (required):
Thousand, unhatural of unknown, describe any med	
ii. Pool Hydrology	
■ Select the pool's <u>estimated</u> hydroperiod AND <u>provide</u>	
O Permanent (Semi-permanent (drying partially in all years an completely in drought years)	C Ephemeral C Unknown d (drying out completely in most years)
Explain:	
NO" deep bot surgent veg. In	roghout
 ■ Maximum depth at survey: (0-12" (0-1 ft.) 12 ■ Approximate size of pool (at spring highwater): Wide ■ Predominate substrate in order of increasing hydrogen 	lth: Om Oft Length: Om Oft
 Mineral soil (bare, leaf-litter bottom, or upland mosses present) 	restricted to deepest portion
C Mineral soil (sphagnum moss present)	Organic matter (peat/muck) deep and widespread
■ Pool vegetation indicators in order of increasing hyd	droperiod (check all that apply):
Terrestrial nonvascular spp. (e.g. haircap	Wet site ferns (e.g. royal fern, marsh fern)
moss, lycopodium spp.) Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)	Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)	Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
Moist site vasculars (e.g. skunk cabbage,	Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
jewelweed, blue flag iris, swamp candle) Sphagnum moss (anchored or suspended)	Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
■ Faunal indicators (check all that apply):	No vegetation in pool
Fish Bullfrog or Green Frog tadpoles	Other:
iii. Inlet/Outlet Flow Permanency Type of inlet or outlet (a seasonal or permanent chan	nnel providing water flowing into or out of the pool):
• /	et (channel with well-defined banks and permanent flow)
Other or Unknown (explor or outlet	lain):

Indicator si			FORMA		Pool I	D: W3-V	/-/			
	urvey dat	es: <u>4</u> -	16-	13	"					
Indicator al	bundance	criteria								
■ Was the er	ntire pool s	surveyed	for egg	g masse	s? O Yes O No; wha	at % of pool sur	veved	?		
					t number of egg masse				es	
determinat	ion, and e	gg mass	maturit	ty. Sepa	arate cells are provided	for separate su	rvey d	ates.		
IDICATOR				Masses (or adult Fairy Shrimp)			adpole	s/Larva	e	
PECIES	#	į		nfidence Level ¹	Egg Mass Maturity ²	Observe	d		Confide Leve	
lood Frog	19		3		F			-	- Leve	
potted alamander	-									
lue-spotted alamander	- 1									
airy Shrimp 3	-				TO THE WAY I	N B / La in yea		Zahran	The Davie	
confidence	are specie level (CL)) for each	n specie	es obser	pools. Check the meth	od(s) of verifica	ition a	nd fill i d by pl	n the	phs
(labeled wit	in observe	er name,	pool lo	cation, a	ind date).					
SPECIES		thod of Ver		CL**	SPECIES		Method	d of Veri	fication*	CL**
Blanding's To	10 V	H	S		Wood Turtle	2	P	Н	S	No.
Spotted Turt			Ħ		Ribbon Snake			F		
Ringed Bogha	aunter	7 6			Other:					
**CL - Confi	dence leve	l in specie	es deterr dation	mination:	andled, S = Seen 1= <60%, 2= 60-95%, 3=					
O SVP C	Potentia				cant VP O Indicator B					
General veri	Potentia	omment	ts and/	or obse	rvations of other wildl	ife:	and \	Vildlife		
G SVP C General veri	Potentianal pool of	somment	ing doc	umentati piga@ma	rvations of other wildl	Inland Fisheries ols t, Bangor, ME 0	94401	graph	s is only	/ es.

Appendix C

Wetland Field Sheet

Wetland Field Sheet	Normandeau Associates
	: 4-16-13 Delineator: E. Long
	vn: Aborn Project: Aborn Nad God
Wetland: Closed Open at #s:	Photos:/Ŷ/N Direction Facing:
Associated Stream(s)	Towns D / J / D
PVP Identified?: ID:	GPS Unit: Park GPS'd by:
Cover Class (Dominant (%) others (%))	
Permanently Intermittently Permanently Seasonally Flooded/	Special Modifiers Temporarily Flooded Flooded B A J K f-Farmed x-Excavated ? h-Diked/Impounded
Open water component/aquatic veg. >20,000SF?	Y/N Peatland? Y/N
Within 250ft of a GPA great Pond?	Y/N) Wetland subject to flooding? Y/N
Comments:	The stand subject to hooding.
Functions & Values (For Survey Area Only): Record Rationale Below Groundwater Recharge Groundwater Discharge Floodflow Alteration Fish/Shellfish Habitat Sed/Tox Retention Nutrient Removal Production Export Shore Stabilization Wildlife Habitat Recreation Educate/Science Value Uniqueness/Heritage Visual Qual/Aesthetic End/Threatened Species	Dominant Plants: Tree: Ace
Rationale: Wide Swale, pantally moun. - distr-bad by adjacent lot Disturbance Level: Mod,	Sketch Map (Note wetland cover type if extends off site) direction:
Wildlife Sign:	Comments:

Wetland Field Sheet			Normandeau Associates
Wetland ID: <u>ル3</u>	I	Date: <u>4-16-13</u>	Delineator: E. Loma
Number of Flags: 9			n Project: A-bron ANG
Wetland: Closed / Ope	n at #s:		Photos: Ŷ/N Direction Facing:
Associated Stream(s):		***************************************	Type: P / I / E
PVP Identified?: ID: <u>/</u>	PI, VPZ, PUPI,	VP3, VP4	GPS Unit: Pank GPS'd by: EL.
Cover Class (Dominant	(%) others (%)) <u>PF</u>	01/4C, PS	TIF, PEMIF PUB35%
	Water Regin		Special Modifiers
Permanently Intermittently Perma Flooded Exposed Floo	orded Flooded Flooded F C F Hydroperiod	Saturated Floode B A	ed Flooded Flooded d-Drained/Ditched s-Spoil
Open water component/aq	quatic veg. >20,000SF?	ŶN	Peatland? Y(N)
Within 250ft of a GPA gre	eat Pond?	YN	Wetland subject to flooding? Y/N
Comments:			
Functions & Values	Suitable	_ Dominan	it Plants:
(For Survey Area Only): Record Rationale	Not Capa- Oppor-	Tree: /^^	a str., Ace. rus, Am vig., Bet pop., Pape
Below	city tunity	11 // 6/11	
Groundwater Recharge		Sapling/S	Shrub: Bhodorn Cor. ser. Vase. Cor. Cha. yo lig Sal. sp. Spot lat. Sps hom. dling/Bryo: Ora ser. Car str. sphag.
Groundwater Discharge		<u> </u>	yo lig, Sal sp., Spellal, Spe bons
Floodflow Alteration		Herb/See	dling/Bryo: Ovo san (sa sti, splage
Fish/Shellfish Habitat Sed/Tox Retention		Jun. e	It., bly. Ft., Phal. ann. Osm.
Nutrient Removal		Clay to	-m-reg, Cya. ale.
Production Export			
Shore Stabilization			Vine:
Wildlife Habitat		Invasive S	Sp:
Recreation	V /		
Educate/Science Value		Soils (Ge	· · · · · · · · · · · · · · · · · · ·
Uniqueness/Heritage			zon: □ Histic ≥8" □ Drk A to Dep.
Visual Qual/Aesthetic		B Horizoi	n:
End/Threatened Species	l V	Texture (i	note horiz): Surdy / mucky (the
Rationale: Very large	wethand with		ap (Note wetland cover type if extends off site) direction:
Seveel come	choses.		0
- Sunmedately	officerth		To perchall the second
· · · · · · · · · · · · · · · · · · ·			
- Amphibion br			[2]
- 11 proportion - 3 111		and the same of th	
		- Baseball	open water of
			The state of the s
At			State of the state
			Light (m) (m)
Disturbance Level: ///	n-Alled by become	// 1	
-Polds		- Commost-	
Wildlife Sign:		Comments:	
L			
			En hookels trast

Wetland Field Sheet	Normandeau Associates
Wetland ID: U4 Dat	e: 4-16-13 Delineator: E. Lova.
Number of Flags:	num. A la
Wetland: Closed Open at #s: Freel 10 51-	4 + 51-36 Photos: Ø/N Direction Facing:
Annantal Y Or ()	Type: P /Î / E
PVP Identified?: ID:	
Cover Class (Dominant (%) others (%))	PLE
Permanently Flooded H G F C Hydroperiod	Saturated B A I K f-Farmed x-Excavated Plooded Flooded f - Parmed x - Excavated R f-Farmed x - Excavated R f-Farmed x - Excavated R f-Farmed x - Excavated
Open water component/aquatic veg. >20,000SF?	Y/N Peatland? Y/N
Within 250ft of a GPA great Pond?	Y/N Wetland subject to flooding? Y/N
Comments:	Westmand Subject to Hooding: 17/14
Functions & Values Suitable	Dominant Plants:
(For Survey Area Only):	Tree: Acc. Nob., Fax. pon
Groundwater Recharge city tunity	Sanling/Shruh:
Groundwater Discharge	Sapling/Shrub:
Floodflow Alteration	Horb/Coodling/Description
Fish/Shellfish Habitat	Herb/Seedling/Bryo: One range Oim Ch.
Sed/Tox Retention	
Nutrient Removal	
Production Export	
Shore Stabilization	Woody Vine:
Wildlife Habitat	Invasive Sp:
Pegraption	
Educate/Science Value	Soils (General):
Uniqueness/Heritage	
Visual Qual/Aesthetic	
End/Threatened Species	B Horizon: Refusal; Depth (in):
Rationale: Small sheam funge.	Texture (note horiz): Londy loan
50Ze /Mil fincken	Sketch Map (Note wetland cover type if extends off site) direction:
	51
Disturbance Level:	R. A.
Wildlife Sign:	Comments:

Wetland Field Sheet	Normandeau Associates
Wetland ID: <u>W 5</u> Date	e: 4-16-13 Delineator: E. Cana
. NOR AND THE PARTY OF THE PART	wn: A-birty Project: ANG
l and the second	Photos: YN Direction Facing:
Associated Stream(s): 5/	Type: P / I / E
PVP Identified?: ID:	GPS Unit: GPS'd by:
Cover Class (Dominant (%) others (%))) (file
Permanently Flooded H G F C Hydroperiod Water Regime Seasonally Flooded/ Flooded Flooded Flooded Saturated S Hydroperiod	Special Modifiers b − Beaver r − Artificial Flooded Flooded Flooded control for the first flooded for the first flooded flo
Open water component/aquatic veg. >20,000SF?	Y/N Peatland? Y/N
Within 250ft of a GPA great Pond?	Y/N Wetland subject to flooding? Y/N
Comments:	Wething Subject to Hooding.
· ·	
Functions & Values (For Survey Area Only): Record Rationale Not Capa- Oppor-	Dominant Plants: Tree: Are sub., True, com, Frank from, Frank
Below city tunity Groundwater Recharge	Sapling/Shrub: Ala me, Spilat.
Groundwater Discharge	
Floodflow Alteration	Herb/Seedling/Bryo: One source Canada visite
Fish/Shellfish Habitat	Herb/Seedling/Bryo: One some, is hedge of the
Sed/Tox Retention	
Nutrient Removal	
Production Export	Woody Vine: A Celastes orto
Shore Stabilization	Invasive Sp:
Wildlife Habitat	
Recreation	Soils (General):
Educate/Science Value	
Uniqueness/Heritage Visual Qual/Aesthetic	
End/Threatened Species	B Horizon: Refusal; Depth (in): Toyture (note heris):
	Texture (note horiz): Lowny
Rationale: Stope wetland receives	Sketch Map (Note wetland cover type if extends off site) direction:
- calands north off site	
- well m welland	14 Graded Rd
	(of
·	
	tell
	15.0
Distribution V 1	
Disturbance Level: adjacont lot	*(/
graded	
Wildlife Sign:	Comments:

Wetland Field Sheet			Normande	eau Associates	
Wetland ID: <u>んん</u>		Date: 4-17-/	Delineator:	Elon	
Number of Flags:	0	Town: Ab.	Project:	About AMG	
Wetland: Closed/Oper	n at #s:		Photos D	N Direction Facing:	
Associated Stream(s):	52			Type: P / I /	(E)
PVP Identified?: ID:			GPS Unit: Pa	K GPS'd by: EL	
Cover Class (Dominant	(%) others (%))	PF0443			
	Water Re			Special Modifiers	
Permanently Intermittently Perma Flooded Exposed Floo	oded Flooded Saturate F C E	d/ Temporari ed Saturated Flooded B A	Flooded Flooded		
•	Hydroper		?	h – Diked/Impounded	
Open water component/aq		YAN	Peatland?	Y/N*?	
Within 250ft of a GPA gre	at Pond?	Y/N	Wetland subject	to flooding? Y/N	
Comments:					
Functions & Values	Suitable	Dominant	Plants:		
(For Survey Area Only):		Tree: 750	ga concounting	, Pm. str Frax &	oen, ·
Record Rationale Below	Not Capa- Oppor-	: 4 Acer	nu6		
Groundwater Recharge		Sapling/Sh	rub:		
Groundwater Discharge					
Floodflow Alteration		Herb/Seedl	ing/Bryo: Occ.	in t	
Fish/Shellfish Habitat					
Sed/Tox Retention	<i>U.</i>				***************************************
Nutrient Removal					
Production Export	V	Woody Vir	16'		
Shore Stabilization		Invesive St			
Wildlife Habitat		ilivasive sp	J		
Recreation		G.1. (C.			1.70
Educate/Science Value		Soils (Gen	,	□ Redox □ Dep/Gle	•
Uniqueness/Heritage			on:	☐ Histic ≥8" ☐ Drk A t	o Dep.
Visual Qual/Aesthetic	V			☐ Refusal; Depth (in):	
End/Threatened Species		Texture (no	ote horiz): Muck,	mal 0-5"	İ
Rationale: Small s	ecpose Non			pe if extends off site) direction:	$\hat{\gamma}$
Mh Sheama	med 12/10 lang				/
vetland					
***************************************	······································				
			X		
			1-52		
			is and is a second seco		
Disturbance Level: Mp	a Range /				
	14.15.1		le.	is delineation.	
Wildlife Cierr		Comments:	Theolo	we can work the	
Wildlife Sign:					

Appendix D

Wetland Determination Form

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: A Joven	ANG	City/0	County: A	burn	Sa	mpling Date:	14-16-13
Project/Site: <u>A Joon</u> Applicant/Owner: <u>Manu</u>	An Nati	Grand		St	tate: <u>ME</u>	Sampling Point:	W3-Up
Investigator(s): E. Lem	· «C	Secti	on. Township.	Range:	State of the state		
Landform (hillslope, terrace, etc.): Flat	Local rel	lief (concave, c	onvex. none):	pro-	Slope	e (%): 2
Subregion (LRR or MLRA):	and the second s						
Soil Map Unit Name:			The state of the s		NVVI Classificatio	ni. <u></u>	<u> </u>
Are climatic / hydrologic conditio			-				A CONTRACTOR OF THE PARTY OF TH
Are Vegetation, Soil	, or Hydrology	significantly distu	rbed? A	re "Normal Circ	cumstances" pres	sent? Yes <u>/</u>	No
Are Vegetation, Soil	, or Hydrology	naturally problem	atic? (I	f needed, expla	ain any answers i	n Remarks.)	
SUMMARY OF FINDING	S – Attach site m	ap showing san	npling poin	t locations	, transects, ir	nportant fea	itures, etc.
Hydrophytic Vegetation Preser	nt? Yes	No 🗸	Is the Samp	led Area		1 June	
Hydric Soil Present?	Yes	No No	within a We	tland?	Yes	No	
Wetland Hydrology Present?		_ No	If yes, option	nal Wetland Site	e ID:		
Remarks: (Explain alternative							
Forestell Upl	found and give	tout to c	Fe-Lieb	d R.P.			·
HYDROLOGY					2-00-00-00-00-00-00-00-00-00-00-00-00-00		
Wetland Hydrology Indicator	rs:	***************************************		Se	condary Indicator	s (minimum of t	wo required)
Primary Indicators (minimum o	of one is required; check	(all that apply)	4		Surface Soil Cra	acks (B6)	
Surface Water (A1)		Water-Stained Leave			Drainage Patter	ns (B10)	
High Water Table (A2)	*******	Aquatic Fauna (B13))		Moss Trim Line		
Saturation (A3)	**********	Marl Deposits (B15)		***************************************	Dry-Season Wa		
Water Marks (B1)		Hydrogen Sulfide Od			Crayfish Burrow		
Sediment Deposits (B2)		Oxidized Rhizosphe		Roots (C3)	-		
Drift Deposits (B3)		Presence of Reduce			Stunted or Stres	•)
Algal Mat or Crust (B4)		Recent Iron Reducti		iis (C6)	Geomorphic Po	• •	
Iron Deposits (B5)		Thin Muck Surface (Shallow Aquitar Microtopograph		
Inundation Visible on Aeri	- · · ·	Other (Explain in Re	anaiks)		FAC-Neutral Te		
Sparsely Vegetated Conc	ave Surface (50)		т	***************************************	_ TAO-Nedital Te	.5((50)	
Surface Water Present?	Yes No	Denth (inches):			•		
Water Table Present?	Ves No	Depth (inches):					
Saturation Present?	Yes No	Depth (inches):		Wetland Hvd	rology Present?	Yes	No V
(includes capillary fringe)			<u> </u>	-			
Describe Recorded Data (stre	am gauge, monitoring v	vell, aerial photos, pr	revious inspect	ions), if availab	le:		
,							
Remarks:			w				
Fails 1	meet cork	in for u	et lare l	hydro			
	•						

VEGETATION – Use scientific names of plants.		Proje	ct:	Sampling Point: W7-U/
Tree Stratum (Plot size: 30) 1. Phys strobus 2. Acen rebrum 3 4 5	65		FACU FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15) 1. Pros shobes 2. Tsuza conceders; 3. 4.	80 15 20	= Total Cov	FACU	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index B/A =
6	35 2	= Total Cov	FACO	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size:) 1 2 3 4 Remarks: (Include photo numbers here or on a separate si	<u> </u>			Hydrophytic Vegetation Present? Yes No
Forested upland.				

^	^		

Project:	-7	Campling Doint:	613-00
<u> </u>		Sampling Point:	000

Profile Desc	ription: (Describe t	to the dep	th needed to docum	ent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			Features		_Loc ² _	Toyturo	Remarks
(inches)	Color (moist)		Color (moist)	<u>%</u>	<u> iype</u>	LOC	<u>Texture</u>	- Remarks
0-1	7.5702.571	<u>00</u>					<u>O-201-c</u>	
7-3	10423/2	11300	watch And Serv				54	
3-5	7-5814/4	78	5/5/6	2	C	M	45	
<u> </u>								
5-12	10424/4	100					<u>45</u>	
12-183	108R5/3	95	7.54844	Zanov.			25	
***************************************							***************************************	
		letion, RM	=Reduced Matrix, MS	=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil					(00) (15			for Problematic Hydric Soils ³ :
Histosol	` '		Polyvalue Below MLRA 149B)	Surface	(S8) (LR	κ,		luck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	pipedon (A2) istic (A3)		Thin Dark Surface	ce (S9) (I	LRR R, M	LRA 149B	- Inches	lucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky M					urface (S7) (LRR K, L)
Stratifie	d Layers (A5)		Loamy Gleyed N	-	2)			lue Below Surface (S8) (LRR K, L)
	d Below Dark Surfac	e (A11)	Depleted Matrix				***********	ark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Sur Depleted Dark S					anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Redox Depressi		·· /)			Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)			,				arent Material (F21)
	d Matrix (S6)							hallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, I	VILRA 149	B)				Other ((Explain in Remarks)
			etland hydrology mus	t be pres	ent, unles	s disturbe	d or problematio).
_	Layer (if observed)	•						
Type: Depth (ir	nches):				•		Hydric Soil	Present? Yes No
Remarks:							, L	
Falk	to meet on	17e-12	for hydric	rarly				
	•							
1								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Many ANG -	City/County: Auburn Sampling Date: 416-13
Applicant/Owner: Make Am National Guard	City/County: Auburn Sampling Date: 4+6+3 State: ME Sampling Point: 43-46
•	Section, Township, Range:
	cal relief (concave, convex, none): Slope (%):
	Long: Datum:
Soil Map Unit Name:	Salar Sa
Are climatic / hydrologic conditions on the site typical for this time of ye	No. (If no explain in Remarks)
	5 parties.
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate repo	rt.)
Plot taken in a sparse-congry com	munity, Appears to be a nutriant-poor
site.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna	(B13) Moss Trim Lines (B16)
Saturation (A3) Marl Deposits	· · · · · · · · · · · · · · · · · · ·
Water Marks (B1) Hydrogen Sulfi	ide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizo	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Re	educed Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Re	eduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Sur	face (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain	in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	2
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes No Depth (inches	s): Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Pomorko:	
Remarks: Pot - mound dopography - pt	of taken on a wage ground/ microlyo
1 ,	
Posttran	
	·
1	1

VEGETATION – Use scientific names of plants		Proje	ect:	Sampling Point: W3 - W
Tree Stratum (Plot size: 3 \$\beta\$) 1. Betala populs folia 2	5	Species?	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: (A)
4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)		= Total Co		OBL species x 1 = FACW species x 2 = FAC species x 3 =
1. Chomodaphie calyculata 2. Vacconium corymbosum 3. Phy 5 trobus	15		FACU	FACU species x 4 = UPL species x 5 =
4. Lyonia ligestina	5		FACU	Column Totals: (A) (B)
5. Alnus Meoma 6. Spraea Konontosa 7. Salix 50 ?	10	<u></u>	FACW FACW	Hydrophytic Vegetation Indicators:
Sprace lettfolin 10 Herb Stratum (Plot size: 5)	82	= Total Co		1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is ≤3.0¹
1. Rubes hispides.	15	V	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
2. Serpes expens 3. Jences effects 4. Chromodephne confectation	5		FACW 12181	¹ Indicators of hydric soil and wetland hydrology must
5. Osmade regalis	20		OBL	be present, unless disturbed or problematic. Definitions of Vegetation Strata:
7 8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11 12	:+: -			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)	57	= Total Cov	ver	height.
1				
3 4			=	Hydrophytic Vegetation
Remarks: (Include photo numbers here or on a separate s		= Total Cov	/er	Present? Yes No
Meets criteria for hydrophytis		fation.		
			18	

\sim	^	

Project:	 ampling Point:	<i>U3</i>	-Wel	gram.
	 amping rome.			

Profile Desc	ription: (Describe t	o the dep	th needed to docum	ent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			Features	Type ¹	_Loc ² _	Texture	Remarks
(inches)	Color (moist)		Color (moist)	%		LOC		
0-2	10 YR Z/I	100				***************************************	1 (40Ky	marl
2-6	10483/2	100	Application				25	Sakualool
6-11	7.58882	95	10125/6	Zyman Z	<u> </u>	PL	15	
11-15+	2.544/2	90	7.54K 5/6	10	<u> </u>	PE	45	Scholed-difficith
¹Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, MS	 	Sand Gr	ains.	2Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil								for Problematic Hydric Soils ³ :
Black H Hydroge Stratifie Deplete Thick D Sandy M Sandy G Stripped Dark St	pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, M	ILRA 149		ce (S9) (I fineral (F Matrix (F2 (F3) fface (F6) Surface (F6) ions (F8)	LRR R, M 1) (LRR K ?) 	LRA 149B , L)) 5 cm M Dark S Polyva Thin On-M Piedm Mesic Red P Very S Other	Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Balue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (T12) (LRR K, L, R) Dark Surface (T49) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Darent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
Type:	Layer (if observed):						v	
Depth (in							Hydric Soil	Present? Yes No No
Remarks:	ser layers	too	Satiated	to o	botan	Seromp	otes.	
				-				

Appendix E

Stream Data Sheet



Maine Stream Data Sheet

Stream ID: 51 Date: 4-16-12 Initials: EL
Project: Achira ANG Number of Flags:
Flagging Type: Stream Center / Stream Bank 2 Photos: #:
Flow Regime: Per / Int (flows > 6 months per year)/ Eph
Flow Observations: Dry / Low / Mod / High / Flood
Predominant Bed Composition: Bedrk / Bldr / Cobl / Gravl / Sand / Slt/Clay / Organic
Ave. Bank Ht. (ft): Ave. Depth (in): Channel mineral substrate: Y/N
Channel contains aquatic animals:
Channel Contains aquatic vegetation:
Associated Wetland: (Y) / N If Yes, ID: 4 + W5 GPS Complete: (Y) / N
Comments:
·
Stream ID: 52 Date: 4-/7-/2 Initials: EC
Project: Aubarn AMG Number of Flags: 5
Flagging Type: Stream Center Stream Bank 2 Photos: #:
Flagging Type: Stream Center Stream Bank 2 Photos: #:
Flagging Type: Stream Center Stream Bank 2 Photos: #:
Flow Regime: Per / Int (flows > 6 months per year) Eph Flow Observations: Dry Low / Mod / High / Flood
Flow Regime: Per / Int (flows > 6 months per year) Eph Flow Observations: Dry Low / Mod / High / Flood Predominant Bed Composition: Bedrk / Bldr / Cobl / Gravl / Sand / Slt/Clay / Organic
Flow Regime: Per / Int (flows > 6 months per year) Eph Flow Observations: Dry Low / Mod / High / Flood Predominant Bed Composition: Bedrk / Bldr / Cobl / Gravl / Sand / Slt/Clay / Organic Ave. Bank Ht. (ft): Ave. Depth (in): Channel mineral substrate: Y/N
Flow Regime: Per / Int (flows > 6 months per year) Eph Flow Observations: Dry Low / Mod / High / Flood Predominant Bed Composition: Bedrk / Bldr / Cobl / Gravl / Sand / Slt/Clay / Organic Ave. Bank Ht. (ft): Ave. Depth (in): Channel mineral substrate: Y/N Channel contains aquatic animals:
Flagging Type: Stream Center Stream Bank 2 Photos: #:

Appendix F

Photographs

Auburn Wetland and Vernal Pool Survey Photolog



Date: 04-16-2013

Photographer: E. Lema

Comments: View of

wetland W1 east from flag

1.



Date: 04-16-2013

Photographer: E. Lema

Comments: View of pooled portion of wetland

W1.



Photographer: E. Lema

Comments: PSS/PEM component of wetland W2. Standing water too shallow to support vernal pool species.





Date: 04-16-2013

Photographer: E. Lema

Comments: Wetland W2 facing north. Recreational facilities in background.



Photographer: E. Lema

Comments: Swale leading from wetland W2, included within wetland W3.





Date: 04-16-2013

Photographer: E. Lema

Comments: Open water portion of wetland W3.



Photographer: E. Lema

Comments: PFO component of wetland

omponent or

W3.

Wetland W4



Date: 04-16-2013

Photographer: E. Lema

Comments: Saturated floodplain surrounding stream S1.



Photographer: E. Lema

Comments: View of PFO within wetland W5.



Date: 04-17-2013

Photographer: E. Lema

Comments: Seepage

slope.



Photographer: E. Lema

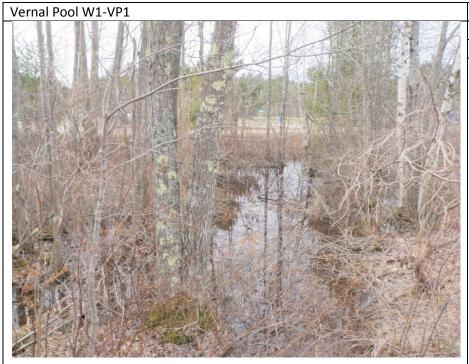
Comments: Stream S1 flows through the coniferous forest (foreground) into wetland W5 (background).



Date: 04-17-2013

Photographer: E. Lema

Comments: View downstream. Flows into large wetland in background.



Photographer: E. Lema

Comments: Note the woody vegetation through pooled area.





Date: 04-16-2013

Photographer: E. Lema

Comments: Shallow portion of vernal pool. Note the road in the background.



Photographer: E. Lema

Comments: Vegetated throughout. Garfield Road is in the background.



Date: 04-16-2013

Photographer: E. Lema

Comments: Note vegetation throughout pool.



Photographer: E. Lema

Comments: Note sparse vegetation in pool.



Date: 04-16-2013

Photographer: E. Lema

Comments: Unable to survey interior of pool – inaccessible.



Photographer: E. Lema

Comments: Large pool dominated by shrub species along margins.



Vernal Pool W3-VP3

Date: 04-16-2013

Photographer: E. Lema

Comments: Sparse herbaceous vegetation in pool interior.