

Wetland Bog Turtle Assessment Summary for the Pennsylvania Pipeline Project (PPP) – Cumberland County – 3/22/2016

Wetland ID	USFWS Cowardin Classification ¹	Coordinates	Crossing Method ²	Length of Centerline Crossing (feet) ³	PADEP Permanent Impact ⁴	PADEP Temporary Impact ⁵	PADEP & USACE Permanent Loss ⁶	Conversion Impact (acre) ⁷	Bog Turtle Assessment ⁸		Exceptional Value	Site Plan Sheet Number	Permit
									Phase I	Phase II			
Pond-J3	PuB	-77.1538, 40.2357	Open Cut	-	0.001	-	-	-	N/A	N/A	n/a		Individual
Pond-J4	PuB	-77.4510, 40.2527	Open Cut	-	0.002	-	-	-	N/A	N/A	n/a		Individual
W14e	PEM	-77.3005, 40.2428	Open Cut	251	0.287	-	-	-	1N	N/A	n/a		Individual
W177	PEM	-77.3494, 40.2450	Open Cut	21	0.011	-	-	-	1P	2N	n/a		Individual
W19d	PEM	-77.3733, 40.2456	Open Cut	17	0.005	-	-	-	1N	N/A	n/a		Individual
W22d	PEM	-77.3886, 40.2456	Open Cut	30	0.016	-	-	-	1N	N/A	n/a		Individual
W33d	PEM	-77.4301, 40.2476	Open Cut	-	0.005	-	-	-	1N	N/A	n/a		Individual
BB15	PEM	-77.2003, 40.2443	Open Cut	19	0.021	-	-	-	1N	N/A	n/a		Individual
BB43	PEM	-76.9711, 40.1958	Open Cut	55	0.009	-	-	-	1N	N/A	n/a		Individual
BB44	PEM	-76.9690, 40.1961	Open Cut	-	0.001	-	-	-	1N	N/A	n/a		Individual
BB129	PEM	-77.0790, 40.2161	Open Cut	131	0.146	-	-	-	1N	N/A	n/a		Individual
BB151	PEM	-77.3170, 40.2469	Temporary Matting	-	-	0.020	-	-	1N	N/A	n/a		Individual
BB155	PEM	-77.3557, 40.2451	Open Cut	116	0.093	-	-	-	1P	2N	n/a		Individual
	PFO	-77.3554, 40.2449	Open Cut	-	0.002	-	-	0.002	1P	2N	n/a		Individual
	PSS	-77.3556, 40.2451	Open Cut	28	0.019	-	-	-	1P	2N	n/a		Individual
H54	PEM	-76.9329, 40.1921	Open Cut	40	0.020	-	-	-	1N	2N	n/a		Individual
I24	PEM	-76.9124, 40.1922	HDD	403	0.028	-	-	-	1N	N/A	Scenic River		Individual
	PFO	-76.9123, 40.1921	HDD	197	0.014	-	-	-	1N	N/A	Scenic River		Individual
I25	PEM	-76.9415, 40.1924	HDD	20	0.001	-	-	-	1N	N/A	Wild Trout		Individual
I26	PEM	-76.9386, 40.1924	Open Cut	80	0.070	-	-	-	1N	N/A	n/a		Individual
I27	PEM	-76.9382, 40.1924	Open Cut	38	0.039	-	-	-	1N	N/A	n/a		Individual
I30	PEM	-77.1323, 40.2287	HDD	223	0.015	-	-	-	1N	N/A	Wild Trout		Individual
I31	PEM	-77.1395, 40.2288	HDD	139	0.010	-	-	-	1N	N/A	Wild Trout, Scenic River		Individual
I32	PFO	-77.1404, 40.2287	HDD	81	0.006	-	-	-	1N	N/A	Wild Trout, Scenic River		Individual
I36	PFO	-77.1797, 40.2403	HDD	76	0.005	-	-	-	1P	2FWS	Bog Turtle		Individual
I38	PEM	-77.2205, 40.2406	Open Cut	-	0.028	-	-	-	1N	N/A	n/a		Individual
	PFO	-77.2192, 40.2406	Open Cut	84	0.070	0.032	-	0.070	1N	N/A	n/a		Individual
I39	PEM	-77.2380, 40.2410	Open Cut	87	0.097	-	-	-	1N	N/A	n/a		Individual
I41	PEM	-77.2824, 40.2421	Open Cut	42	0.049	-	-	-	1N	N/A	n/a		Individual
I43	PEM	-77.2437, 40.2411	Open Cut	93	0.048	-	-	-	1N	N/A	n/a		Individual
I44	PEM	-77.2528, 40.2414	Open Cut	44	0.038	-	-	-	1N	N/A	n/a		Individual
I45	PEM	-77.2544, 40.2413	Open Cut	-	0.024	-	-	-	1N	N/A	n/a		Individual
I46	PEM	-77.2551, 40.2413	Open Cut	-	0.019	-	-	-	1N	N/A	n/a		Individual
I48	PEM	-77.2581, 40.2417	Open Cut	94	0.025	-	-	-	1N	N/A	n/a		Individual
I49	PEM	-77.2579, 40.2416	Open Cut	30	0.023	-	-	-	1N	N/A	n/a		Individual
I52	PEM	-77.2689, 40.2419	Open Cut	36	0.037	-	-	-	1P	2N	n/a		Individual
I53	PEM	-77.2704, 40.2422	Open Cut	28	0.011	-	-	-	1N	N/A	n/a		Individual
I54	PEM	-77.3977, 40.2456	Open Cut	55	0.041	-	-	-	1N	N/A	n/a		Individual
I55	PEM	-77.3964, 40.2453	Open Cut	10	0.005	-	-	-	1P	2N	n/a		Individual
I56	PEM	-77.3961, 40.2455	Open Cut	32	0.029	-	-	-	1P	2N	n/a		Individual
I58	PEM	-77.3855, 40.2455	Open Cut	-	0.002	-	-	-	1N	N/A	n/a		Individual

Wetland ID	USFWS Cowardin Classification ¹	Coordinates	Crossing Method ²	Length of Centerline Crossing (feet) ³	PADEP Permanent Impact ⁴	PADEP Temporary Impact ⁵	PADEP & USACE Permanent Loss ⁶	Conversion Impact (acre) ⁷	Bog Turtle Assessment ⁸		Exceptional Value	Site Plan Sheet Number	Permit
									Phase I	Phase II			
I60	PEM	-77.3847, 40.2456	Open Cut	43	0.024	-	-	-	1P	2N	n/a		Individual
I61	PEM	-77.3838, 40.2458	Bore/ Temporary Matting	62	0.052	-	-	-	1P	2N	n/a		Individual
I62	PEM	-77.4347, 40.2489	Open Cut	162	0.121	-	-	-	1N	N/A	n/a		Individual
I63	PEM	-77.4451, 40.2511	HDD/ Travel Only	355	0.157	-	-	-	1P	2N	n/a		Individual
I64	PEM	-77.4306, 40.2478	Open Cut	16	0.009	-	-	-	1N	N/A	n/a		Individual
J9	PEM	-77.1801, 40.2403	HDD	9	0.001	-	-	-	1N	N/A	n/a		Individual
J10	PEM	-77.1830, 40.2409	Open Cut/HDD	1,512 (1,298/ 214 HDD)	1.490	0.491	-	-	1N	N/A	n/a		Individual
J11	PEM	-77.1876, 40.2420	Temporary Matting	-	-	0.217	-	-	1N	N/A	n/a		Individual
J13	PEM	-77.1959, 40.2441	Open Cut	72	0.096	-	-	-	1P	2FWS	BT A/O		Individual
	PSS	-77.1966, 40.2444	Open Cut	-	0.001	-	-	-	1P	2FWS	BT A/O		Individual
J14	PEM	-77.1977, 40.2444	Open Cut	40	0.027	-	-	-	1N	N/A	n/a		Individual
J15	PEM	-77.1998, 40.2446	Open Cut	26	0.032	-	-	-	1N	N/A	n/a		Individual
J20	PEM	-77.2601, 40.2418	Open Cut	414	0.332	-	-	-	1P	2N	n/a		Individual
J21	PEM	-77.2898, 40.2423	Open Cut	152	0.108	-	-	-	1P	2N	n/a		Individual
J22	PEM	-77.2942, 40.2426	Open Cut	67	0.075	-	-	-	1N	N/A	n/a		Individual
J23	PEM	-77.2971, 40.2426	Open Cut	91	0.107	-	-	-	1N	N/A	n/a		Individual
J24	PEM	-77.2981, 40.2426	Open Cut	36	0.042	-	-	-	1N	N/A	n/a		Individual
J25	PEM	-77.3011, 40.2427	Open Cut	73	0.066	-	-	-	1N	N/A	n/a		Individual
J26	PEM	-77.3019, 40.2426	Open Cut	-	0.021	-	-	-	1N	N/A	n/a		Individual
J27	PEM	-77.3067, 40.2423	Open Cut	14	0.015	-	-	-	1P	2N	n/a		Individual
J31	PEM	-77.3169, 40.2433	HDD/Travel Lane	351	0.222	-	-	-	1N	N/A	n/a		Individual
	PFO	-77.3168, 40.2434	HDD	366	0.025	-	-	-	1N	N/A	n/a		Individual
J32	PEM	-77.3193, 40.2437	Open Cut	78	0.035	-	-	-	1N	N/A	n/a		Individual
J35	PEM	-77.3276, 40.2445	HDD/Travel Lane	1,730	1.078	-	-	-	1P	2N	n/a		Individual
	PFO	-77.3234, 40.2443	HDD	834	0.057	-	-	-	1P	2N	n/a		Individual
J36	PEM	-77.3379, 40.2453	Open Cut	95	0.116	-	-	-	1P	2N	n/a		Individual
J40	PEM	-77.4471, 40.2516	HDD/Travel Lane	525	0.271	-	-	-	1P	2N	n/a		Individual
	PFO	-77.4464, 40.2516	HDD	261	0.018	-	-	-	1P	2N	n/a		Individual
K1	PEM	-77.3620, 40.2452	Open Cut	155	0.182	-	-	-	1P	2N	n/a		Individual
K2	PEM	-77.3710, 40.2458	Open Cut	-	0.001	-	-	-	1P	2N	n/a		Individual
K3	PEM	-77.3710, 40.2455	Open Cut	40	0.019	-	-	-	1P	2N	n/a		Individual
K5	PEM	-77.3737, 40.2457	Open Cut	42	0.034	-	-	-	1N	N/A	n/a		Individual
K6	PEM	-77.3761, 40.2456	Open Cut	56	0.053	-	-	-	1N	N/A	n/a		Individual
K7	PEM	-77.3808, 40.2459	Open Cut	68	0.059	-	-	-	1N	N/A	n/a		Individual
K9	PEM	-77.3802, 40.2459	Open Cut	36	0.014	-	-	-	1N	N/A	n/a		Individual
K11	PEM	-77.4012, 40.2456	Open Cut	20	0.010	-	-	-	1N	N/A	n/a		Individual
K12	PEM	-77.4102, 40.2459	Open Cut	14	0.004	-	-	-	1N	N/A	n/a		Individual
K13	PEM	-77.4101, 40.2461	Open Cut	4	0.005	-	-	-	1N	N/A	n/a		Individual
K14	PEM	-77.4130, 40.2458	Open Cut	-	0.001	-	-	-	1N	N/A	n/a		Individual
K15	PEM	-77.4151, 40.2459	Open Cut	49	0.026	-	-	-	1N	N/A	n/a		Individual
K16	PEM	-77.4273, 40.2467	Open Cut	55	0.027	-	-	-	1N	N/A	n/a		Individual

Wetland ID	USFWS Cowardin Classification ¹	Coordinates	Crossing Method ²	Length of Centerline Crossing (feet) ³	PADEP Permanent Impact ⁴	PADEP Temporary Impact ⁵	PADEP & USACE Permanent Loss ⁶	Conversion Impact (acre) ⁷	Bog Turtle Assessment ⁸		Exceptional Value	Site Plan Sheet Number	Permit
									Phase I	Phase II			
K35	PEM	-77.1897, 40.2439	Open Cut	-	0.006	-	-	-	1N	N/A	n/a		Individual
K41	PEM	-77.1661, 40.2367	Open Cut	-	0.010	-	-	-	1N	N/A	n/a		Individual
K44	PEM	-77.1745, 40.2375	HDD	64	0.004	-	-	-	1N	N/A	n/a		Individual
	PFO	-77.1739, 40.2373	HDD	424	0.029	-	-	-	1N	N/A	n/a		Individual
KP2	PFO	-77.1340, 40.2302	Temporary Matting	-	-	0.005	-	0.005	1N	N/A	n/a		Individual
			78 Wetlands	11,011 feet 2.085 miles	6.454 acres	0.765 acre	0 acre	0.077 acre					

Notes:

¹ Field classification based on Cowardin et al. 1979. PEM = palustrine emergent wetland, PSS = palustrine scrub-shrub wetland, PFO = palustrine forested wetland.

² Typicals of crossing procedures and methods can be found in Attachment 12 (Erosion and Sediment Control Plan).

³ A zero length of centerline crossing indicates the wetland is located in the construction right-of-way but is not directly crossed by the pipeline centerline.

⁴ Permanent disturbances are those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result from the placement or construction of a water obstruction or encroachment and include areas necessary for the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into the wetland. Permanent disturbance impacts as HDD crossings are calculated on the width of the borehole (3 feet) multiplied by the length of the wetland crossing.

⁵ Temporary disturbances are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway or body of water that are restored upon completion of construction. This does not include areas that will be maintained as a result of the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into the wetland. These areas consist of additional temporary workspaces and temporary access roads.

⁶ Loss of wetland acreages due to permanent fill.

⁷ For PSS located in the permanent and temporary disturbance areas, these areas will be replanted with wetland shrubs in accordance with the wetland restoration and mitigation plan. PFO located in temporary disturbance areas will be replanted with wetland tree species in accordance with the wetland restoration and mitigation plan. PFO located in the permanent ROW will be restored to the wetland condition, however PFO habitat is expected to be permanently converted to PEM habitat in these areas.

⁸ Bog turtle assessment classification as follows; 1P = Phase I Positive, 1N = Phase I Negative, 2N = Phase II Negative, 2P = Phase II Positive, 2FWS = USFWS determined Phase II was not needed.

⁹ Wetlands listed above are impacted by construction, a list of wetlands within the 300 ft survey corridor that are not impacted can be provided upon request.