

Wetland Bog Turtle Assessment Summary for the Pennsylvania Pipeline Project (PPP) – Cumberland County – 11/20/2016

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	40.2357, -77.1538	Temporary Matting	-	0.001	-	-	-	N/A	N/A	-	69	Individual
Pond J4	PUB	40.2527, -77.4510	Temporary Matting	-	0.002	-	-	-	N/A	N/A	-	5	Individual
W19d	PEM	40.2456, -77.3733	Open Cut	21	0.011	-	-	-	1N	N/A	-	21	Individual
W22d	PEM	40.2456, -77.3886	Open Cut	17	0.005	-	-	-	1N	N/A	-	18	Individual
W33d	PEM	40.2476, -77.4301	Open Cut	30	0.016	-	-	-	1N	N/A	-	9	Individual
W14e	PEM	40.2428, -77.3005	Open Cut	-	0.005	-	-	-	1N	N/A	-	38	Individual
W177	PEM	40.2450, -77.3494	HDD / Travel Lane	251	0.017	0.148	-	-	1P	2N	-	26	Individual
BB15	PEM	40.2443, -77.2003	Open Cut	19	0.021	-	-	-	1N	N/A	-	59	Individual
BB43	PEM	40.1958, -76.9711	Open Cut	55	0.009	-	-	-	1N	N/A	-	118	Individual
BB44	PEM	40.1961, -76.969	Open Cut	-	0.001	-	-	-	1N	N/A	-	119	Individual
BB129	PEM	40.2161, -77.079	Open Cut	131	0.146	-	-	-	1N	N/A	-	91	Individual
BB151	PEM	40.2469, -77.317	Fence to Avoid	-	-	0.010	-	-	1N	N/A	Public Water	34	Individual
BB155	PEM	40.2451, -77.3557	Bore/Conventional	116	0.093	-	-	-	1P	2N	-	25	Individual
	PSS	40.2451, -77.3556	Bore	10	0.019	-	-	-	1P	2N	-	25	Individual
H54	PEM	40.1921, -76.9329	Open Cut	40	0.020	-	-	-	1N	2N	-	128	Individual
I24	PEM	40.1922, -76.9124	HDD	403	0.028	-	-	-	1N	N/A	-	132	Individual
	PFO	40.1921, -76.9123	HDD	195	0.013	-	-	-	1N	N/A	-	132	Individual
I25	PEM	40.1924, -76.9415	HDD	20	0.001	-	-	-	1N	N/A	Wild Trout Trib	126	Individual
I26	PEM	40.1924, -76.9386	HDD/Travel	80	0.070	-	-	-	1N	N/A	-	127	Individual
I27	PEM	40.1924, -76.9382	HDD/Travel	38	0.039	-	-	-	1N	N/A	-	127	Individual
I30	PEM	40.2287, -77.1323	HDD	223	0.015	-	-	-	1N	N/A	Wild Trout Trib	76	Individual
I31	PEM	40.2288, -77.1395	HDD	139	0.010	-	-	-	1N	N/A	Wild Trout	74	Individual
I32	PFO	40.2287, -77.1404	HDD	81	0.006	-	-	-	1N	N/A	Wild Trout	74	Individual
I36	PFO	40.2398, -77.1788	HDD	76	0.005	-	-	-	1P	2FWS	-	64	Individual
I38	PEM	40.2406, -77.2205	Open Cut	-	0.028	-	-	-	1N	N/A	Public Water	55	Individual
	PFO	40.2406, -77.2203	Open Cut	84	0.070	-	-	0.070	1N	N/A	Public Water	55	Individual
I39	PEM	40.241, -77.238	Open Cut	87	0.097	-	-	-	1N	N/A	-	51	Individual
I41	PEM	40.2421, -77.2824	Open Cut	42	0.049	-	-	-	1N	N/A	-	42	Individual
I43	PEM	40.2411, -77.2437	Open Cut	93	0.048	-	-	-	1N	N/A	-	50	Individual

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									Phase I	Phase II			
I44	PEM	40.2414, -77.2528	Open Cut	44	0.038	-	-	-	1N	N/A	-	48	Individual
I45	PEM	40.2413, -77.2544	Open Cut	-	0.024	-	-	-	1N	N/A	-	48	Individual
I46	PEM	40.2413, -77.2551	Open Cut	-	0.019	-	-	-	1N	N/A	-	48	Individual
I48	PEM	40.2417, -77.2581	Open Cut	94	0.025	-	-	-	1N	N/A	-	47	Individual
I49	PEM	40.2416, -77.2579	Open Cut	30	0.023	-	-	-	1N	N/A	-	47	Individual
I52	PEM	40.2419, -77.2689	Open Cut	36	0.037	-	-	-	1P	2N	-	45	Individual
I53	PEM	40.2422, -77.2704	Open Cut	28	0.011	-	-	-	1N	N/A	-	44	Individual
I54	PEM	40.2456, -77.3977	Open Cut	55	0.041	-	-	-	1N	N/A	-	16	Individual
I55	PEM	40.2453, -77.3964	Open Cut	10	0.005	-	-	-	1P	2N	-	16	Individual
I56	PEM	40.2455, -77.3961	Open Cut	32	0.029	-	-	-	1P	2N	-	16	Individual
I58	PEM	40.2455, -77.3855	Open Cut	-	0.002	-	-	-	1N	N/A	-	19	Individual
I60	PEM	40.2456, -77.3847	Open Cut	43	0.024	-	-	-	1P	2N	-	19	Individual
I61	PEM	40.2458, -77.3838	Bore/Temporary Matting	62	0.052	-	-	-	1P	2N	-	19	Individual
I62	PEM	40.2489, -77.4347	Open Cut	162	0.121	-	-	-	1N	N/A	-	8	Individual
I63	PEM	40.2511, -77.4451	HDD	355	0.024	-	-	-	1P	2N	-	6	Individual
I64	PEM	40.2478, -77.4306	Open Cut	16	0.009	-	-	-	1N	N/A	-	9	Individual
J9	PEM	40.2403, -77.1801	HDD	9	0.001	-	-	-	1N	N/A	-	64	Individual
J10	PEM	40.2409, -77.183	HDD/Open Cut/Temporary Matting	1761	1.873	0.051	-	-	1N	N/A	Public Water	62	Individual
J11	PEM	40.242, -77.1876	Pullback Workspace, Conventional	-	0.013	0.141	-	-	1N	N/A	Public Water	62	Individual
J13	PEM	40.2441, -77.1959	Open Cut	72	0.096	-	-	-	1P	2FWS	Public Water	60	Individual
	PSS	40.2444, -77.1966	Open Cut	-	0.001	-	-	-	1P	2FWS	Public Water	60	Individual
J14	PEM	40.2444, -77.1977	Open Cut	27	0.027	-	-	-	1N	N/A	Public Water	60	Individual
J15	PEM	40.2446, -77.1998	Open Cut	26	0.032	-	-	-	1N	N/A	Public Water	59	Individual
J20	PEM	40.2418, -77.2601	Open Cut	414	0.332	-	-	-	1P	2N	-	46	Individual
J21	PEM	40.2423, -77.2898	Open Cut	152	0.108	-	-	-	1P	2N	-	40	Individual
J22	PEM	40.2426, -77.2942	Open Cut	67	0.075	-	-	-	1N	N/A	-	39	Individual
J23	PEM	40.2426, -77.2971	Open Cut	91	0.107	-	-	-	1N	N/A	-	38	Individual
J24	PEM	40.2426, -77.2981	Open Cut	36	0.042	-	-	-	1N	N/A	-	38	Individual
J25	PEM	40.2427, -77.3011	Open Cut	73	0.066	-	-	-	1N	N/A	-	38	Individual

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									Phase I	Phase II			
J26	PEM	40.2426, -77.3019	Open Cut	-	0.021	-	-	-	1N	N/A	-	37	Individual
J27	PEM	40.2423, -77.3067	Open Cut	14	0.015	-	-	-	1P	2N	-	36	Individual
J31	PEM	40.2433, -77.3169	HDD / Travel Lane	351	0.027	0.198	-	-	1N	N/A	-	33	Individual
	PFO	40.2434, -77.3168	HDD	366	0.027	-	-	-	1N	N/A	-	33	Individual
J32	PEM	40.2437, -77.3193	Open Cut	78	0.035	-	-	-	1N	N/A	-	33	Individual
J35	PEM	40.2445, -77.3276	HDD	1730	0.119	-	-	-	1P	2N	-	31	Individual
	PFO	40.2443, -77.3234	HDD	1077	0.074	-	-	-	1P	2N	-	32	Individual
J36	PEM	40.2453, -77.3379	Open Cut	95	0.116	-	-	-	1P	2N	-	28	Individual
J40	PEM	40.2519, -77.4471	HDD	516	0.036	-	-	-	1P	2N	-	5	Individual
	PFO	40.2519, -77.4463	HDD	261	0.018	-	-	-	1P	2N	-	5	Individual
K1	PEM	40.2452, -77.362	Open Cut	155	0.182	-	-	-	1P	2N	-	23	Individual
K2	PEM	40.2458, -77.371	Open Cut	-	0.001	-	-	-	1P	2N	-	22	Individual
K3	PEM	40.2455, -77.371	Open Cut	40	0.019	-	-	-	1P	2N	-	22	Individual
K5	PEM	40.2457, -77.3737	Open Cut	42	0.034	-	-	-	1N	N/A	-	21	Individual
K6	PEM	40.2456, -77.3761	Open Cut	56	0.053	-	-	-	1N	N/A	-	21	Individual
K7	PEM	40.2459, -77.3808	Open Cut	68	0.059	-	-	-	1N	N/A	-	20	Individual
K9	PEM	40.2459, -77.3802	Open Cut	36	0.014	-	-	-	1N	N/A	-	20	Individual
K11	PEM	40.2456, -77.4012	Open Cut	20	0.010	-	-	-	1N	N/A	-	15	Individual
K12	PEM	40.2459, -77.4102	Open Cut	14	0.004	-	-	-	1N	N/A	-	13	Individual
K13	PEM	40.2461, -77.4101	Open Cut	4	0.005	-	-	-	1N	N/A	-	13	Individual
K14	PEM	40.2458, -77.413	Open Cut	-	0.001	-	-	-	1N	N/A	-	13	Individual
K15	PEM	40.2459, -77.4151	Open Cut	49	0.026	-	-	-	1N	N/A	-	12	Individual
K16	PEM	40.2467, -77.4273	Open Cut	55	0.027	-	-	-	1N	N/A	-	10	Individual
K41	PEM	40.2367, -77.1661	Open Cut	-	0.010	-	-	-	1N	N/A	-	67	Individual
K44	PEM	40.2375, -77.1745	HDD	64	0.004	-	-	-	1N	N/A	-	65	Individual
	PFO	40.2373, -77.1739	HDD	424	0.029	-	-	-	1N	N/A	-	65	Individual
			74 Wetlands 2 Ponds	11,461 feet 2.171 miles	5.068 acres	0.548 acre	0 acre	0.070 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.