Appendix 3. Summary of performance statistics for the specific conductance models used in the Model-to-Marsh Decision Support System-Version 2 (M2M-2 DSS).

[Modified from Conrads and others, 2006. USGS, U.S. Geological Survey; SC, specific conductance;Min, minimum; Max, maximum; n, number of data points; R^2, coefficient of determination;SSE, sum of squared error; ME, mean error;RMSE, root mean square error; PME, percent model error]

Model name	Station number	Output variable	Training								Testing							
			Range of output variable								Range of output variable							
			Min	Max	n	R^2	SSE	ME	RMSE	PME	Min	Max	n	R^2	SSE	ME	RMSE	PME
USGS river network specific-conductance models																		
sc8840a-2005-1	2198840	SC-daily	60	773	10,056	0.887	1763591	0.047	13	1.9	46	773	77,309	0.851	12414716	-3.254	13	1.7
sc8840h-2005-1	2198840	SC-hourly	59	8,370	10,197	0.879	21846887	0.056	46	0.6	30	2,375	77,772	0.567	42270460	-3.236	23	1.0
sc8920a-2005-1	2198920	SC-daily	68	18,667	9,836	0.897	1.41E+10	0.864	1,198	6.4	50	18,726	67,677	0.883	8.80E+10	-367.667	1,141	6.1
sc8920h-2005-1	2198920	SC-hourly	6	31,169	9,900	0.900	3.84E+10	-0.732	1,971	6.3	30	31,935	67,820	0.867	2.32E+11	-308.104	1,850	5.8
sc89784a-2005-1	21989784	SC-daily	79	2,198	8,534	0.880	1.62E+08	0.160	138	6.5	50	2,230	70,348	0.853	1.02E+09	-60.755	121	5.5
sc89784h-2005-1	21989784	SC-hourly	72	5,821	8,600	0.825	2.92E+08	0.006	184	3.2	40	4,286	71,064	0.793	1.62E+09	-56.100	151	3.6
sc89791a-2005-1	21989791	SC-daily	78	5,693	9,660	0.887	5.97E+08	0.870	249	4.4	52	5,690	75,782	0.870	2.89E+09	-65.833	195	3.5
sc89791h-2005-1	21989791	SC-hourly	75	15,200	9,736	0.888	1.10E+09	0.336	336	2.2	50	10,973	76,366	0.826	5.42E+09	-63.386	266	2.4
USGS marsh network specific-conductance models																		
pb1msc-2005-2	B1	SC-hourly	117	2,433	2,333	0.857	6.56E+07	-0.050	168	7.2	54	2,562	20,555	0.849	5.98E+08	0.207	171	6.8
pb2msc-2005-2	B2	SC-hourly	52	3,055	2,142	0.826	1.41E+08	-0.684	257	8.5	51	3,881	18,770	0.832	1.22E+09	0.823	255	6.7
pb3msc-2005-2	B3	SC-hourly	619	4,478	2,326	0.549	6.17E+08	0.657	515	13.4	99	4,922	20,519	0.532	5.48E+09	-4.510	517	10.7
pb4msc-2005-2	B4	SC-hourly	131	21,845	2,093	0.654	9.59E+09	-2.247	2,142	9.9	50	24,625	18,577	0.641	9.06E+10	14.870	2,209	9.0
pf1msc-2005-2	F1	SC-hourly	165	5,236	2,496	0.816	4.77E+08	0.439	437	8.6	162	5,566	22,073	0.820	4.14E+09	-14.661	433	8.0
pm1msc-2005-2	M1	SC-hourly	56	6,853	2,147	0.809	3.83E+08	0.252	423	6.2	50	6,887	18,927	0.808	3.27E+09	-2.905	416	6.1
pm2msc-2005-2	M2	SC-hourly	67	12,721	2,323	0.841	1.03E+09	-0.078	666	5.3	52	17,588	20,593	0.830	1.02E+10	10.500	704	4.0
Decorrelation Models																		
dc_gpa_a1wk_10s_11b	GPA11	SC-decorrelated-hourly	101	9,825	7,644	0.800	7.37E+09	-1.863	982	10.1	101	9,837	30,459	0.804	2.85E+10	-23.431	967	9.9
dc_gpa_a1wk_10s_11rb	GPA11r	SC-decorrelated-hourly	101	9,825	7,750	0.957	1.62E+09	-1.837	457	4.7	101	9,837	30,921	0.958	6.25E+09	-1.805	450	4.6
dc_gpa_a1wk_10s_12rs	GPA12	SC-decorrelated-hourly	101	9,825	7,750	0.881	4.48E+09	-0.273	760	7.8	101	9,837	30,921	0.880	1.79E+10	0.863	761	7.8
Residual Models																		
prb1msc	B1	SC-residual-hourly	-543	780	4,547	0.080	1.16E+08	0.005	160	12.1	-610	797	18,224	0.087	4.90E+08	1.615	164	11.7
prb2msc	B2	SC-residual-hourly	-895	1,291	4,176	0.067	2.49E+08	-0.158	244	11.2	-932	1,653	16,736	0.059	1.03E+09	0.915	248	9.6
prb3msc	B3	SC-residual-hourly	-1422	1,889	4,519	0.020	1.18E+09	0.089	510	15.4	-1505	1,920	18,209	0.018	4.80E+09	-6.018	513	15.0
prb4msc	B4	SC-residual-hourly	-7437	9,515	4,097	0.020	1.96E+10	0.213	2,185	12.9	-10522	11,201	16,456	0.020	7.83E+10	-41.183	2,182	10.0
prf1msc	F1	SC-residual-hourly	-2214	2,046	4,873	0.055	9.10E+08	2.199	432	10.1	-2214	2,046	19,579	0.050	3.47E+09	9.212	421	9.9
prm1msc	M1	SC-residual-hourly	-1411	2,029	4,163	0.073	6.80E+08	0.169	404	11.8	-1434	1,575	16,803	0.065	2.71E+09	1.600	402	13.3
prm2msc	M2	SC-residual-hourly	-2721	5,548	4,539	0.034	2.16E+09	0.138	691	8.4	-3577	8,439	18,260	0.016	8.87E+09	3.267	697	5.8
USGS marsh network final specific conductance predictions[1]																		
pb1msc+prb1msc	B1	SC-hourly	54	2,562	22,771	0.930	6.06E+08	146	163	6.5								
pb2msc+prb2msc	B2	SC-hourly	51	3,881	20,912	0.920	1.28E+09	189	247	6.5								
pb3msc+prb3msc	B3	SC-hourly	99	4,922	22,728	0.740	5.98E+09	204	513	10.6								
pb4msc+prb4msc	B4	SC-hourly	50	24,625	20,553	0.810	9.79E+10	863	2183	8.9								
pf1msc+prf1msc	F1	SC-hourly	162	5,945	24,452	0.910	4.38E+09	314	423	7.3								
pm1msc+prm1msc	M1	SC-hourly	50	6,887	20,966	0.906	3.39E+09	350	402	5.9								
pm2msc+prm2msc	M2	SC-hourly	50	17,588	22,799	0.913	1.1E+10	497	696	4.0								

[1] sum of results from marsh and residual models. Statistics for period of record for each USGS marsh site.