Appendix A: Water Quality Calibration and Validation Floyds Fork Watershed

Table of Contents

TABLE OF CONTENTS **0**
LIST OF FIGURES **1**
LIST OF TABLES **10**

List of Figures

Figure A-1 USGS Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model 12
Figure A-2 Modeled vs. Observed TEMP (°C) at 03297830 13
Figure A-3 Modeled vs. Observed TEMP (°C) at 03297845 13
Figure A-4 Modeled vs. Observed TEMP (°C) at 03297850 14
Figure A-5 Modeled vs. Observed TEMP (°C) at 03297855 14
Figure A-6 Modeled vs. Observed TEMP (°C) at 03297860 15
Figure A-7 Modeled vs. Observed TEMP (°C) at 03297875 15
Figure A-8 Modeled vs. Observed TEMP (°C) at 03297880 16
Figure A-9 Modeled vs. Observed TEMP (°C) at 03297900 16
Figure A-10 Modeled vs. Observed TEMP (°C) at 03297930 17
Figure A-11 Modeled vs. Observed TEMP (°C) at 03297950 17
Figure A-12 Modeled vs. Observed TEMP (°C) at 03297975 18
Figure A-13 Modeled vs. Observed TEMP (°C) at 03297980 18
Figure A-14 Modeled vs. Observed TEMP (°C) at 03298000 19
Figure A-15 Modeled vs. Observed TEMP (°C) at 03298005 19
Figure A-16 Modeled vs. Observed TEMP (°C) at 03298020 20
Figure A-17 Modeled vs. Observed TEMP (°C) at 03298100 20
Figure A-18 Modeled vs. Observed TEMP (°C) at 03298110 21
Figure A-19 Modeled vs. Observed TEMP (°C) at 03298120 21
Figure A-20 Modeled vs. Observed TEMP (°C) at 03298135 22
Figure A-21 Modeled vs. Observed TEMP (°C) at 03298138 22
Figure A-22 Modeled vs. Observed TEMP (°C) at 03298150 23
Figure A-23 Modeled vs. Observed TEMP (°C) at 03298160 23
Figure A-24 Modeled vs. Observed TEMP (°C) at 03298200 24
Figure A-25 Modeled vs. Observed TEMP (°C) at 03298250 24
Figure A-26 Modeled vs. Observed TEMP (°C) at 03298300 25
Figure A-27 Modeled vs. Observed TEMP (°C) at 03298470 25
Figure A-28 Modeled vs. Observed DO (mg/L) at 03297830 26
Figure A-29 Modeled vs. Observed DO (mg/L) at 03297845 26
Figure A-30 Modeled vs. Observed DO (mg/L) at 03297850 27
Figure A-31 Modeled vs. Observed DO (mg/L) at 03297855 27
Figure A-32 Modeled vs. Observed DO (mg/L) at 03297860 28
Figure A-33 Modeled vs. Observed DO (mg/L) at 03297875 28
Figure A-34 Modeled vs. Observed DO (mg/L) at 03297880 29
Figure A-35 Modeled vs. Observed DO (mg/L) at 03297900 29
Figure A-36 Modeled vs. Observed DO (mg/L) at 03297930 30
Figure A-37 Modeled vs. Observed DO (mg/L) at 03297950 30
Figure A-38 Modeled vs. Observed DO (mg/L) at 03297975 31
Figure A-39 Modeled vs. Observed DO (mg/L) at 03297980 31
Figure A-40 Modeled vs. Observed DO (mg/L) at 03298000 32
Figure A-41 Modeled vs. Observed DO (mg/L) at 03298005 32
Figure A-42 Modeled vs. Observed DO (mg/L) at 03298020 33
Figure A-43 Modeled vs. Observed DO (mg/L) at 03298100 33
Figure A-44 Modeled vs. Observed DO (mg/L) at 03298110 34
Figure A-45 Modeled vs. Observed DO (mg/L) at 03298120 34
Figure A-46 Modeled vs. Observed DO (mg/L) at 03298135 35
Figure A-47 Modeled vs. Observed DO (mg/L) at 03298138 35

Figure A-48 Modeled vs. Observed DO (mg/L) at 03298150 36
Figure A-49 Modeled vs. Observed DO (mg/L) at 03298160 36
Figure A-50 Modeled vs. Observed DO (mg/L) at 03298200 37
Figure A-51 Modeled vs. Observed DO (mg/L) at 03298250 37
Figure A-52 Modeled vs. Observed DO (mg/L) at 03298300 38
Figure A-53 Modeled vs. Observed DO (mg/L) at 03298470 38
Figure A-54 Modeled vs. Observed CBOD (mg/L) at 03297830 39
Figure A-55 Modeled vs. Observed CBOD (mg/L) at 03297845 39
Figure A-56 Modeled vs. Observed CBOD (mg/L) at 03297850 40
Figure A-57 Modeled vs. Observed CBOD (mg/L) at 03297855 40
Figure A-58 Modeled vs. Observed CBOD (mg/L) at 03297860 41
Figure A-59 Modeled vs. Observed CBOD (mg/L) at 03297875 41
Figure A-60 Modeled vs. Observed CBOD (mg/L) at 03297880 42
Figure A-61 Modeled vs. Observed CBOD (mg/L) at 03297900 42
Figure A-62 Modeled vs. Observed CBOD (mg/L) at 03297930 43
Figure A-63 Modeled vs. Observed CBOD (mg/L) at 03297950 43
Figure A-64 Modeled vs. Observed CBOD (mg/L) at 03297975 44
Figure A-65 Modeled vs. Observed CBOD (mg/L) at 03297980 44
Figure A-66 Modeled vs. Observed CBOD (mg/L) at 03298000 45
Figure A-67 Modeled vs. Observed CBOD (mg/L) at 03298005 45
Figure A-68 Modeled vs. Observed CBOD (mg/L) at 03298020 46
Figure A-69 Modeled vs. Observed CBOD (mg/L) at 03298100 46
Figure A-70 Modeled vs. Observed CBOD (mg/L) at 03298110 47
Figure A-71 Modeled vs. Observed CBOD (mg/L) at 03298120 47
Figure A-72 Modeled vs. Observed CBOD (mg/L) at 03298135 48
Figure A-73 Modeled vs. Observed CBOD (mg/L) at 03298138 48
Figure A-74 Modeled vs. Observed CBOD (mg/L) at 03298150 49
Figure A-75 Modeled vs. Observed CBOD (mg/L) at 03298160 49
Figure A-76 Modeled vs. Observed CBOD (mg/L) at 03298200 50
Figure A-77 Modeled vs. Observed CBOD (mg/L) at 03298250 50
Figure A-78 Modeled vs. Observed CBOD (mg/L) at 03298300 51
Figure A-79 Modeled vs. Observed CBOD (mg/L) at 03298470 51
Figure A-80 Modeled vs. Observed TN (mg/L) at 03297830 52
Figure A-81 Modeled vs. Observed TN (mg/L) at 03297845 52
Figure A-82 Modeled vs. Observed TN (mg/L) at 03297850 53
Figure A-83 Modeled vs. Observed TN (mg/L) at 03297855 53
Figure A-84 Modeled vs. Observed TN (mg/L) at 03297860 54
Figure A-85 Modeled vs. Observed TN (mg/L) at 03297875 54
Figure A-86 Modeled vs. Observed TN (mg/L) at 03297880 55
Figure A-87 Modeled vs. Observed TN (mg/L) at 03297900 55
Figure A-88 Modeled vs. Observed TN (mg/L) at 03297930 56
Figure A-89 Modeled vs. Observed TN (mg/L) at 03297950 56
Figure A-90 Modeled vs. Observed TN (mg/L) at 03297975 57
Figure A-91 Modeled vs. Observed TN (mg/L) at 03297980 57
Figure A-92 Modeled vs. Observed TN (mg/L) at 03298000 58
Figure A-93 Modeled vs. Observed TN (mg/L) at 03298005 58
Figure A-94 Modeled vs. Observed TN (mg/L) at 03298020 59
Figure A-95 Modeled vs. Observed TN (mg/L) at 03298100 59
Figure A-96 Modeled vs. Observed TN (mg/L) at 03298110 60
Figure A-97 Modeled vs. Observed TN (mg/L) at 03298120 60
Figure A-98 Modeled vs. Observed TN (mg/L) at 03298135 61

Figure A-99 Modeled vs. Observed TN (mg/L) at 03298138 61
Figure A-100 Modeled vs. Observed TN (mg/L) at 03298150 62
Figure A-101 Modeled vs. Observed TN (mg/L) at 03298160 62
Figure A-102 Modeled vs. Observed TN (mg/L) at 03298200 63
Figure A-103 Modeled vs. Observed TN (mg/L) at 03298250 63
Figure A-104 Modeled vs. Observed TN (mg/L) at 03298300 64
Figure A-105 Modeled vs. Observed TN (mg/L) at 03298470 64
Figure A-106 Modeled vs. Observed NH_3 (mg/L) at 03297830 65
Figure A-107 Modeled vs. Observed NH_3 (mg/L) at 03297845 65
Figure A-108 Modeled vs. Observed NH_3 (mg/L) at 03297850 66
Figure A-109 Modeled vs. Observed NH_3 (mg/L) at 03297855 66
Figure A-110 Modeled vs. Observed NH_3 (mg/L) at 03297860 67
Figure A-111 Modeled vs. Observed NH_3 (mg/L) at 03297875 67
Figure A-112 Modeled vs. Observed NH_3 (mg/L) at 03297880 68
Figure A-113 Modeled vs. Observed NH_3 (mg/L) at 03297900 68
Figure A-114 Modeled vs. Observed NH_3 (mg/L) at 03297930 69
Figure A-115 Modeled vs. Observed NH_3 (mg/L) at 03297950 69
Figure A-116 Modeled vs. Observed NH_3 (mg/L) at 03297975 70
Figure A-117 Modeled vs. Observed NH_3 (mg/L) at 03297980 70
Figure A-118 Modeled vs. Observed NH_3 (mg/L) at 03298000 71
Figure A-119 Modeled vs. Observed NH_3 (mg/L) at 03298005 71
Figure A-120 Modeled vs. Observed NH_3 (mg/L) at 03298020 72
Figure A-121 Modeled vs. Observed NH_3 (mg/L) at 03298100 72
Figure A-122 Modeled vs. Observed NH_3 (mg/L) at 03298110 73
Figure A-123 Modeled vs. Observed NH_3 (mg/L) at 03298120 73
Figure A-124 Modeled vs. Observed NH_3 (mg/L) at 03298135 74
Figure A-125 Modeled vs. Observed NH_3 (mg/L) at 03298138 74
Figure A-126 Modeled vs. Observed NH_3 (mg/L) at 03298150 75
Figure A-127 Modeled vs. Observed NH_3 (mg/L) at 03298160 75
Figure A-128 Modeled vs. Observed NH_3 (mg/L) at 03298200 76
Figure A-129 Modeled vs. Observed NH_3 (mg/L) at 03298250 76
Figure A-130 Modeled vs. Observed NH_3 (mg/L) at 03298300 77
Figure A-131 Modeled vs. Observed NH_3 (mg/L) at 03298470 77
Figure A-132 Modeled vs. Observed NO_X (mg/L) at 03297830 78
Figure A-133 Modeled vs. Observed NO_X (mg/L) at 03297845 78
Figure A-134 Modeled vs. Observed NO_X (mg/L) at 03297850 79
Figure A-135 Modeled vs. Observed NO_X (mg/L) at 03297855 79
Figure A-136 Modeled vs. Observed NO_X (mg/L) at 03297860 80
Figure A-137 Modeled vs. Observed NO_X (mg/L) at 03297875 80
Figure A-138 Modeled vs. Observed NO_X (mg/L) at 03297880 81
Figure A-139 Modeled vs. Observed NO_X (mg/L) at 03297900 81
Figure A-140 Modeled vs. Observed NO_X (mg/L) at 03297930 82
Figure A-141 Modeled vs. Observed NO_X (mg/L) at 03297950 82
Figure A-142 Modeled vs. Observed NO_X (mg/L) at 03297975 83
Figure A-143 Modeled vs. Observed NO_X (mg/L) at 03297980 83
Figure A-144 Modeled vs. Observed NO_X (mg/L) at 03298000 84
Figure A-145 Modeled vs. Observed NO_X (mg/L) at 03298005 84
Figure A-146 Modeled vs. Observed NO_X (mg/L) at 03298020 85
Figure A-147 Modeled vs. Observed NO_X (mg/L) at 03298100 85
Figure A-148 Modeled vs. Observed NO_X (mg/L) at 03298110 86
Figure A-149 Modeled vs. Observed NO_X (mg/L) at 03298120 86

Figure A-150 Modeled vs. Observed NO_X (mg/L) at 03298135 87
Figure A-151 Modeled vs. Observed NO_X (mg/L) at 03298138 87
Figure A-152 Modeled vs. Observed NO_X (mg/L) at 03298150 88
Figure A-153 Modeled vs. Observed NO_X (mg/L) at 03298160 88
Figure A-154 Modeled vs. Observed NO_X (mg/L) at 03298200 89
Figure A-155 Modeled vs. Observed NO_X (mg/L) at 03298250 89
Figure A-156 Modeled vs. Observed NO_X (mg/L) at 03298300 90
Figure A-157 Modeled vs. Observed NO_X (mg/L) at 03298470 90
Figure A-158 Modeled vs. Observed ORGN (mg/L) at 03297830 91
Figure A-159 Modeled vs. Observed ORGN (mg/L) at 03297845 91
Figure A-160 Modeled vs. Observed ORGN (mg/L) at 03297850 92
Figure A-161 Modeled vs. Observed ORGN (mg/L) at 03297855 92
Figure A-162 Modeled vs. Observed ORGN (mg/L) at 03297860 93
Figure A-163 Modeled vs. Observed ORGN (mg/L) at 03297875 93
Figure A-164 Modeled vs. Observed ORGN (mg/L) at 03297880 94
Figure A-165 Modeled vs. Observed ORGN (mg/L) at 03297900 94
Figure A-166 Modeled vs. Observed ORGN (mg/L) at 03297930 95
Figure A-167 Modeled vs. Observed ORGN (mg/L) at 03297950 95
Figure A-168 Modeled vs. Observed ORGN (mg/L) at 03297975 96
Figure A-169 Modeled vs. Observed ORGN (mg/L) at 03297980 96
Figure A-170 Modeled vs. Observed ORGN (mg/L) at 03298000 97
Figure A-171 Modeled vs. Observed ORGN (mg/L) at 03298005 97
Figure A-172 Modeled vs. Observed ORGN (mg/L) at 03298020 98
Figure A-173 Modeled vs. Observed ORGN (mg/L) at 03298100 98
Figure A-174 Modeled vs. Observed ORGN (mg/L) at 03298110 99
Figure A-175 Modeled vs. Observed ORGN (mg/L) at 03298120 99
Figure A-176 Modeled vs. Observed ORGN (mg/L) at 03298135 100
Figure A-177 Modeled vs. Observed ORGN (mg/L) at 03298138 100
Figure A-178 Modeled vs. Observed ORGN (mg/L) at 03298150 101
Figure A-179 Modeled vs. Observed ORGN (mg/L) at 03298160 101
Figure A-180 Modeled vs. Observed ORGN (mg/L) at 03298200 102
Figure A-181 Modeled vs. Observed ORGN (mg/L) at 03298250 102
Figure A-182 Modeled vs. Observed ORGN (mg/L) at 03298300 103
Figure A-183 Modeled vs. Observed ORGN (mg/L) at 03298470 103
Figure A-184 Modeled vs. Observed TP (mg/L) at 03297830 104
Figure A-185 Modeled vs. Observed TP (mg/L) at 03297845 104
Figure A-186 Modeled vs. Observed TP (mg/L) at 03297850 105
Figure A-187 Modeled vs. Observed TP (mg/L) at 03297855 105
Figure A-188 Modeled vs. Observed TP (mg/L) at 03297860 106
Figure A-189 Modeled vs. Observed TP (mg/L) at 03297875 106
Figure A-190 Modeled vs. Observed TP (mg/L) at 03297880 107
Figure A-191 Modeled vs. Observed TP (mg/L) at 03297900 107
Figure A-192 Modeled vs. Observed TP (mg/L) at 03297930 108
Figure A-193 Modeled vs. Observed TP (mg/L) at 03297950 108
Figure A-194 Modeled vs. Observed TP (mg/L) at 03297975 109
Figure A-195 Modeled vs. Observed TP (mg/L) at 03297980 109
Figure A-196 Modeled vs. Observed TP (mg/L) at 03298000 110
Figure A-197 Modeled vs. Observed TP (mg/L) at 03298005 110
Figure A-198 Modeled vs. Observed TP (mg/L) at 03298020 111
Figure A-199 Modeled vs. Observed TP (mg/L) at 03298100 111
Figure A-200 Modeled vs. Observed TP (mg/L) at 03298110 112

Figure A-201 Modeled vs. Observed TP (mg/L) at 03298120 ... 112
Figure A-202 Modeled vs. Observed TP (mg/L) at 03298135 ... 113
Figure A-203 Modeled vs. Observed TP (mg/L) at 03298138 ... 113
Figure A-204 Modeled vs. Observed TP (mg/L) at 03298150 ... 114
Figure A-205 Modeled vs. Observed TP (mg/L) at 03298160 ... 114
Figure A-206 Modeled vs. Observed TP (mg/L) at 03298200 ... 115
Figure A-207 Modeled vs. Observed TP (mg/L) at 03298250 ... 115
Figure A-208 Modeled vs. Observed TP (mg/L) at 03298300 ... 116
Figure A-209 Modeled vs. Observed TP (mg/L) at 03298470 ... 116
Figure A-210 Modeled vs. Observed PO_4 (mg/L) at 03297830 ... 117
Figure A-211 Modeled vs. Observed PO_4 (mg/L) at 03297845 ... 117
Figure A-212 Modeled vs. Observed PO_4 (mg/L) at 03297850 ... 118
Figure A-213 Modeled vs. Observed PO_4 (mg/L) at 03297855 ... 118
Figure A-214 Modeled vs. Observed PO_4 (mg/L) at 03297860 ... 119
Figure A-215 Modeled vs. Observed PO_4 (mg/L) at 03297875 ... 119
Figure A-216 Modeled vs. Observed PO_4 (mg/L) at 03297880 ... 120
Figure A-217 Modeled vs. Observed PO_4 (mg/L) at 03297900 ... 120
Figure A-218 Modeled vs. Observed PO_4 (mg/L) at 03297930 ... 121
Figure A-219 Modeled vs. Observed PO_4 (mg/L) at 03297950 ... 121
Figure A-220 Modeled vs. Observed PO_4 (mg/L) at 03297975 ... 122
Figure A-221 Modeled vs. Observed PO_4 (mg/L) at 03297980 ... 122
Figure A-222 Modeled vs. Observed PO_4 (mg/L) at 03298000 ... 123
Figure A-223 Modeled vs. Observed PO_4 (mg/L) at 03298005 ... 123
Figure A-224 Modeled vs. Observed PO_4 (mg/L) at 03298020 ... 124
Figure A-225 Modeled vs. Observed PO_4 (mg/L) at 03298100 ... 124
Figure A-226 Modeled vs. Observed PO_4 (mg/L) at 03298110 ... 125
Figure A-227 Modeled vs. Observed PO_4 (mg/L) at 03298120 ... 125
Figure A-228 Modeled vs. Observed PO_4 (mg/L) at 03298135 ... 126
Figure A-229 Modeled vs. Observed PO_4 (mg/L) at 03298138 ... 126
Figure A-230 Modeled vs. Observed PO_4 (mg/L) at 03298150 ... 127
Figure A-231 Modeled vs. Observed PO_4 (mg/L) at 03298160 ... 127
Figure A-232 Modeled vs. Observed PO_4 (mg/L) at 03298200 ... 128
Figure A-233 Modeled vs. Observed PO_4 (mg/L) at 03298250 ... 128
Figure A-234 Modeled vs. Observed PO_4 (mg/L) at 03298300 ... 129
Figure A-235 Modeled vs. Observed PO_4 (mg/L) at 03298470 ... 129
Figure A-236 Modeled vs. Observed ORGP (mg/L) at 03297830 ... 130
Figure A-237 Modeled vs. Observed ORGP (mg/L) at 03297845 ... 130
Figure A-238 Modeled vs. Observed ORGP (mg/L) at 03297850 ... 131
Figure A-239 Modeled vs. Observed ORGP (mg/L) at 03297855 ... 131
Figure A-240 Modeled vs. Observed ORGP (mg/L) at 03297860 ... 132
Figure A-241 Modeled vs. Observed ORGP (mg/L) at 03297875 ... 132
Figure A-242 Modeled vs. Observed ORGP (mg/L) at 03297880 ... 133
Figure A-243 Modeled vs. Observed ORGP (mg/L) at 03297900 ... 133
Figure A-244 Modeled vs. Observed ORGP (mg/L) at 03297930 ... 134
Figure A-245 Modeled vs. Observed ORGP (mg/L) at 03297950 ... 134
Figure A-246 Modeled vs. Observed ORGP (mg/L) at 03297975 ... 135
Figure A-247 Modeled vs. Observed ORGP (mg/L) at 03297980 ... 135
Figure A-248 Modeled vs. Observed ORGP (mg/L) at 03298000 ... 136
Figure A-249 Modeled vs. Observed ORGP (mg/L) at 03298005 ... 136
Figure A-250 Modeled vs. Observed ORGP (mg/L) at 03298020 ... 137
Figure A-251 Modeled vs. Observed ORGP (mg/L) at 03298100 ... 137

Figure A-252 Modeled vs. Observed ORGP (mg/L) at 03298110 138
Figure A-253 Modeled vs. Observed ORGP (mg/L) at 03298120 138
Figure A-254 Modeled vs. Observed ORGP (mg/L) at 03298135 139
Figure A-255 Modeled vs. Observed ORGP (mg/L) at 03298138 139
Figure A-256 Modeled vs. Observed ORGP (mg/L) at 03298150 140
Figure A-257 Modeled vs. Observed ORGP (mg/L) at 03298160 140
Figure A-258 Modeled vs. Observed ORGP (mg/L) at 03298200 141
Figure A-259 Modeled vs. Observed ORGP (mg/L) at 03298250 141
Figure A-260 Modeled vs. Observed ORGP (mg/L) at 03298300 142
Figure A-261 Modeled vs. Observed ORGP (mg/L) at 03298470 142
Figure A-262 Modeled vs. Observed TSS (mg/L) at 03297830 143
Figure A-263 Modeled vs. Observed TSS (mg/L) at 03297845 143
Figure A-264 Modeled vs. Observed TSS (mg/L) at 03297850 144
Figure A-265 Modeled vs. Observed TSS (mg/L) at 03297855 144
Figure A-266 Modeled vs. Observed TSS (mg/L) at 03297860 145
Figure A-267 Modeled vs. Observed TSS (mg/L) at 03297875 145
Figure A-268 Modeled vs. Observed TSS (mg/L) at 03297880 146
Figure A-269 Modeled vs. Observed TSS (mg/L) at 03297900 146
Figure A-270 Modeled vs. Observed TSS (mg/L) at 03297930 147
Figure A-271 Modeled vs. Observed TSS (mg/L) at 03297950 147
Figure A-272 Modeled vs. Observed TSS (mg/L) at 03297975 148
Figure A-273 Modeled vs. Observed TSS (mg/L) at 03297980 148
Figure A-274 Modeled vs. Observed TSS (mg/L) at 03298000 149
Figure A-275 Modeled vs. Observed TSS (mg/L) at 03298005 149
Figure A-276 Modeled vs. Observed TSS (mg/L) at 03298020 150
Figure A-277 Modeled vs. Observed TSS (mg/L) at 03298100 150
Figure A-278 Modeled vs. Observed TSS (mg/L) at 03298110 151
Figure A-279 Modeled vs. Observed TSS (mg/L) at 03298120 151
Figure A-280 Modeled vs. Observed TSS (mg/L) at 03298135 152
Figure A-281 Modeled vs. Observed TSS (mg/L) at 03298138 152
Figure A-282 Modeled vs. Observed TSS (mg/L) at 03298150 153
Figure A-283 Modeled vs. Observed TSS (mg/L) at 03298160 153
Figure A-284 Modeled vs. Observed TSS (mg/L) at 03298200 154
Figure A-285 Modeled vs. Observed TSS (mg/L) at 03298250 154
Figure A-286 Modeled vs. Observed TSS (mg/L) at 03298300 155
Figure A-287 Modeled vs. Observed TSS (mg/L) at 03298470 155
Figure A-288 Modeled vs. Observed pH at 03297830 156
Figure A-289 Modeled vs. Observed pH at 03297845 156
Figure A-290 Modeled vs. Observed pH at 03297850 157
Figure A-291 Modeled vs. Observed pH at 03297855 157
Figure A-292 Modeled vs. Observed pH at 03297860 158
Figure A-293 Modeled vs. Observed pH at 03297875 158
Figure A-294 Modeled vs. Observed pH at 03297880 159
Figure A-295 Modeled vs. Observed pH at 03297900 159
Figure A-296 Modeled vs. Observed pH at 03297930 160
Figure A-297 Modeled vs. Observed pH at 03297950 160
Figure A-298 Modeled vs. Observed pH at 03297975 161
Figure A-299 Modeled vs. Observed pH at 03297980 161
Figure A-300 Modeled vs. Observed pH at 03298000 162
Figure A-301 Modeled vs. Observed pH at 03298005 162
Figure A-302 Modeled vs. Observed pH at 03298020 163

Figure A-303 Modeled vs. Observed pH at 03298100 163
Figure A-304 Modeled vs. Observed pH at 03298110 164
Figure A-305 Modeled vs. Observed pH at 03298120 164
Figure A-306 Modeled vs. Observed pH at 03298135 165
Figure A-307 Modeled vs. Observed pH at 03298138 165
Figure A-308 Modeled vs. Observed pH at 03298150 166
Figure A-309 Modeled vs. Observed pH at 03298160 166
Figure A-310 Modeled vs. Observed pH at 03298200 167
Figure A-311 Modeled vs. Observed pH at 03298250 167
Figure A-312 Modeled vs. Observed pH at 03298300 168
Figure A-313 Modeled vs. Observed pH at 03298470 168
Figure A-314 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297830 169
Figure A-315 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297845 169
Figure A-316 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297850 170
Figure A-317 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297855 170
Figure A-318 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297860 171
Figure A-319 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297875 171
Figure A-320 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297880 172
Figure A-321 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297900 172
Figure A-322 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297930 173
Figure A-323 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297950 173
Figure A-324 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297975 174
Figure A-325 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297980 174
Figure A-326 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298000 175
Figure A-327 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298005 175
Figure A-328 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298020 176
Figure A-329 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298100 176
Figure A-330 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298110 177
Figure A-331 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298120 177
Figure A-332 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298135 178
Figure A-333 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298138 178
Figure A-334 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298150 179
Figure A-335 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298160 179
Figure A-336 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298200 180
Figure A-337 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298250 180
Figure A-338 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298300 181
Figure A-339 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298470 181
Figure A-340 USGS Water Quality for TN in the Floyds Fork Watershed 185
Figure A-341 USGS Water Quality for TP in the Floyds Fork Watershed 186
Figure A-342 MSD Water Quality Validation Stations Utilized in the Floyds Fork Watershed Model 188
Figure A-343 Modeled vs. Observed TEMP (° C) at EFFFF001 189
Figure A-344 Modeled vs. Observed TEMP (° C) at EFFFF002 189
Figure A-345 Modeled vs. Observed TEMP (° C) at EFFFF003 190
Figure A-346 Modeled vs. Observed TEMP (° C) at EFFCR001 190
Figure A-347 Modeled vs. Observed TEMP (° C) at EFFCR002 191
Figure A-348 Modeled vs. Observed DO (mg/L) at EFFFF001 192
Figure A-349 Modeled vs. Observed DO (mg/L) at EFFFF002 192
Figure A-350 Modeled vs. Observed DO (mg/L) at EFFFF003 193
Figure A-351 Modeled vs. Observed DO (mg/L) at EFFCR001 193
Figure A-352 Modeled vs. Observed DO (mg/L) at EFFCR002 194

Figure A-353 Modeled vs. Observed CBOD (mg/L) at EFFFF001 195
Figure A-354 Modeled vs. Observed CBOD (mg/L) at EFFFF002 195
Figure A-355 Modeled vs. Observed CBOD (mg/L) at EFFFF003 196
Figure A-356 Modeled vs. Observed CBOD (mg/L) at EFFCR001 196
Figure A-357 Modeled vs. Observed CBOD (mg/L) at EFFCR002 197
Figure A-358 Modeled vs. Observed TN (mg/L) at EFFFF001 198
Figure A-359 Modeled vs. Observed TN (mg/L) at EFFFF002 198
Figure A-360 Modeled vs. Observed TN (mg/L) at EFFFF003 199
Figure A-361 Modeled vs. Observed TN (mg/L) at EFFCR001 199
Figure A-362 Modeled vs. Observed TN (mg/L) at EFFCR002 200
Figure A-363 Modeled vs. Observed NH_3 (mg/L) at EFFFF001 201
Figure A-364 Modeled vs. Observed NH_3 (mg/L) at EFFFF002 201
Figure A-365 Modeled vs. Observed NH_3 (mg/L) at EFFFF003 202
Figure A-366 Modeled vs. Observed NH_3 (mg/L) at EFFCR001 202
Figure A-367 Modeled vs. Observed NH_3 (mg/L) at EFFCR002 203
Figure A-368 Modeled vs. Observed NO_X (mg/L) at EFFFF001 204
Figure A-369 Modeled vs. Observed NO_X (mg/L) at EFFFF002 204
Figure A-370 Modeled vs. Observed NO_X (mg/L) at EFFFF003 205
Figure A-371 Modeled vs. Observed NO_X (mg/L) at EFFCR001 205
Figure A-372 Modeled vs. Observed NO_X (mg/L) at EFFCR002 206
Figure A-373 Modeled vs. Observed ORGN (mg/L) at EFFFF001 207
Figure A-374 Modeled vs. Observed ORGN (mg/L) at EFFFF002 207
Figure A-375 Modeled vs. Observed ORGN (mg/L) at EFFFF003 208
Figure A-376 Modeled vs. Observed ORGN (mg/L) at EFFCR001 208
Figure A-377 Modeled vs. Observed ORGN (mg/L) at EFFCR002 209
Figure A-378 Modeled vs. Observed TP (mg/L) at EFFFF001 210
Figure A-379 Modeled vs. Observed TP (mg/L) at EFFFF002 210
Figure A-380 Modeled vs. Observed TP (mg/L) at EFFFF003 211
Figure A-381 Modeled vs. Observed TP (mg/L) at EFFCR001 211
Figure A-382 Modeled vs. Observed TP (mg/L) at EFFCR002 212
Figure A-383 Modeled vs. Observed PO_4 (mg/L) at EFFFF001 213
Figure A-384 Modeled vs. Observed PO_4 (mg/L) at EFFFF002 213
Figure A-385 Modeled vs. Observed PO_4 (mg/L) at EFFFF003 214
Figure A-386 Modeled vs. Observed PO_4 (mg/L) at EFFCR001 214
Figure A-387 Modeled vs. Observed PO_4 (mg/L) at EFFCR002 215
Figure A-388 Modeled vs. Observed ORGP (mg/L) at EFFFF001 216
Figure A-389 Modeled vs. Observed ORGP (mg/L) at EFFFF002 216
Figure A-390 Modeled vs. Observed ORGP (mg/L) at EFFFF003 217
Figure A-391 Modeled vs. Observed ORGP (mg/L) at EFFCR001 217
Figure A-392 Modeled vs. Observed ORGP (mg/L) at EFFCR002 218
Figure A-393 Modeled vs. Observed TSS (mg/L) at EFFFF001 219
Figure A-394 Modeled vs. Observed TSS (mg/L) at EFFFF002 219
Figure A-395 Modeled vs. Observed TSS (mg/L) at EFFFF003 220
Figure A-396 Modeled vs. Observed TSS (mg/L) at EFFCR001 220
Figure A-397 Modeled vs. Observed TSS (mg/L) at EFFCR002 221
Figure A-398 Modeled vs. Observed pH at EFFFF001 222
Figure A-399 Modeled vs. Observed pH at EFFFF002 222
Figure A-400 Modeled vs. Observed pH at EFFFF003 223
Figure A-401 Modeled vs. Observed pH at EFFCR001 223
Figure A-402 Modeled vs. Observed pH at EFFCR002 224
Figure A-403 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF001 225

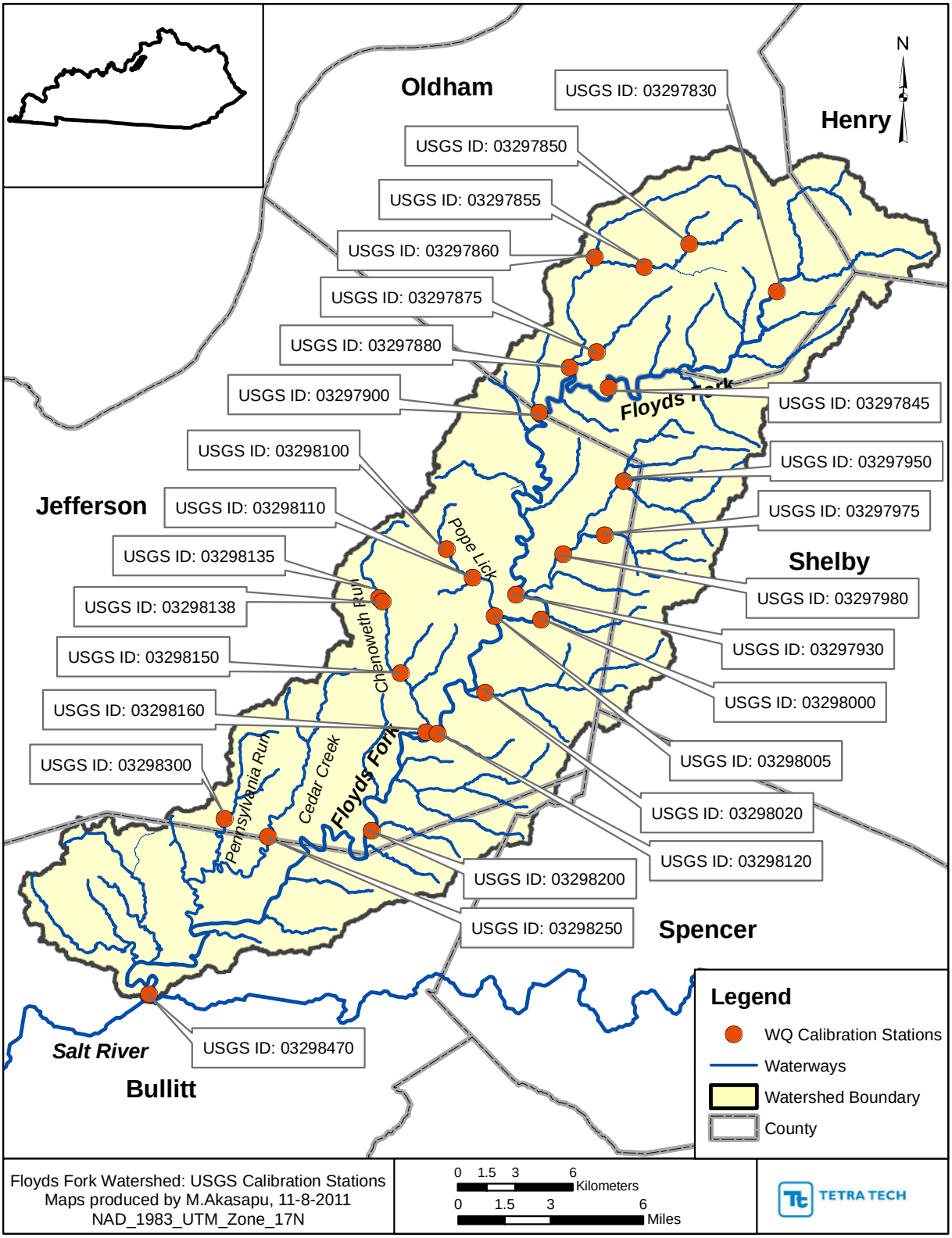
Figure A-404 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF002 225
Figure A-405 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF003 226
Figure A-406 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFCR001 226
Figure A-407 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFCR002 227
Figure A-408 MSD Water Quality for TN in the Floyds Fork Watershed..... 229
Figure A-409 MSD Water Quality for TP in the Floyds Fork Watershed 230

List of Tables

Table A-1 USGS Water Quality Calibration Stations 11
Table A-2 Summary Qualitative and Quantitative scores for the USGS Water Quality Calibration Stations 182
Table A-3 Calibration Statistics for TN for USGS Water Quality Calibration Stations utilized in the Floyds Fork model 183
Table A-4 Calibration Statistics for TP for USGS Water Quality Calibration Stations utilized in the Floyds Fork model 184
Table A-5 MSD Water Quality Validation Stations 187
Table A-6 Summary Qualitative and Quantitative scores for the MSD Water Quality Validation Stations 228
Table A-7 Calibration Statistics for TN for MSD Water Quality Validation Stations utilized in the Floyds Fork model 228
Table A-8 Calibration Statistics for TP for MSD Water Quality Validation Stations utilized in the Floyds Fork model 228

Table A-1 USGS Water Quality Calibration Stations

Station	Agency	Site Name	USGS Drainage Area (mi^2)	USGS Drainage Area (acres)	WASP Segment	Type	Parameter
03297830	USGS	Floyds Fork at Highway 53	20	12736	40	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297845	USGS	Floyds Fork near Crestwood	47	29888	31	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297850	USGS	South Fork Curry's Fork at Moody Lane	1	742	206	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297855	USGS	South Fork Curry's Fork at Highway 393	9	5939	73	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297860	USGS	North Fork Curry's Fork at Stone Ridge road	10	6464	68	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297875	USGS	Ashers Run at Abbott lane near Crestwood	3	2150	77	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297880	USGS	Currys Fork near Crestwood	29	18240	65	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297900	USGS	Floyds Fork near Peewee Valley	80	51136	208	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297930	USGS	Floyds Fork at Echo trail bridge	104	66560	21	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297950	USGS	Long Run at Old stage coach road	6	3571	96	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297975	USGS	South Long Run at Hobbs Lane	8	4890	109	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03297980	USGS	Long Run near Fisherville	23	14400	93	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298000	USGS	Floyds Fork at Fisherville	138	88320	209	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298005	USGS	Pope lick at South poope lick road near Fisherville	10	6202	118	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298020	USGS	Chenoweth Run at Gelhaus Lane	14	9088	124	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298100	USGS	Pope lick at pope lick road near Middletown	3	1856	120	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298110	USGS	Pope lick at Rehl road near Fisherville	1	858	121	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298120	USGS	Floyds Fork at Seatonville Road	172	110080	13	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298135	USGS	Chenoweth Run at Ruckriegal Parkway	5	3501	140	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298138	USGS	Chenoweth Run at Jeffersontown STP at Jeffersontown	6	4096	138	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298150	USGS	Chenoweth Run at Gelhaus Lane near Fern creek	12	7424	211	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298160	USGS	Chenoweth Run at Seatonville road near Jeffersontown	17	10707	135	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298200	USGS	Floyds Fork near Mt. Washington	213	136320	210	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298250	USGS	Cedar Creek at Thixton Road	11	7104	173	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298300	USGS	Pennsylvania Run at Mt. Washington	6	4096	181	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
03298470	USGS	Floyds Fork near Shepherdsville	283	181120	1	**Calibration**	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a



Floyds Fork Watershed: USGS Calibration Stations
Maps produced by M.Akasapu, 11-8-2011
NAD_1983_UTM_Zone_17N

Figure A-1 USGS Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model

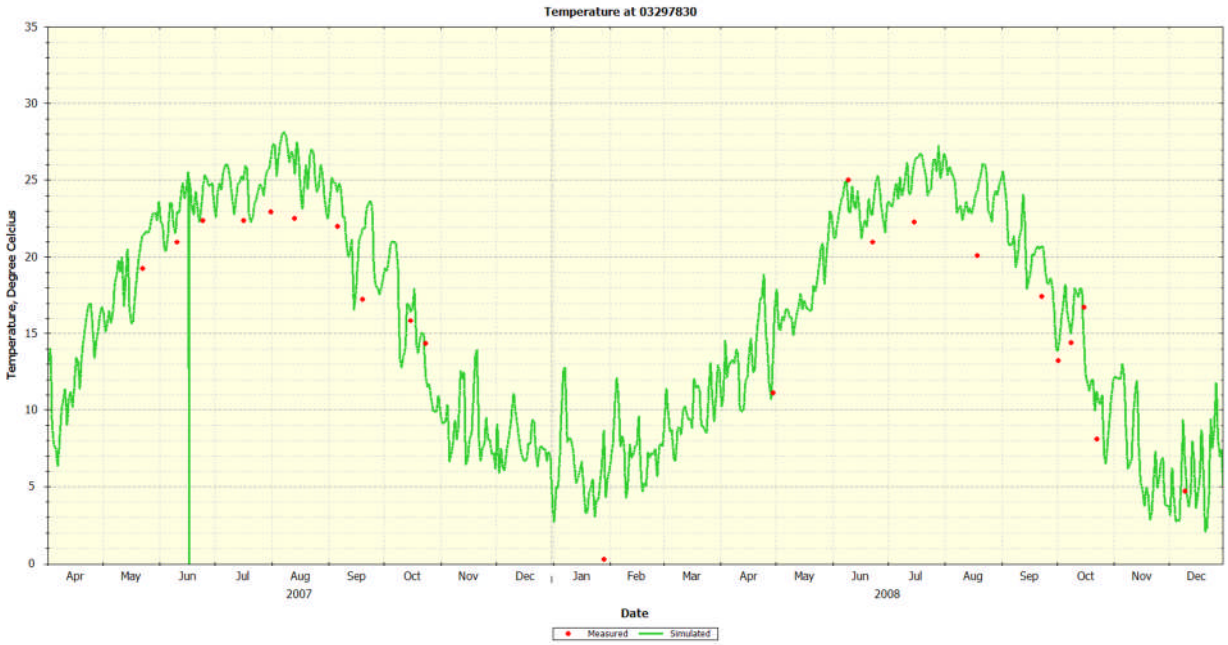


Figure A-2 Modeled vs. Observed TEMP (°C) at 03297830

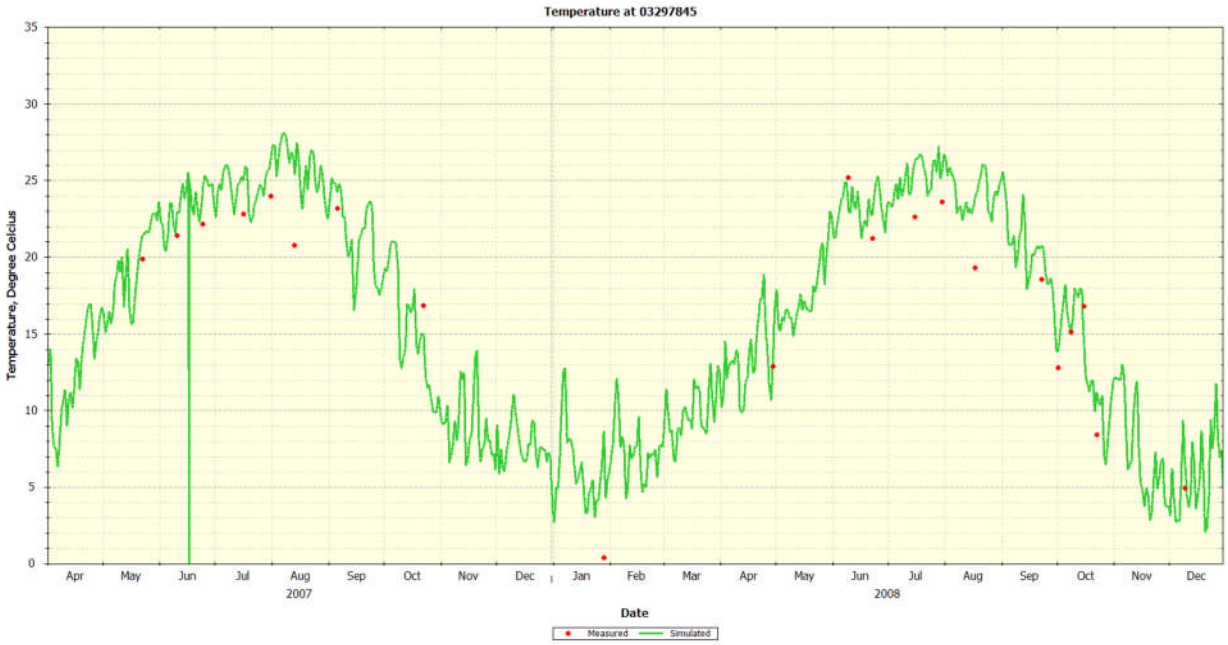


Figure A-3 Modeled vs. Observed TEMP (°C) at 03297845

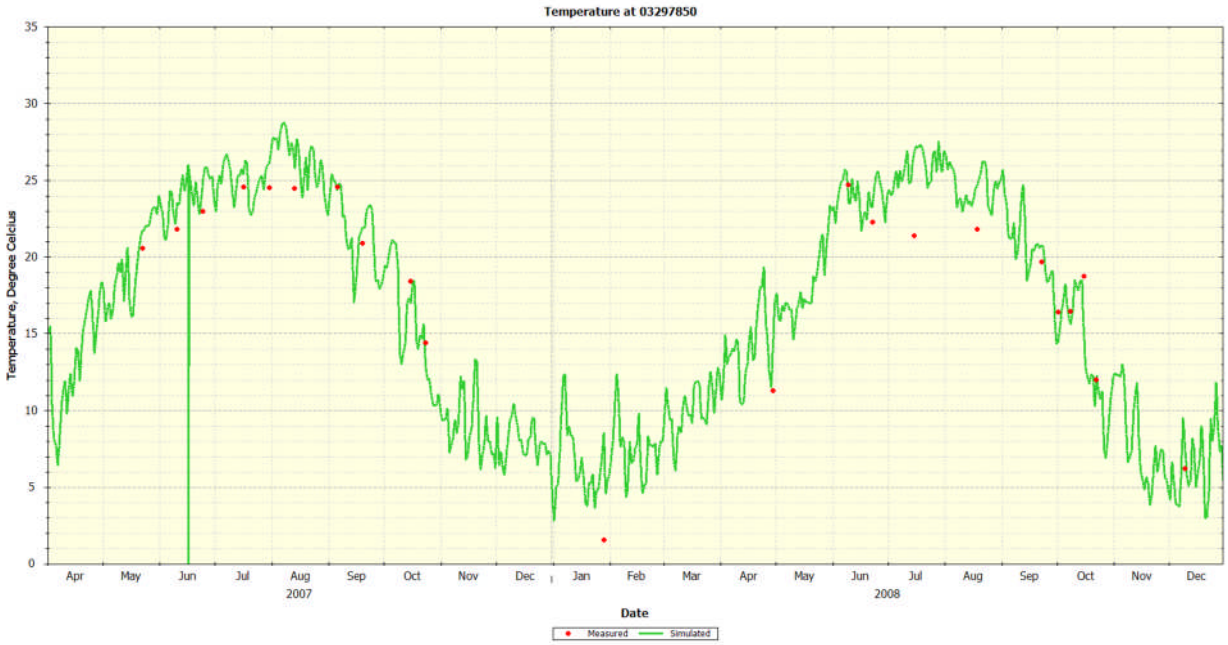


Figure A-4 Modeled vs. Observed TEMP (°C) at 03297850

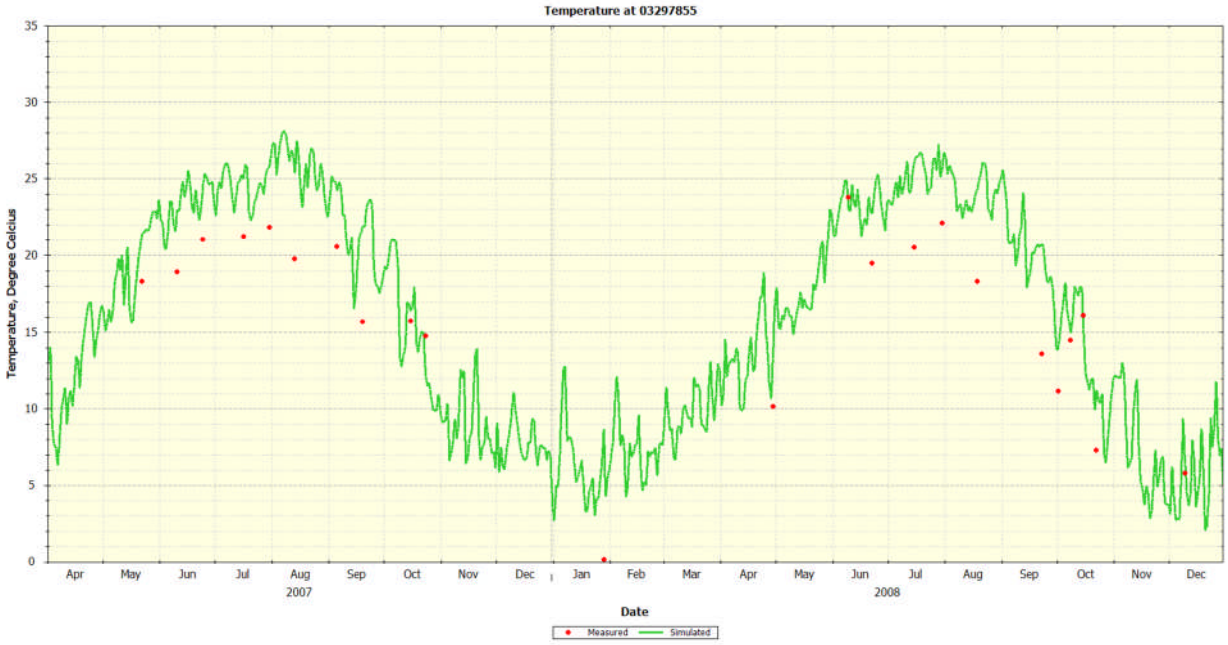


Figure A-5 Modeled vs. Observed TEMP (°C) at 03297855

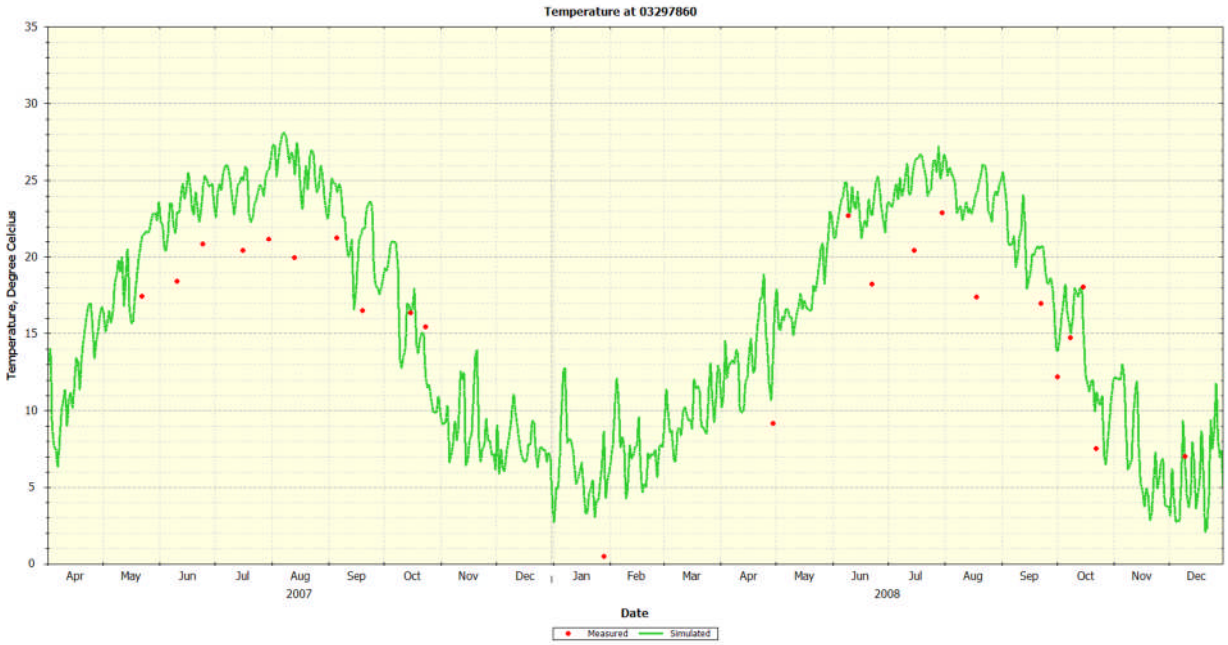


Figure A-6 Modeled vs. Observed TEMP (°C) at 03297860

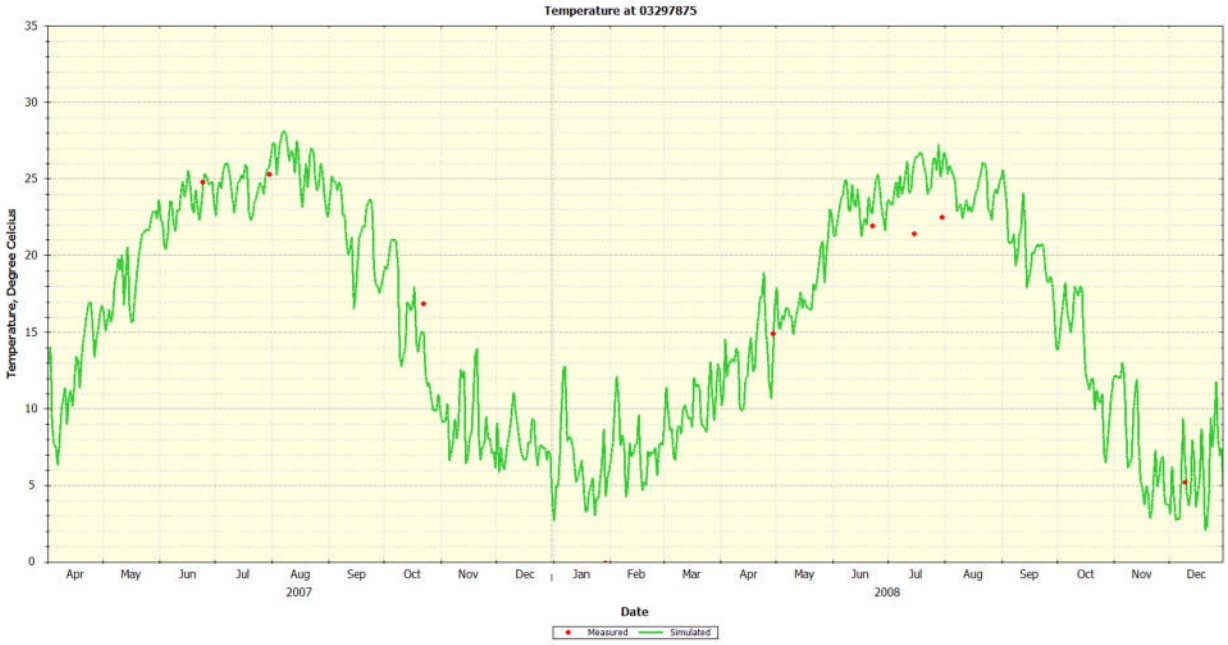


Figure A-7 Modeled vs. Observed TEMP (°C) at 03297875

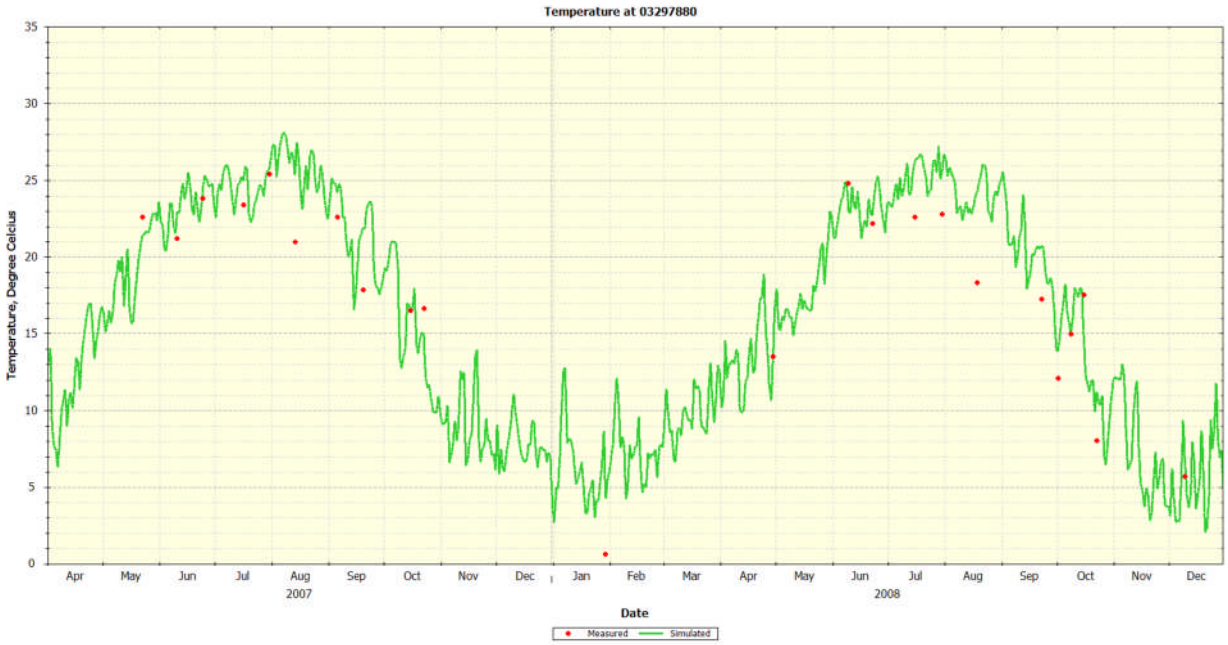


Figure A-8 Modeled vs. Observed TEMP (°C) at 03297880

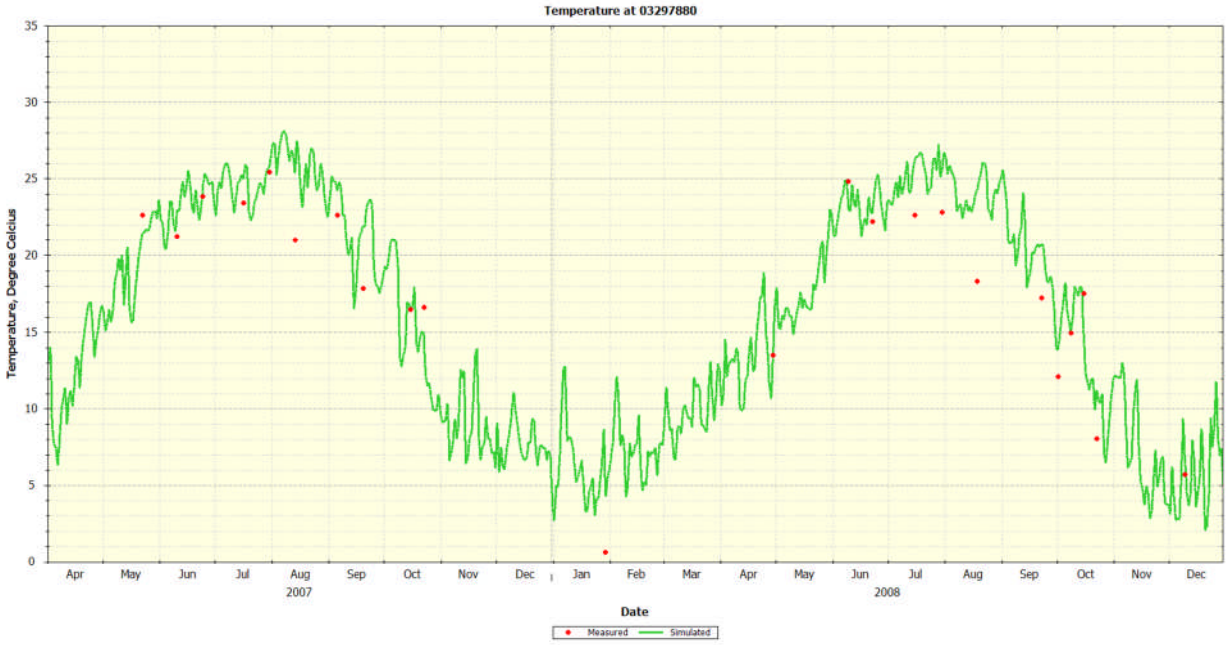


Figure A-9 Modeled vs. Observed TEMP (°C) at 03297900

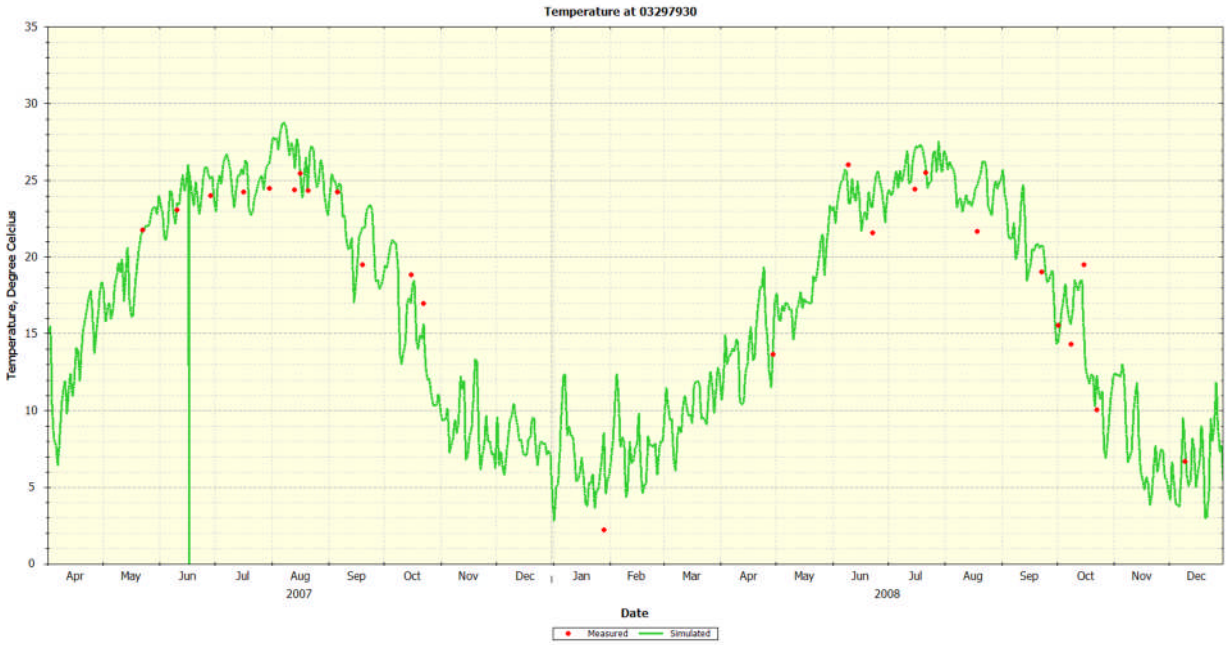


Figure A-10 Modeled vs. Observed TEMP (°C) at 03297930

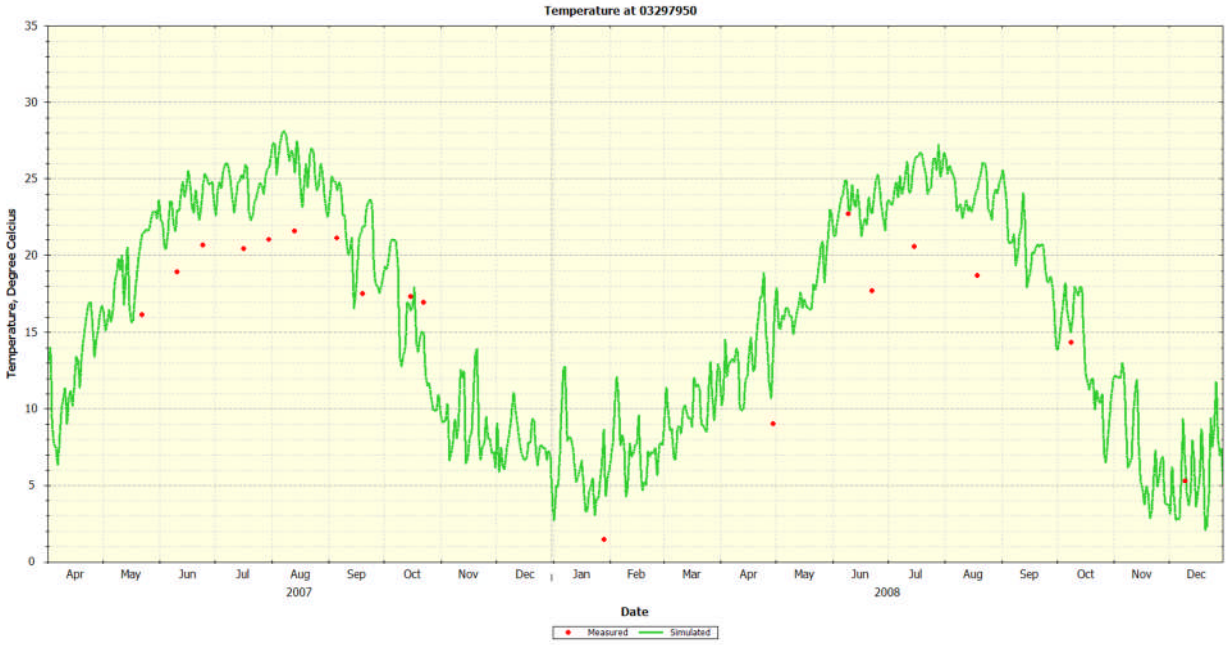


Figure A-11 Modeled vs. Observed TEMP (°C) at 03297950

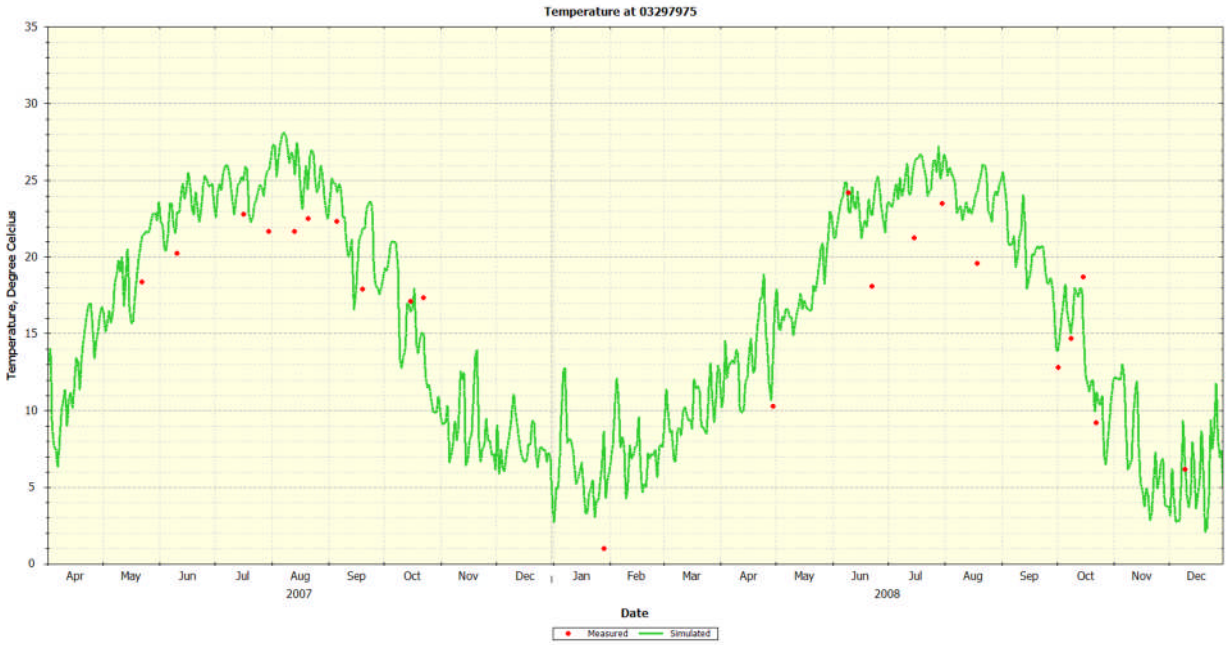


Figure A-12 Modeled vs. Observed TEMP (°C) at 03297975

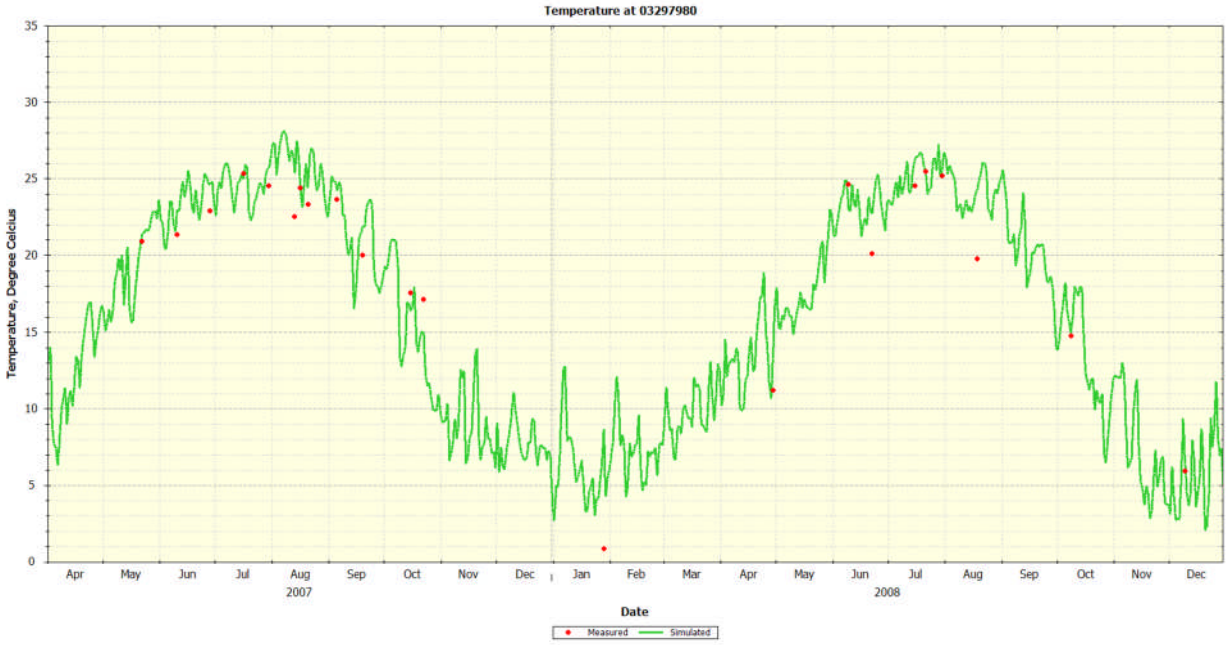


Figure A-13 Modeled vs. Observed TEMP (°C) at 03297980

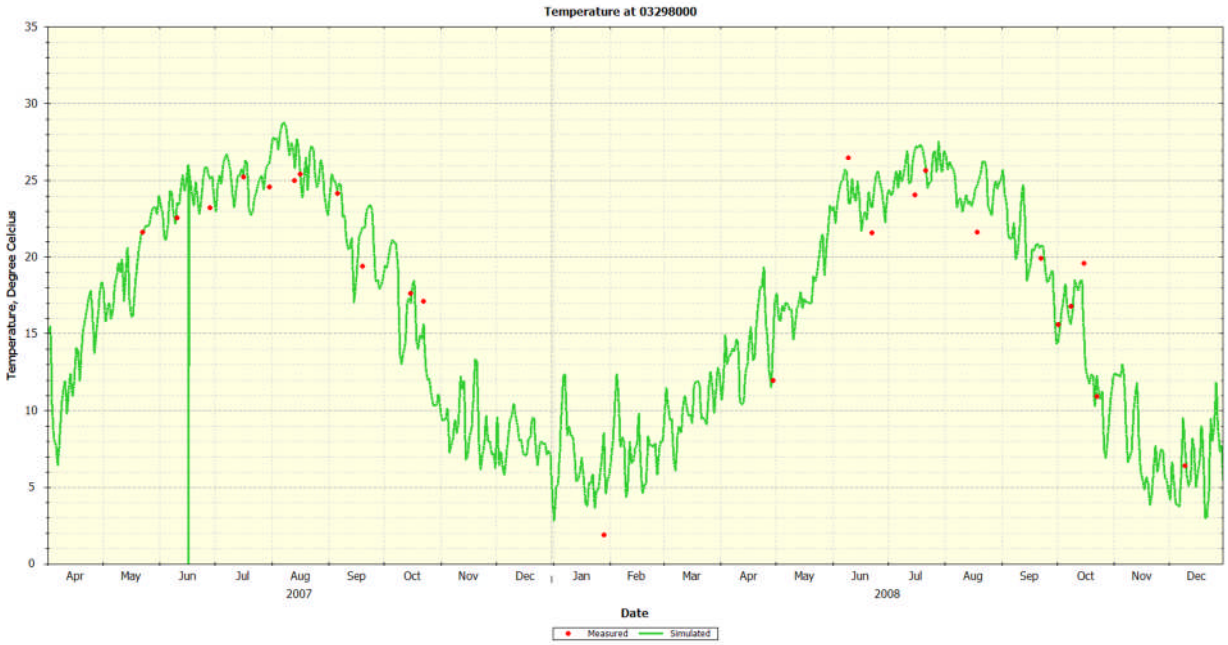


Figure A-14 Modeled vs. Observed TEMP (°C) at 03298000

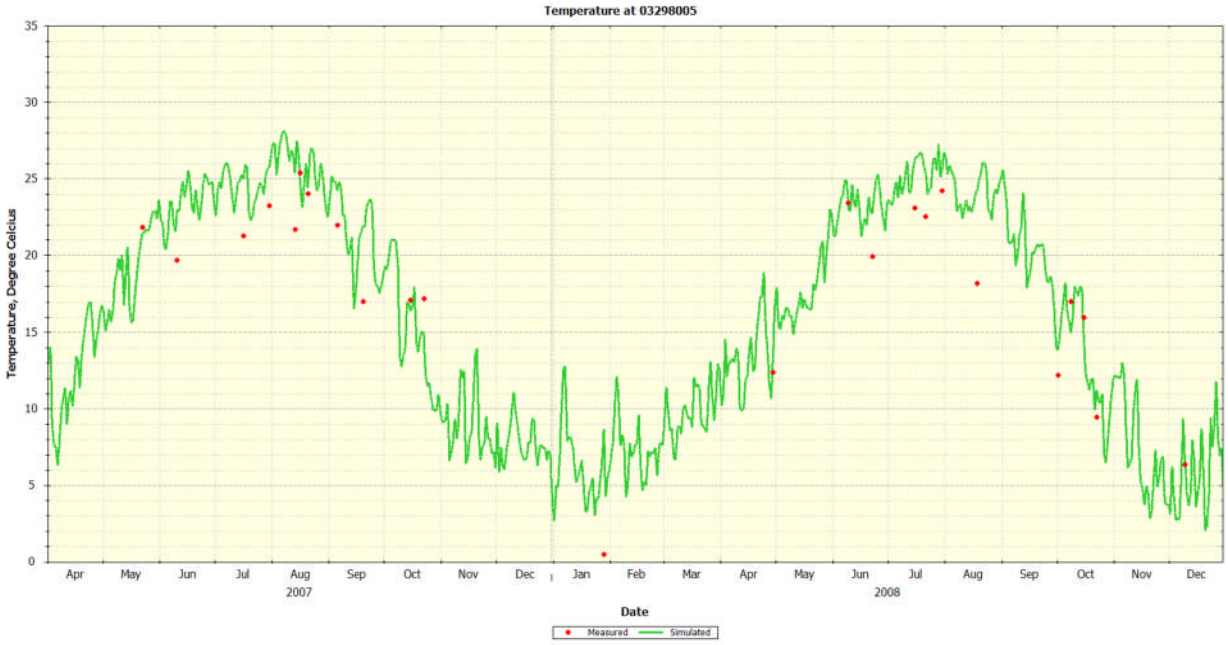


Figure A-15 Modeled vs. Observed TEMP (°C) at 03298005

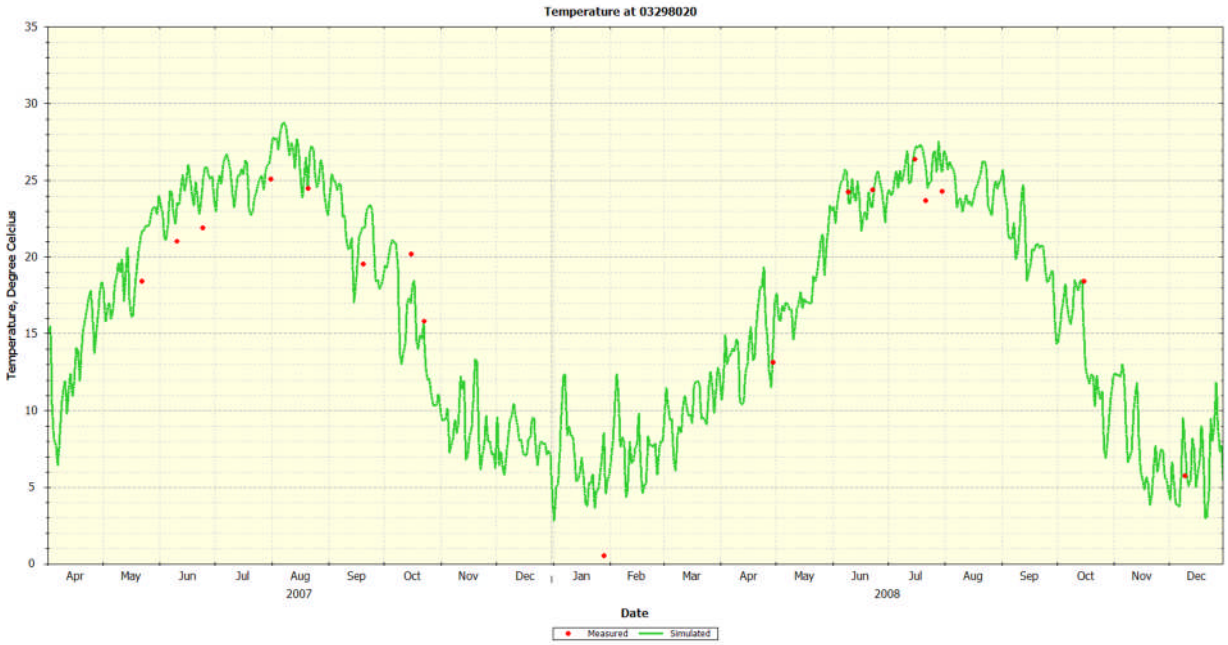


Figure A-16 Modeled vs. Observed TEMP (°C) at 03298020

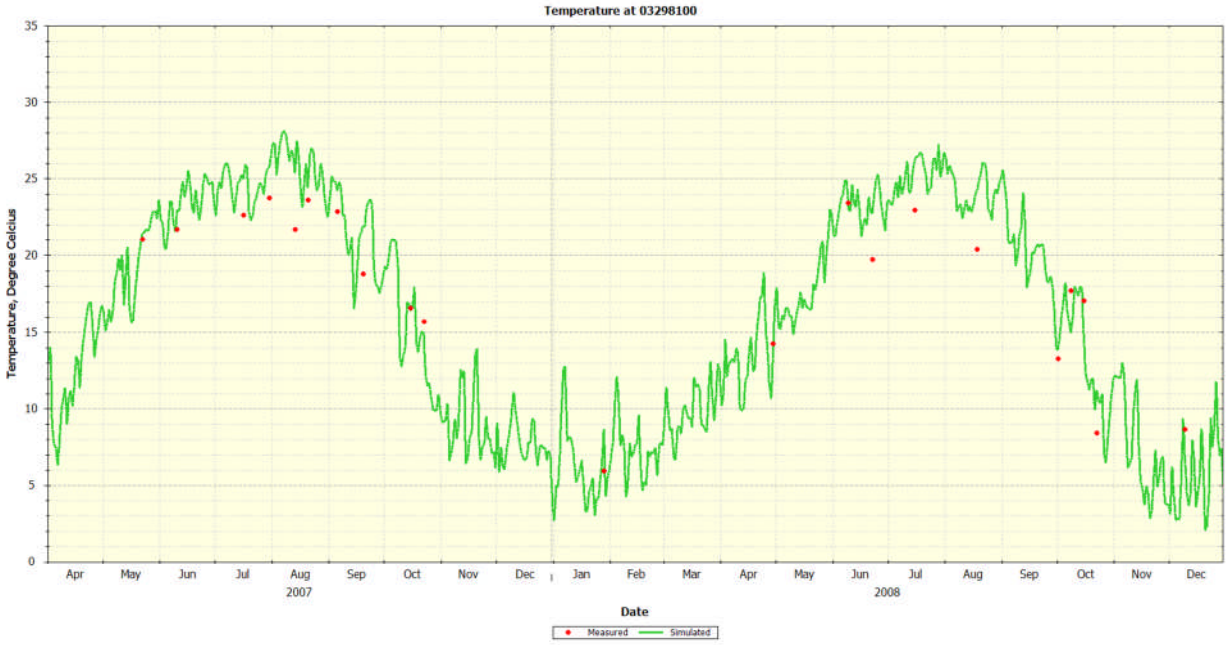


Figure A-17 Modeled vs. Observed TEMP (°C) at 03298100

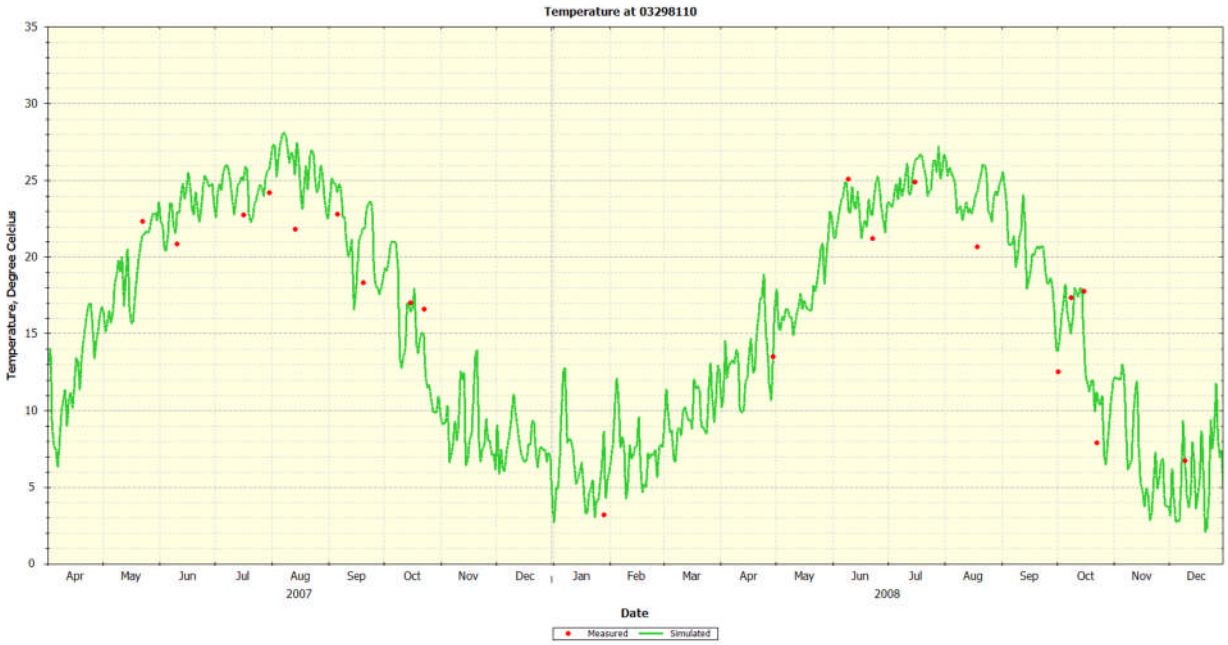


Figure A-18 Modeled vs. Observed TEMP (°C) at 03298110

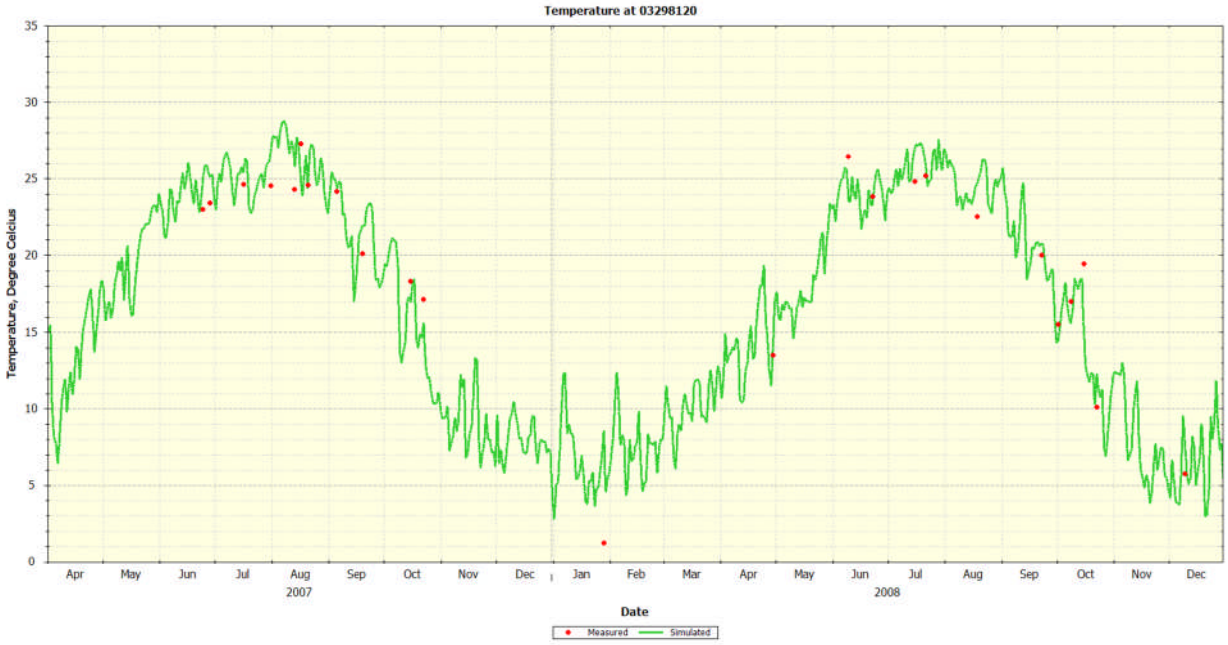


Figure A-19 Modeled vs. Observed TEMP (°C) at 03298120

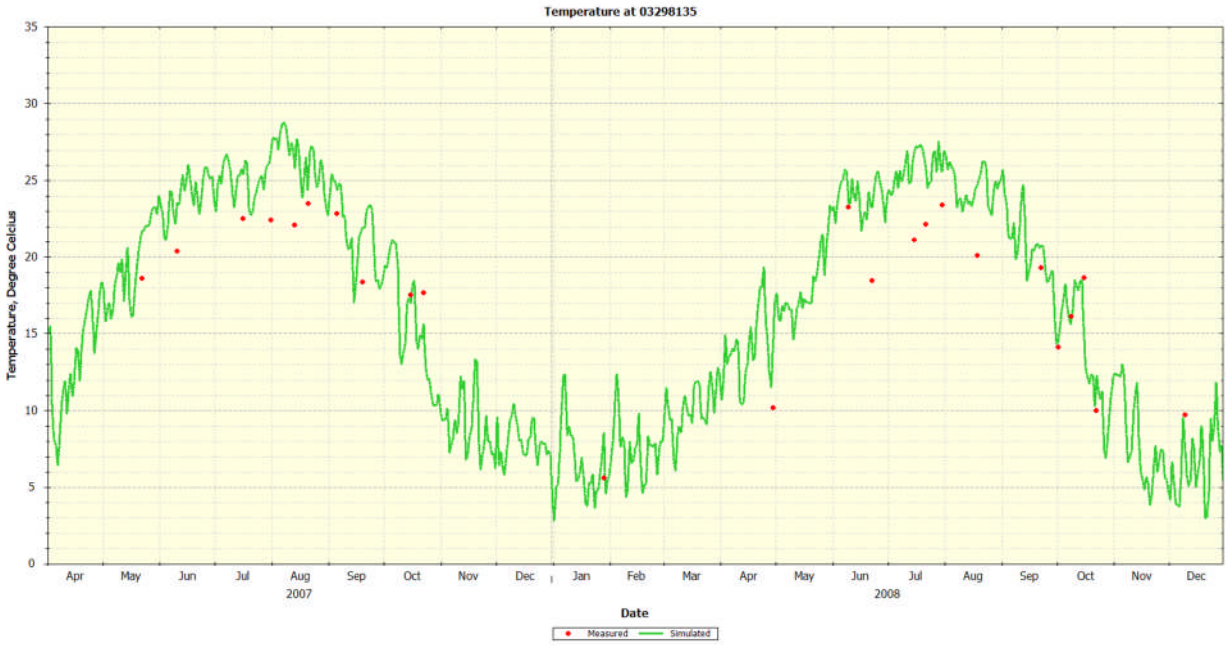


Figure A-20 Modeled vs. Observed TEMP (°C) at 03298135

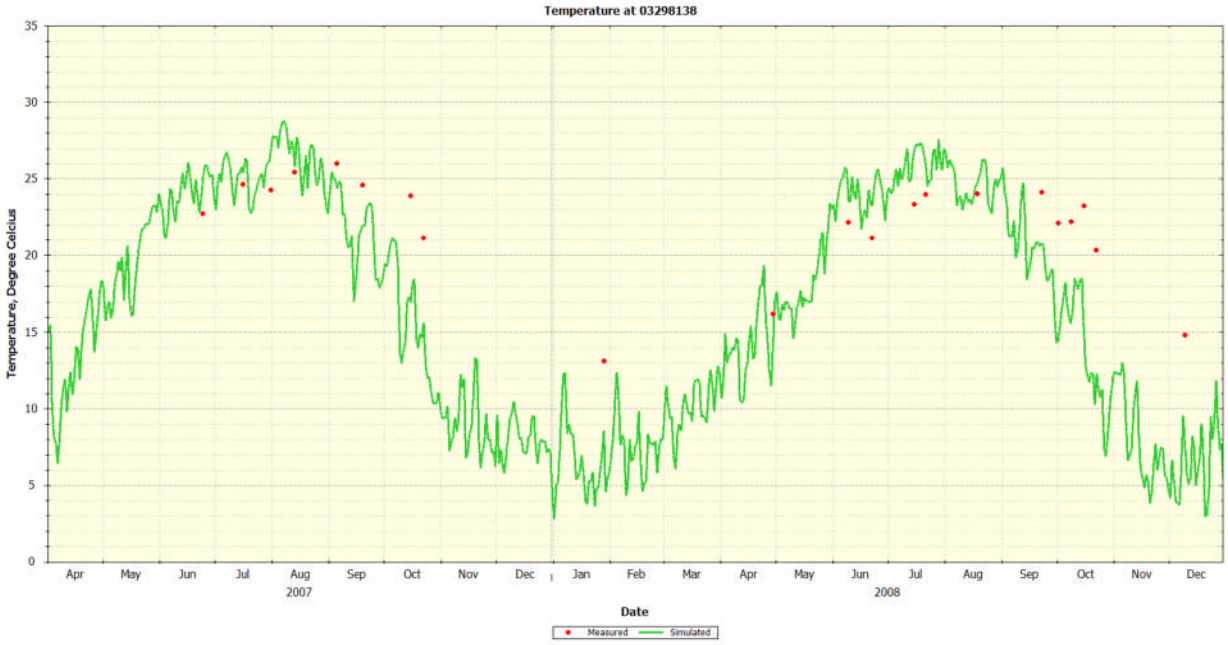


Figure A-21 Modeled vs. Observed TEMP (°C) at 03298138

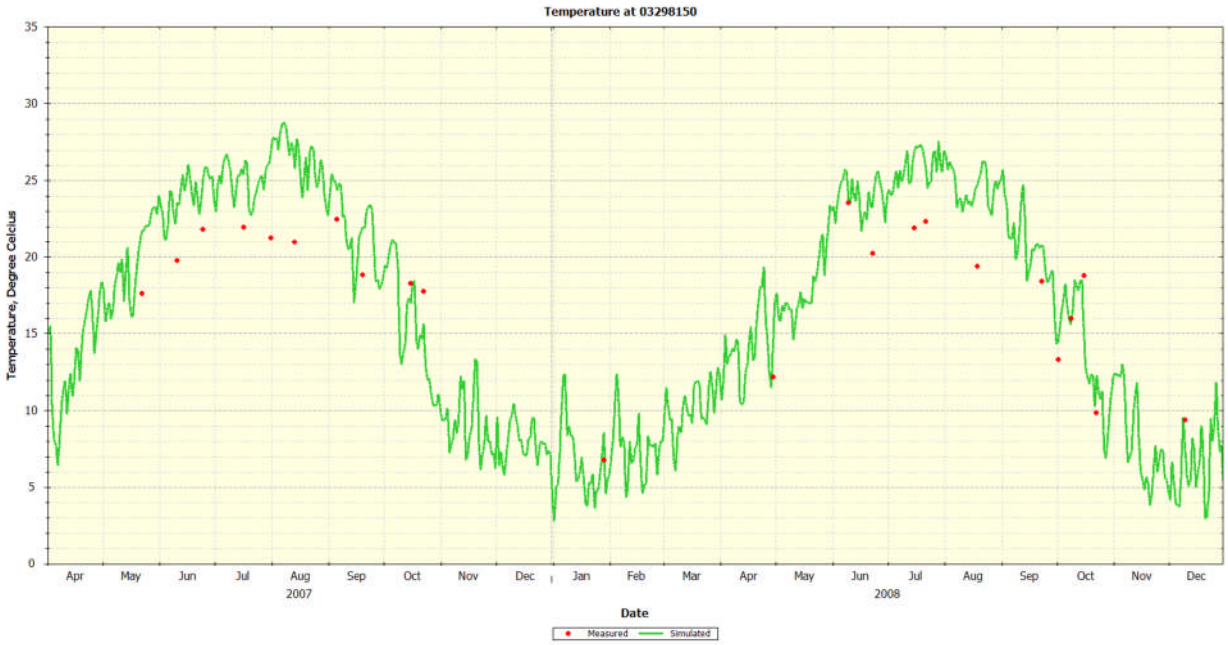


Figure A-22 Modeled vs. Observed TEMP (°C) at 03298150

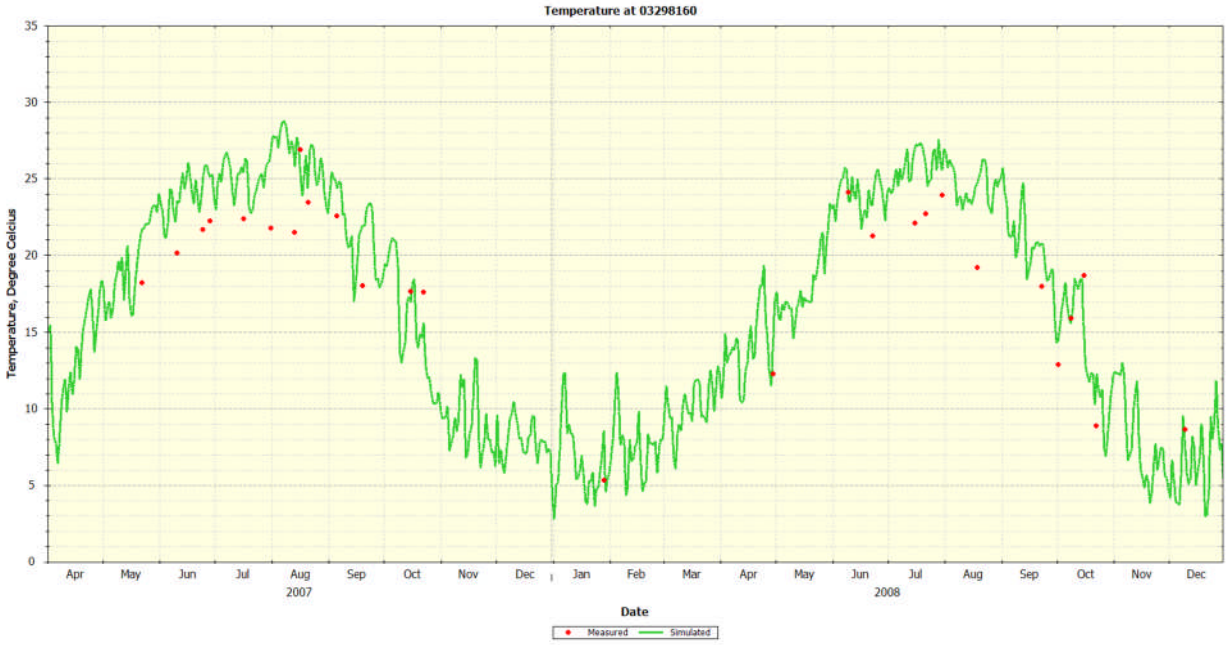


Figure A-23 Modeled vs. Observed TEMP (°C) at 03298160

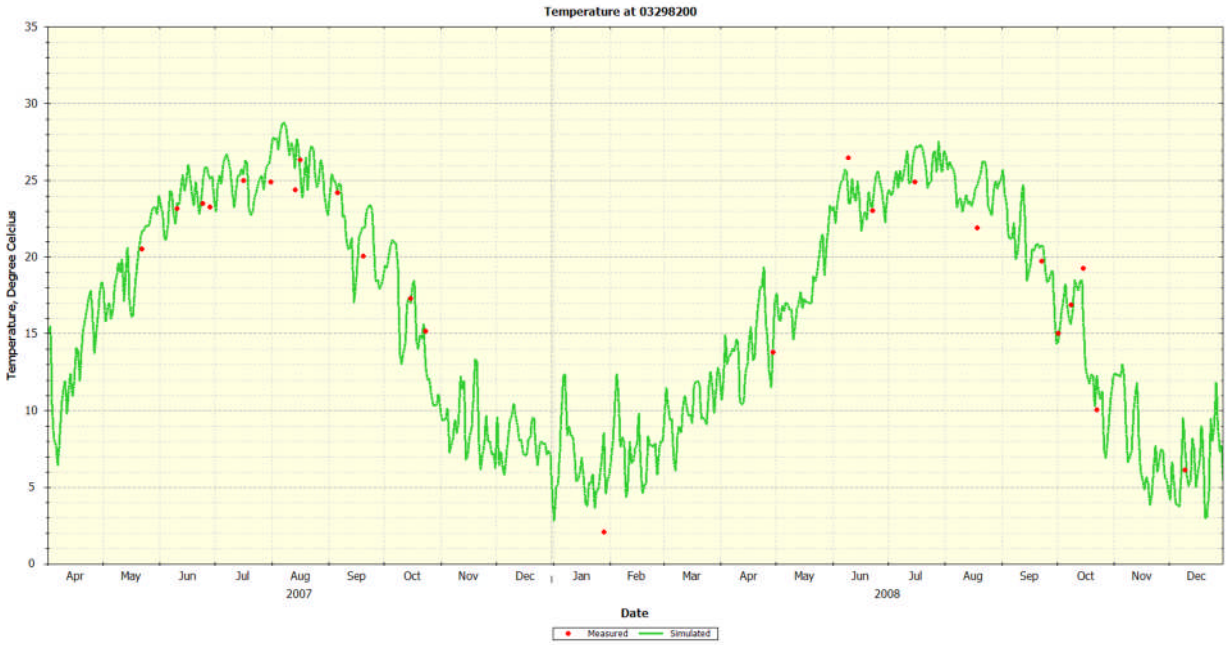


Figure A-24 Modeled vs. Observed TEMP (°C) at 03298200

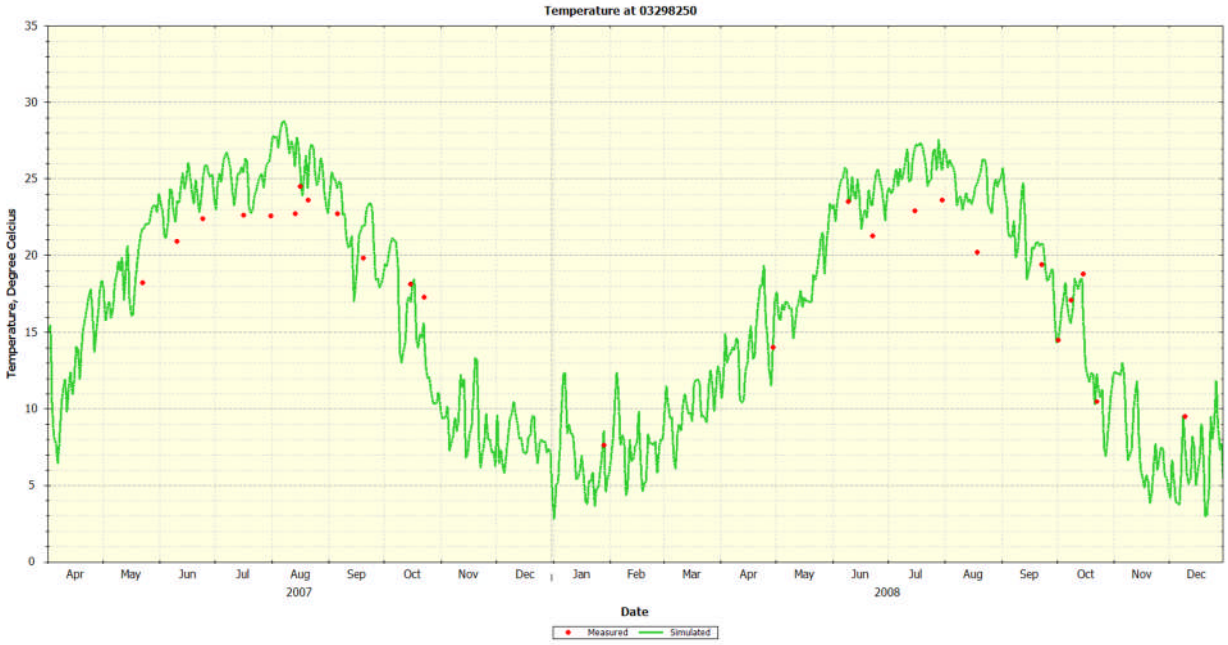


Figure A-25 Modeled vs. Observed TEMP (°C) at 03298250

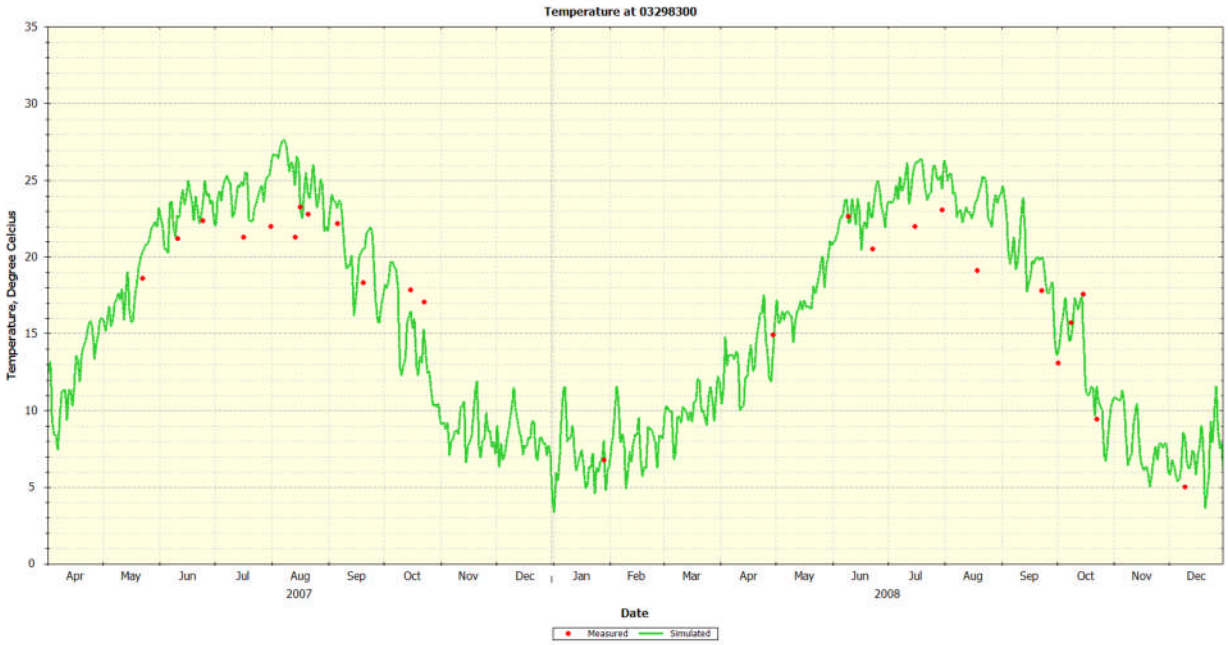


Figure A-26 Modeled vs. Observed TEMP (°C) at 03298300

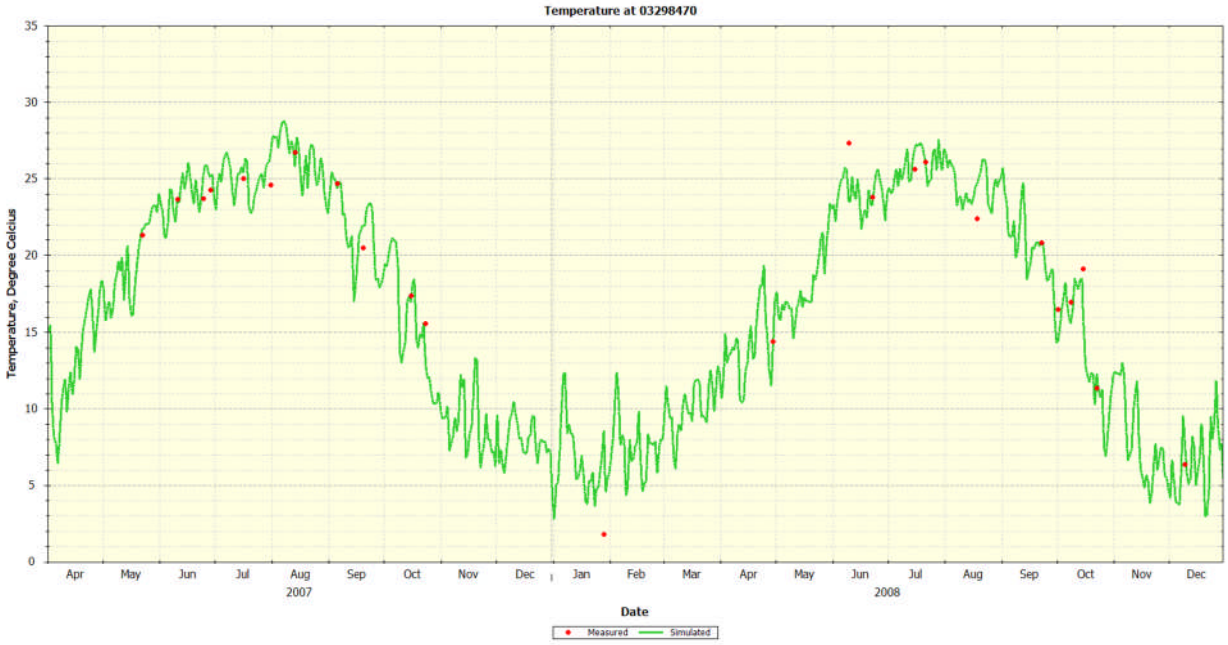


Figure A-27 Modeled vs. Observed TEMP (°C) at 03298470

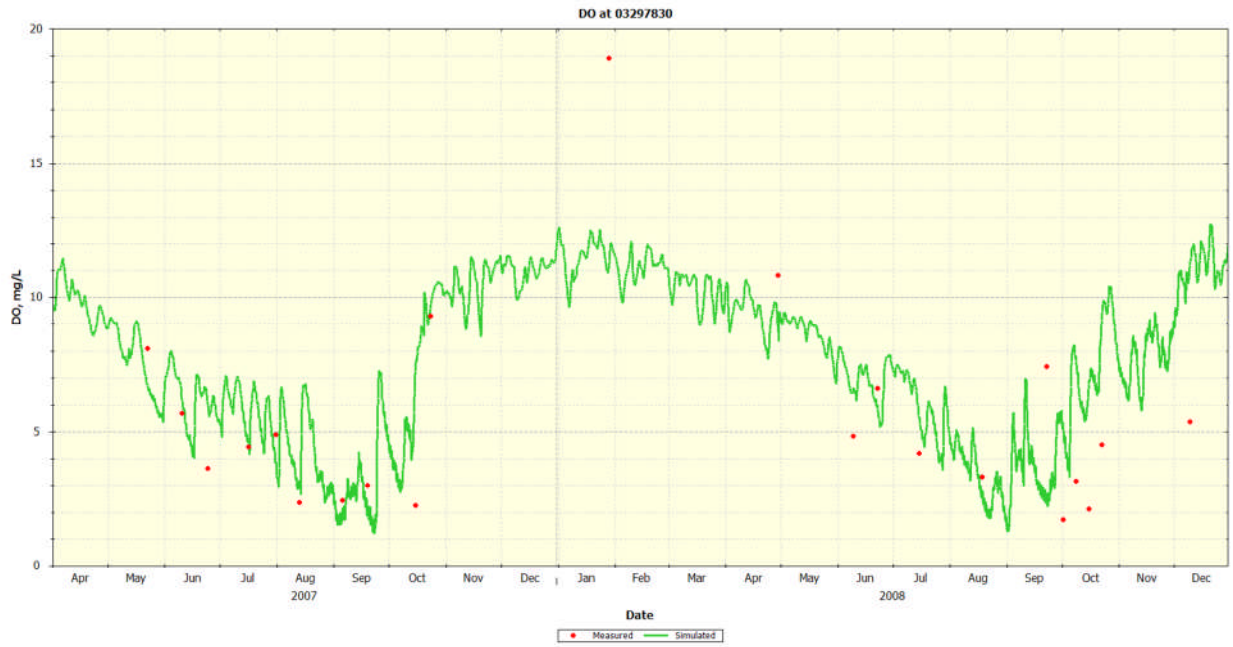


Figure A-28 Modeled vs. Observed DO (mg/L) at 03297830

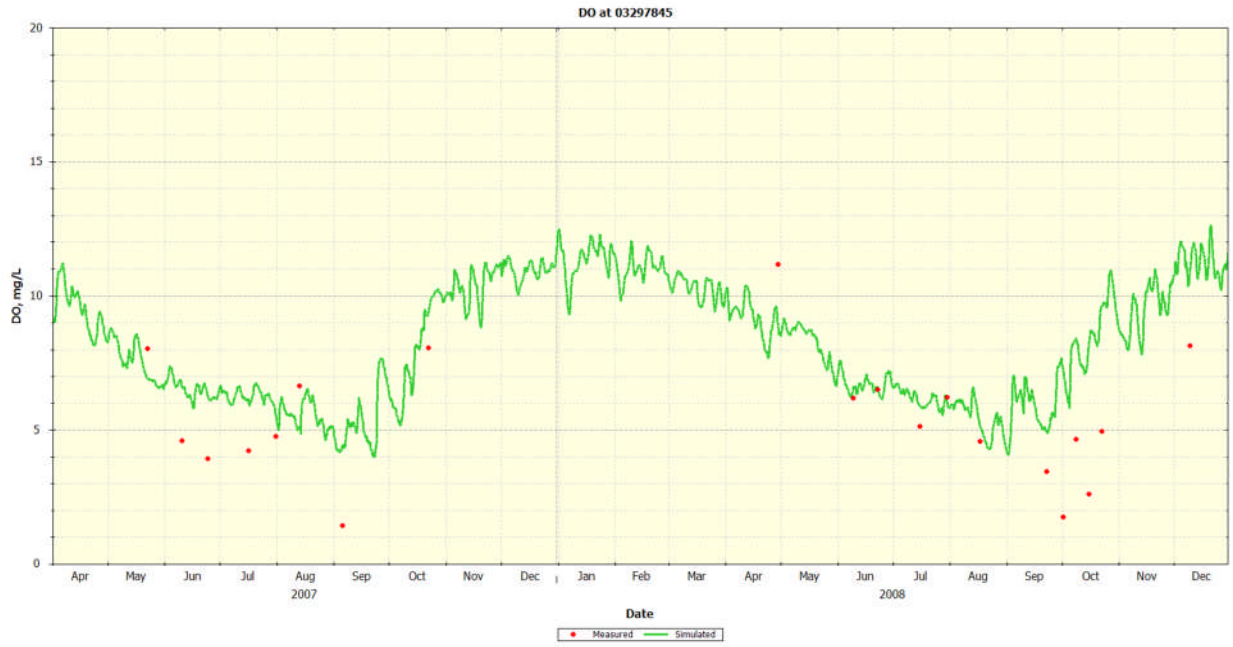


Figure A-29 Modeled vs. Observed DO (mg/L) at 03297845

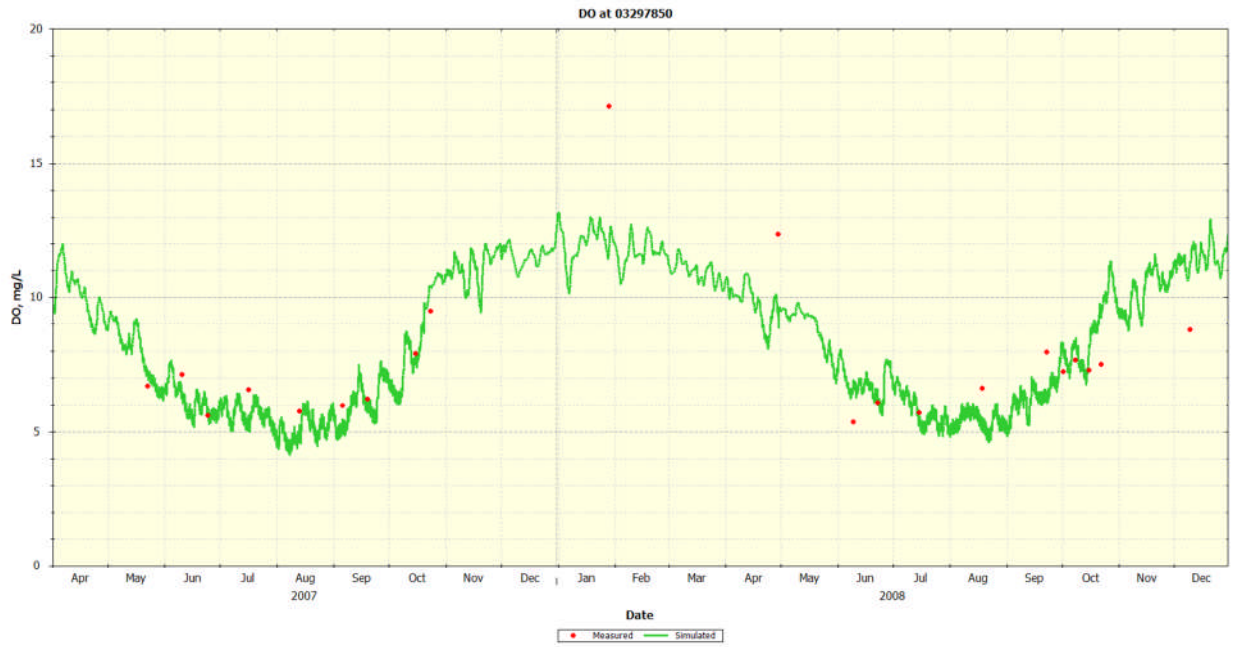


Figure A-30 Modeled vs. Observed DO (mg/L) at 03297850

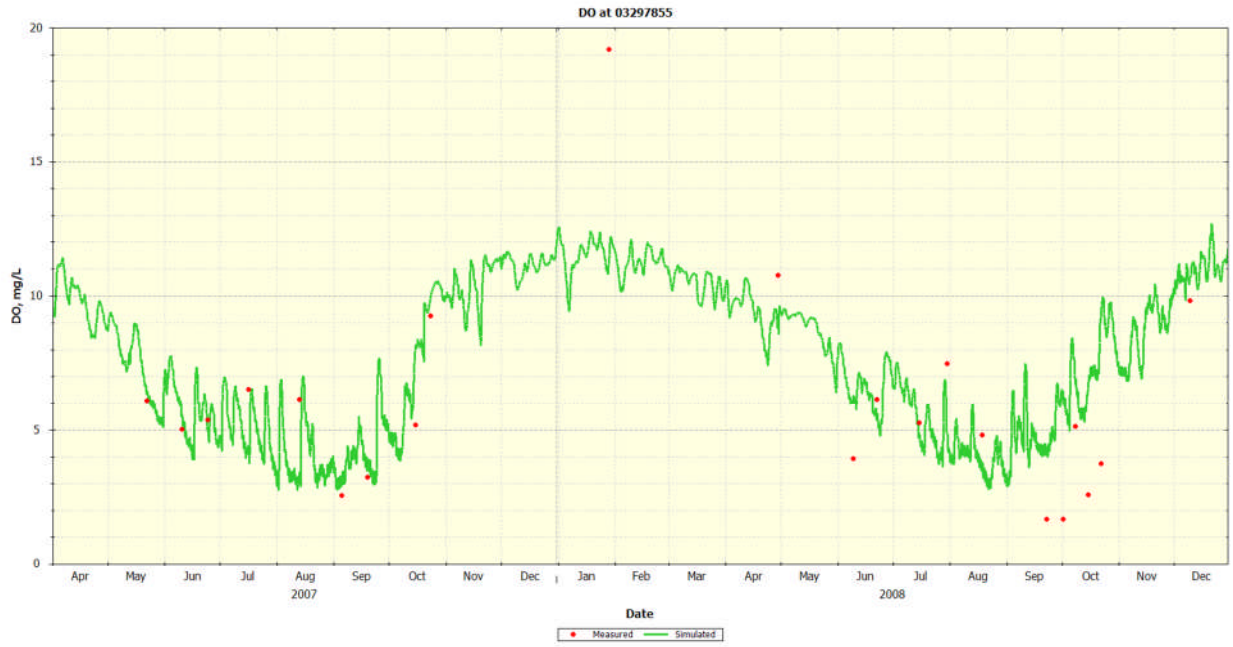


Figure A-31 Modeled vs. Observed DO (mg/L) at 03297855

Figure A-32 Modeled vs. Observed DO (mg/L) at 03297860

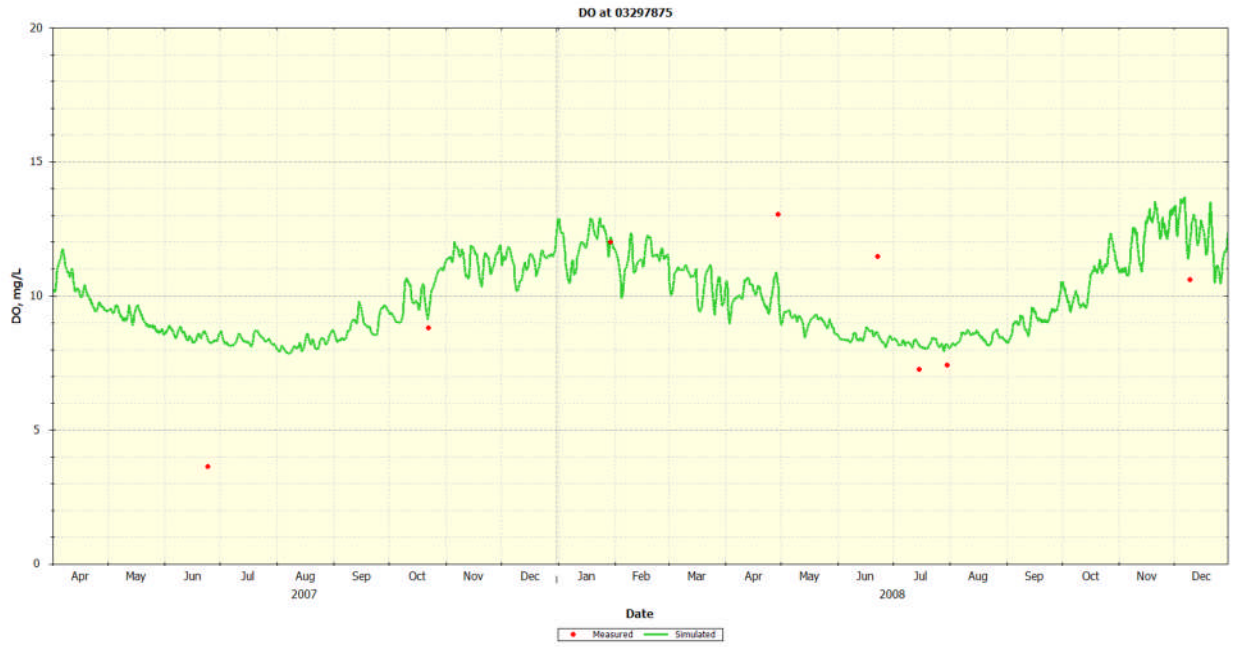


Figure A-33 Modeled vs. Observed DO (mg/L) at 03297875

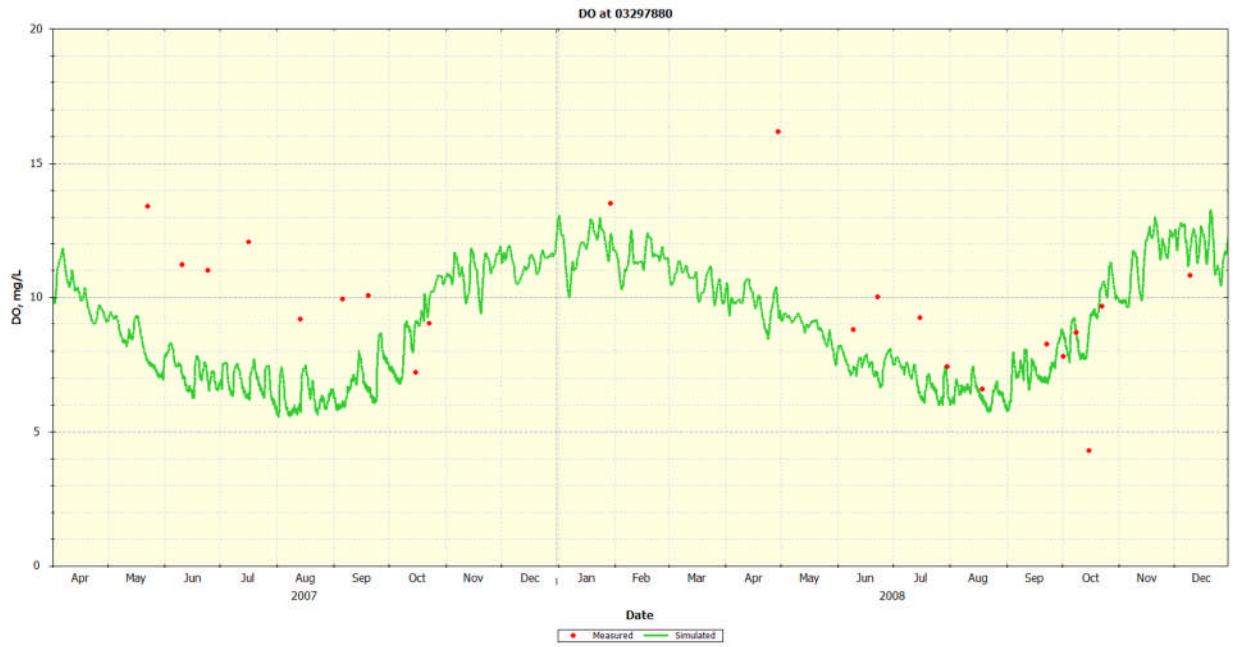


Figure A-34 Modeled vs. Observed DO (mg/L) at 03297880

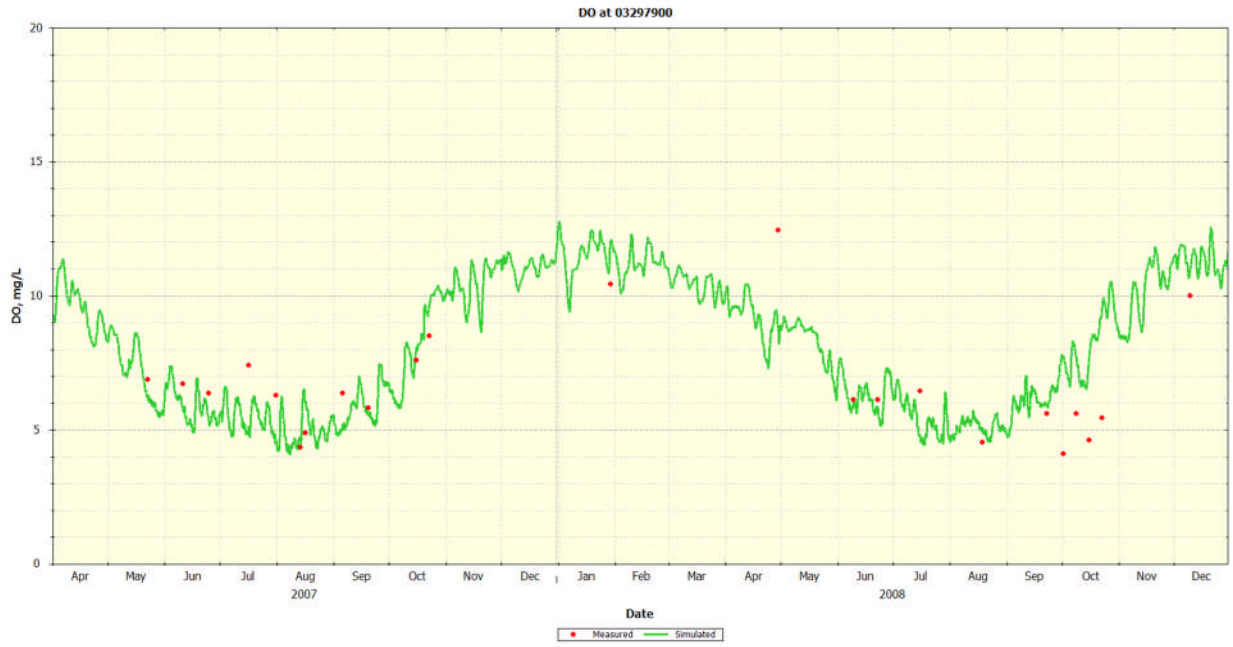


Figure A-35 Modeled vs. Observed DO (mg/L) at 03297900

Figure A-36 Modeled vs. Observed DO (mg/L) at 03297930

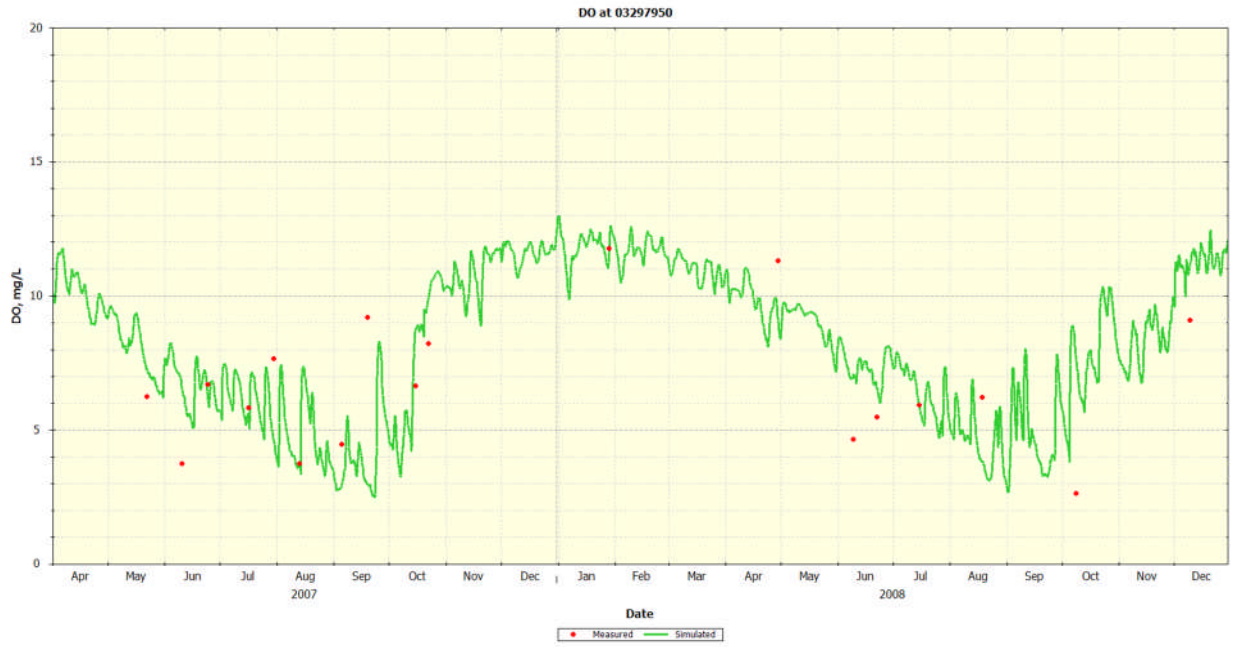


Figure A-37 Modeled vs. Observed DO (mg/L) at 03297950

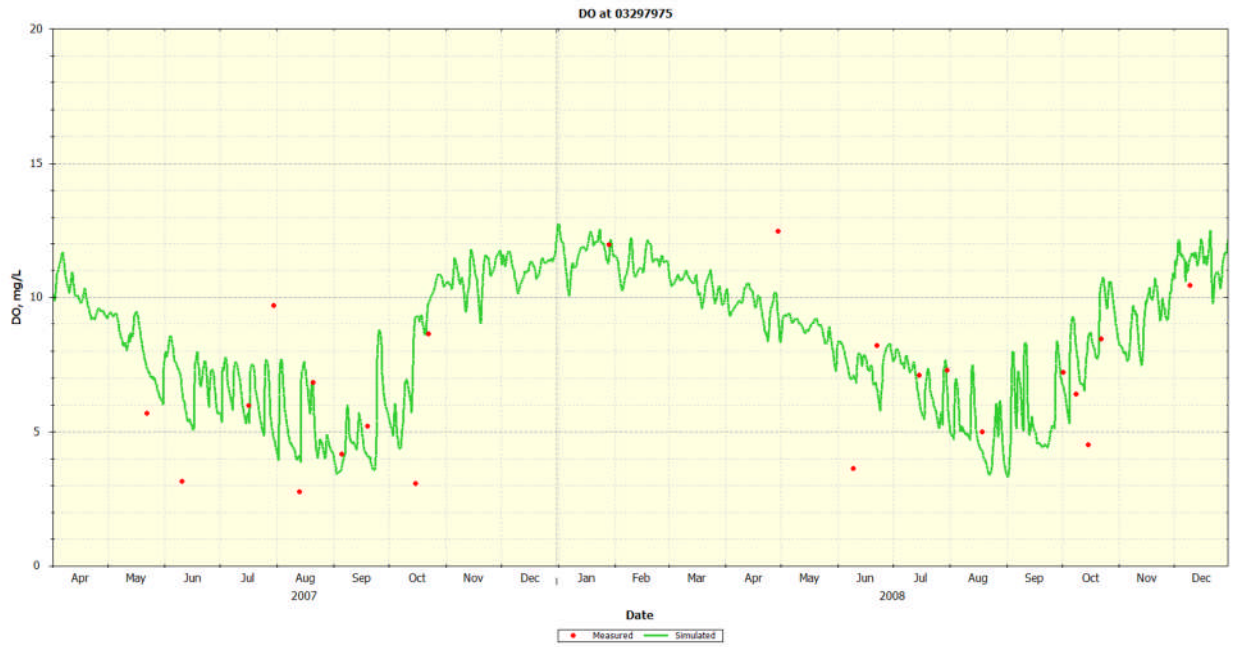


Figure A-38 Modeled vs. Observed DO (mg/L) at 03297975

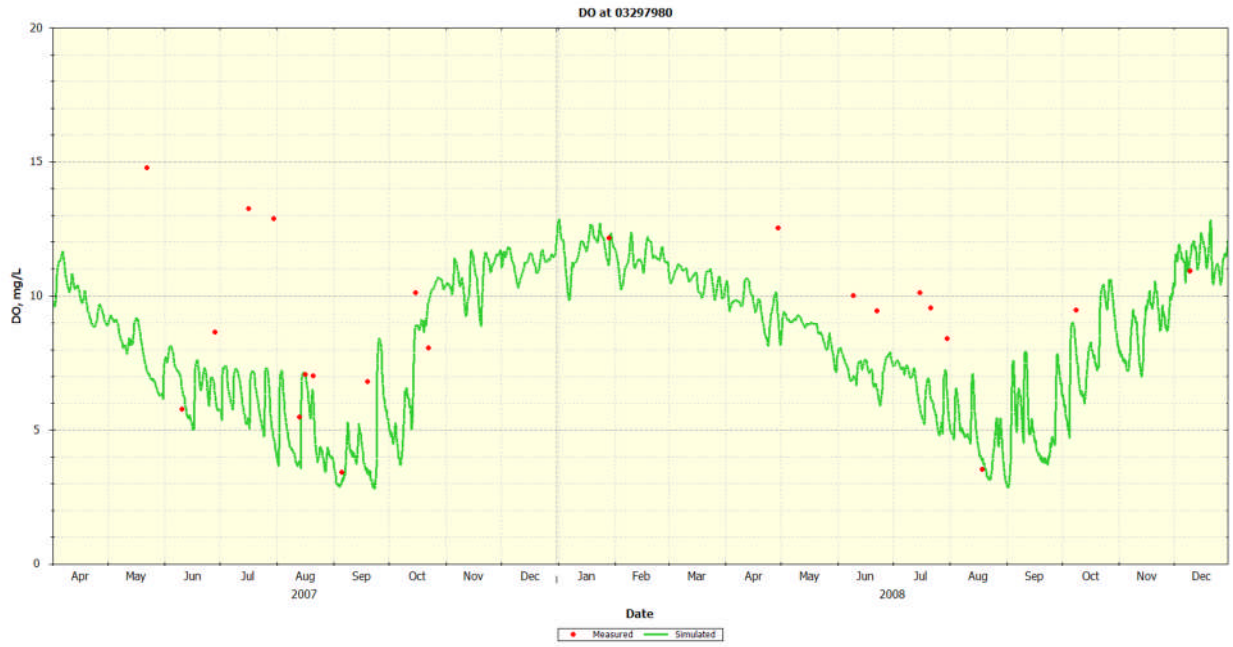


Figure A-39 Modeled vs. Observed DO (mg/L) at 03297980

Figure A-40 Modeled vs. Observed DO (mg/L) at 03298000

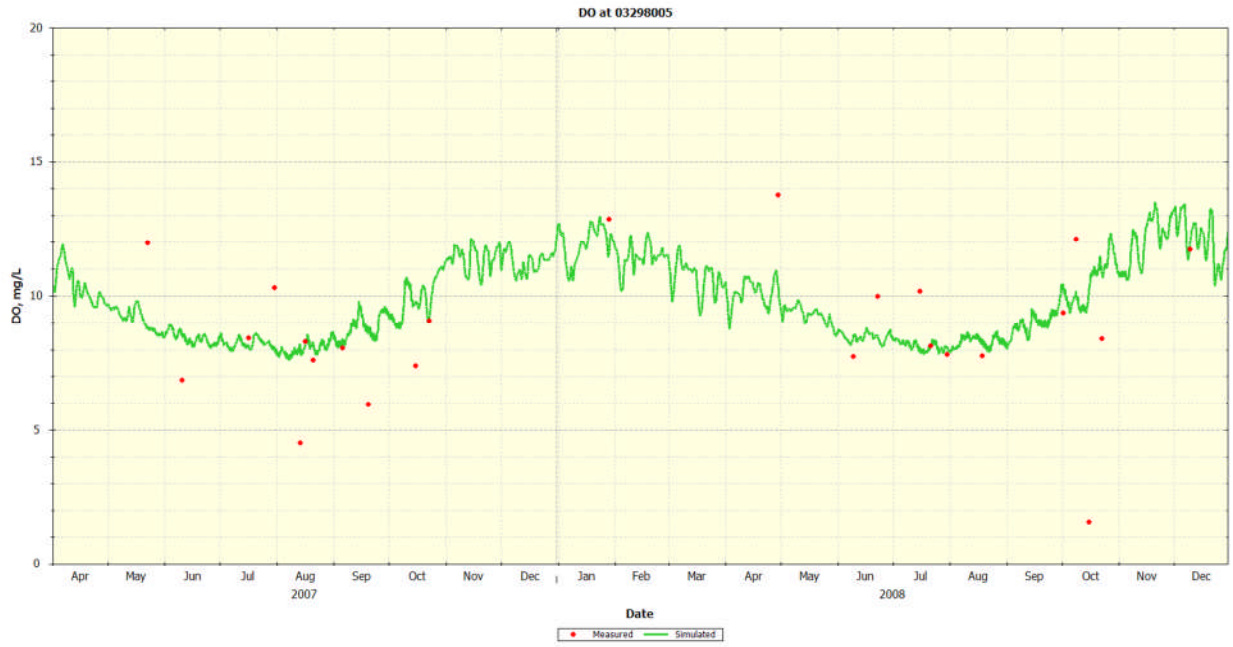


Figure A-41 Modeled vs. Observed DO (mg/L) at 03298005

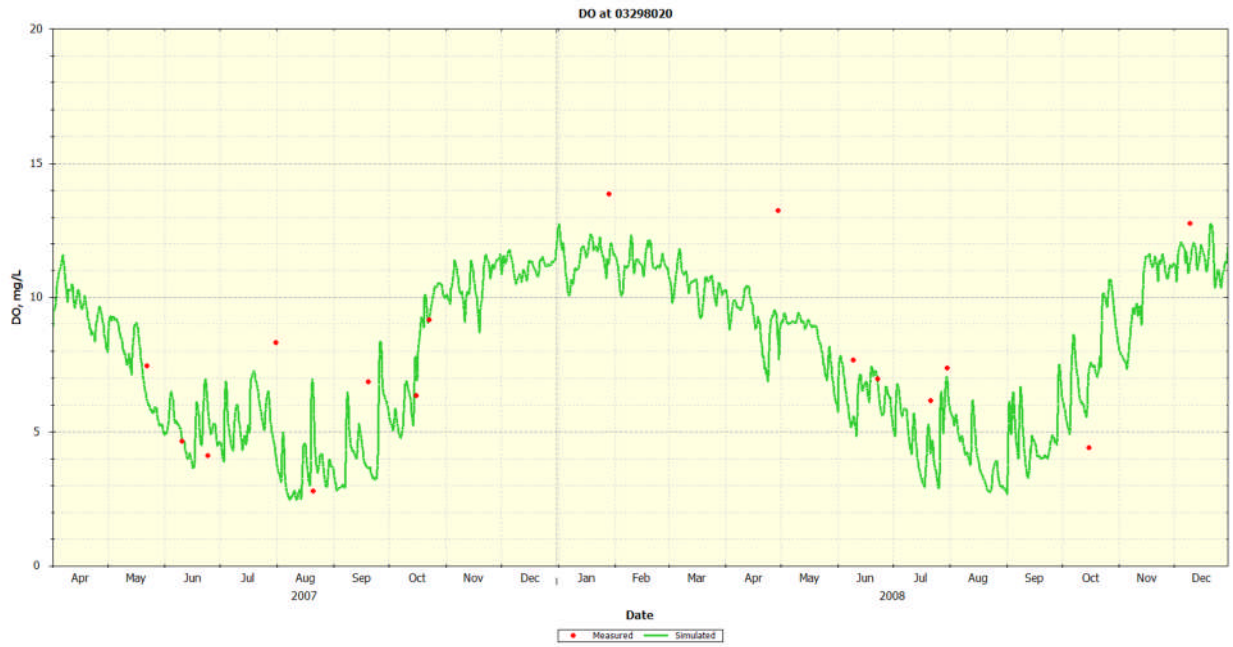


Figure A-42 Modeled vs. Observed DO (mg/L) at 03298020

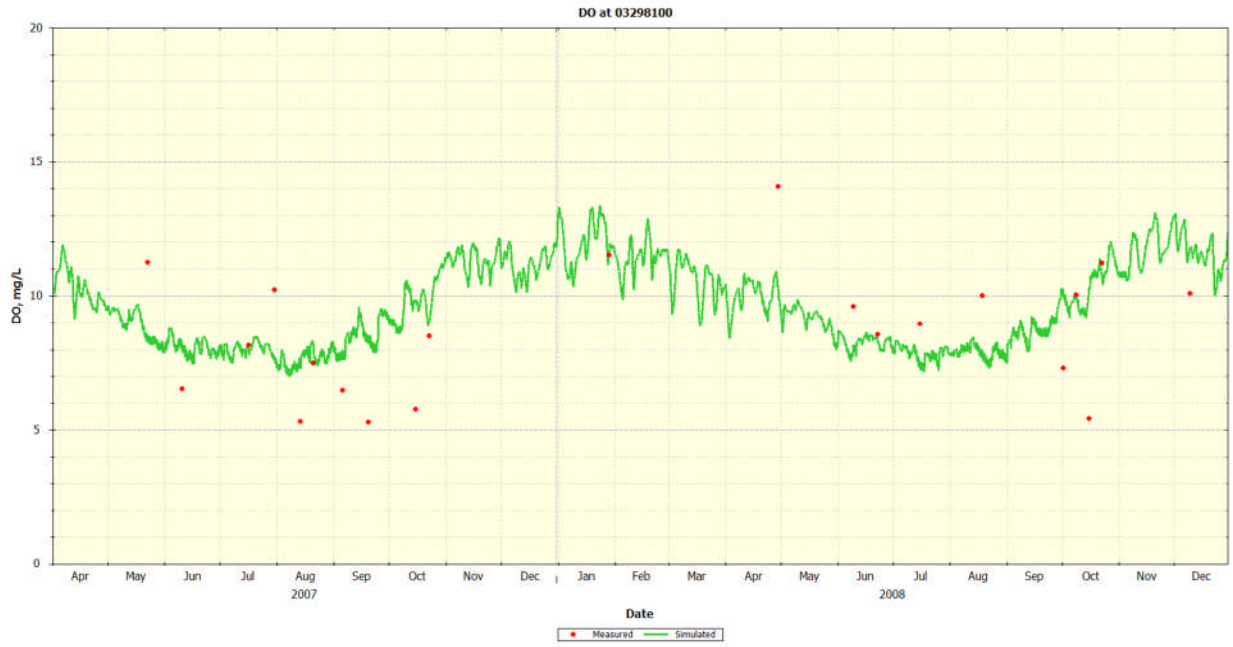


Figure A-43 Modeled vs. Observed DO (mg/L) at 03298100

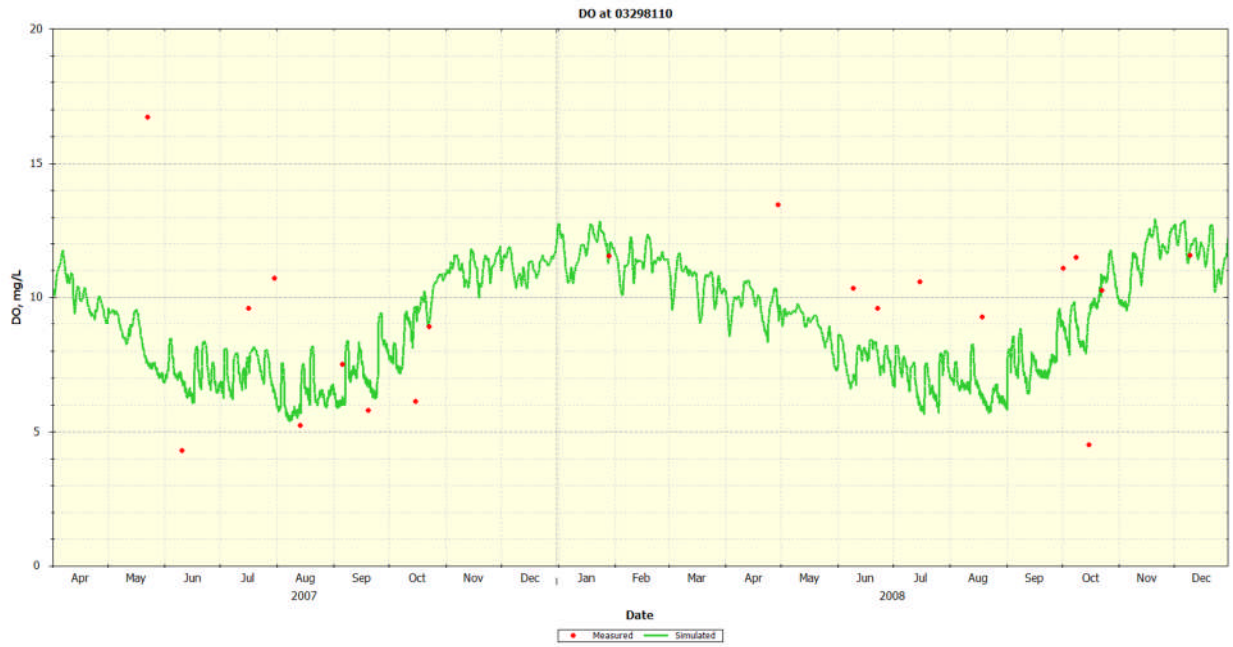


Figure A-44 Modeled vs. Observed DO (mg/L) at 03298110

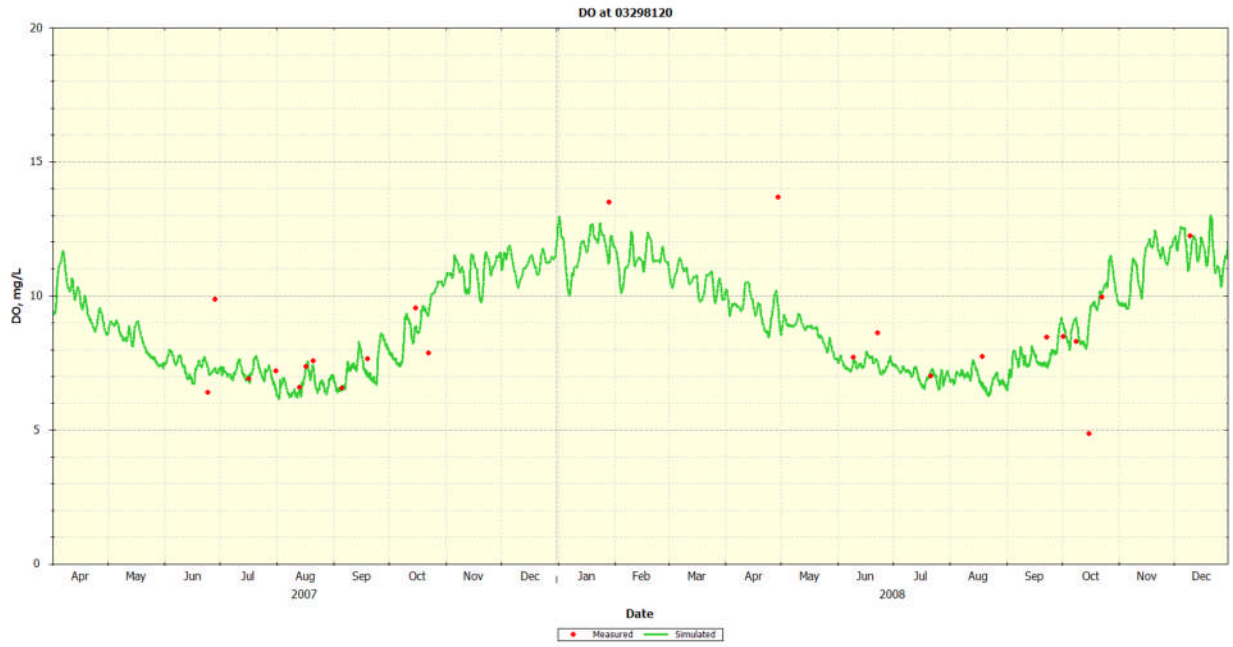


Figure A-45 Modeled vs. Observed DO (mg/L) at 03298120

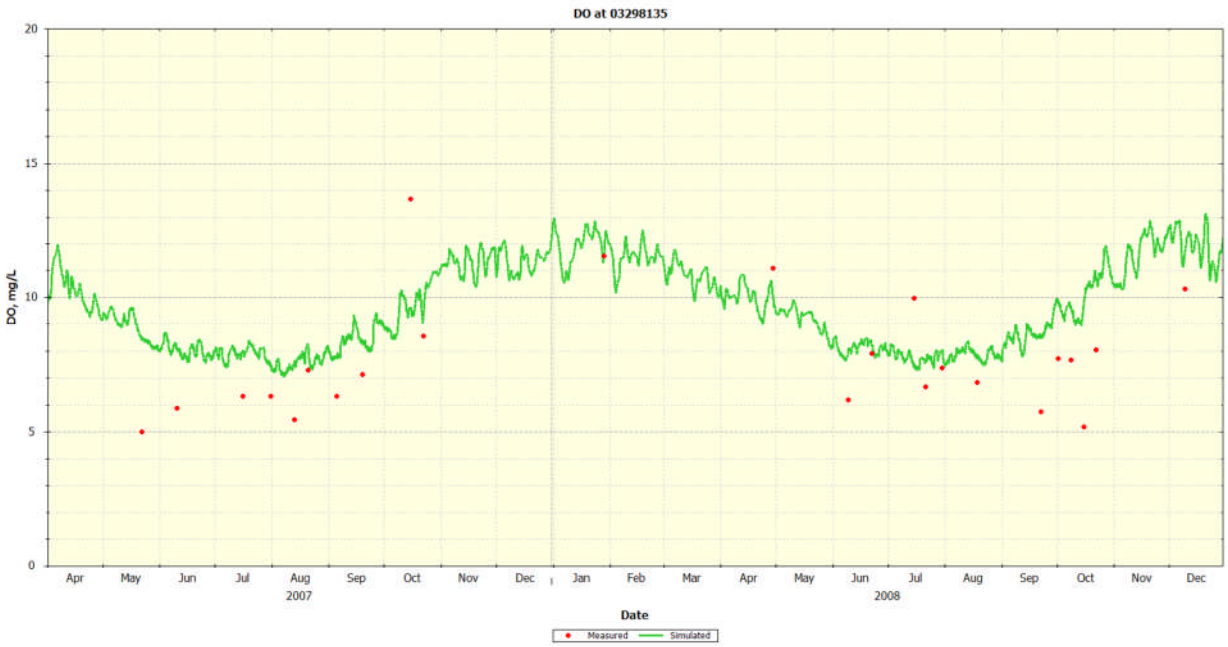


Figure A-46 Modeled vs. Observed DO (mg/L) at 03298135

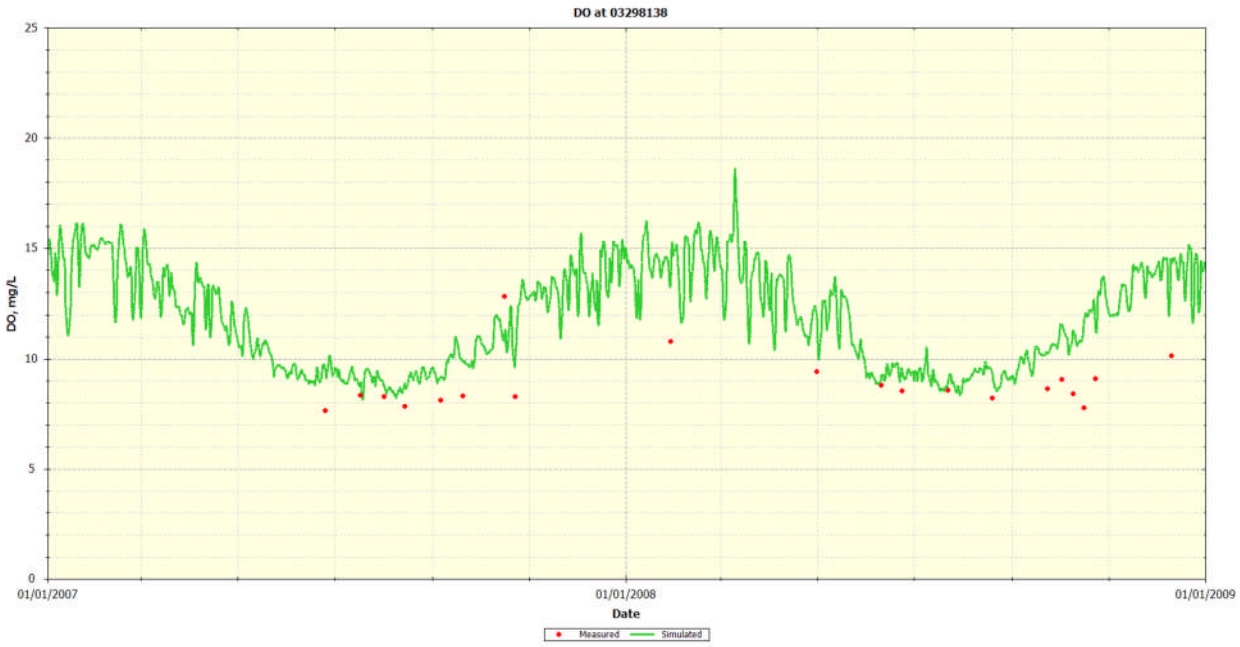


Figure A-47 Modeled vs. Observed DO (mg/L) at 03298138

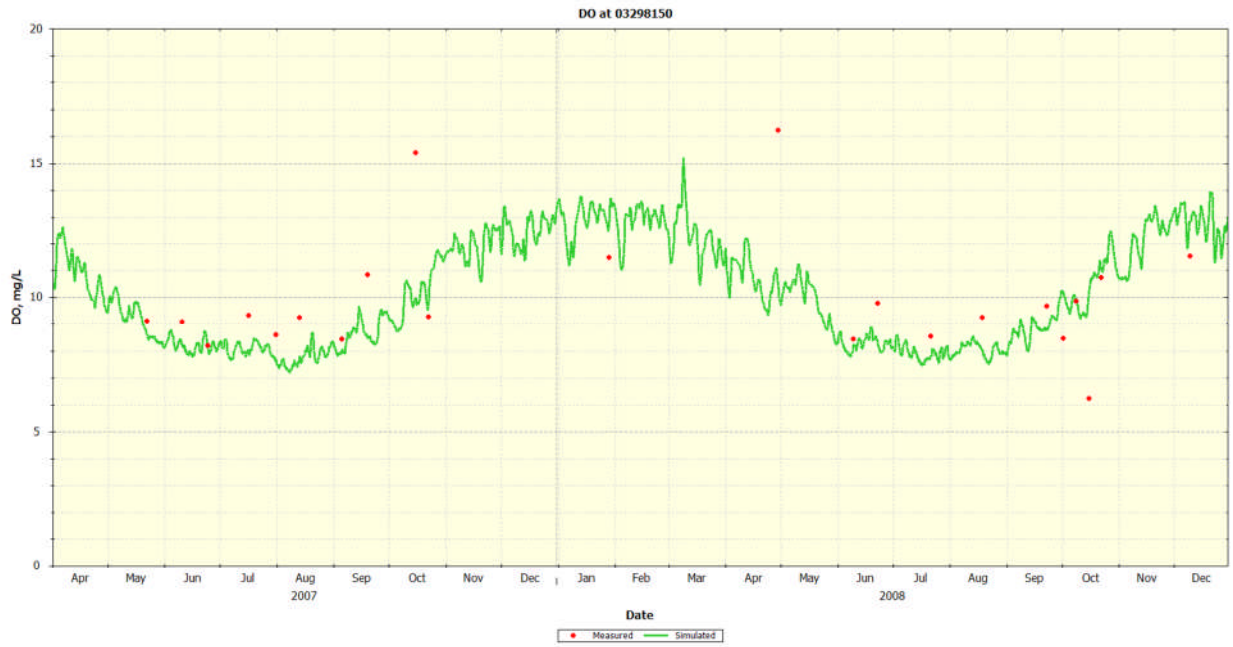


Figure A-48 Modeled vs. Observed DO (mg/L) at 03298150

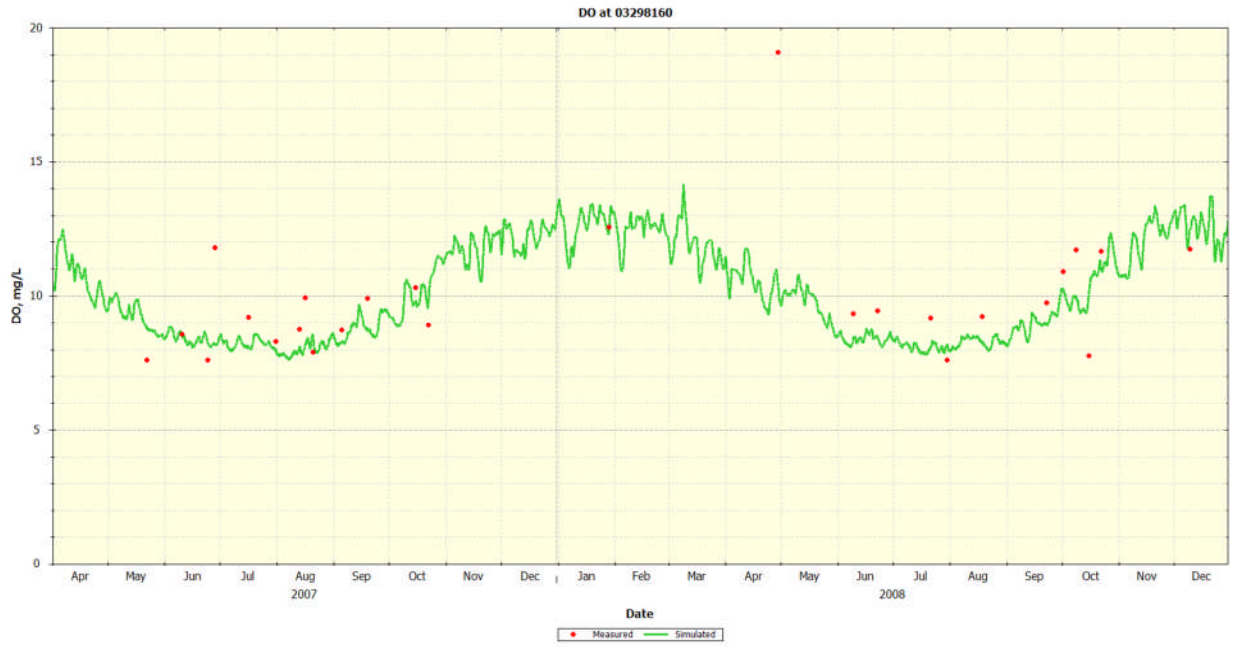


Figure A-49 Modeled vs. Observed DO (mg/L) at 03298160

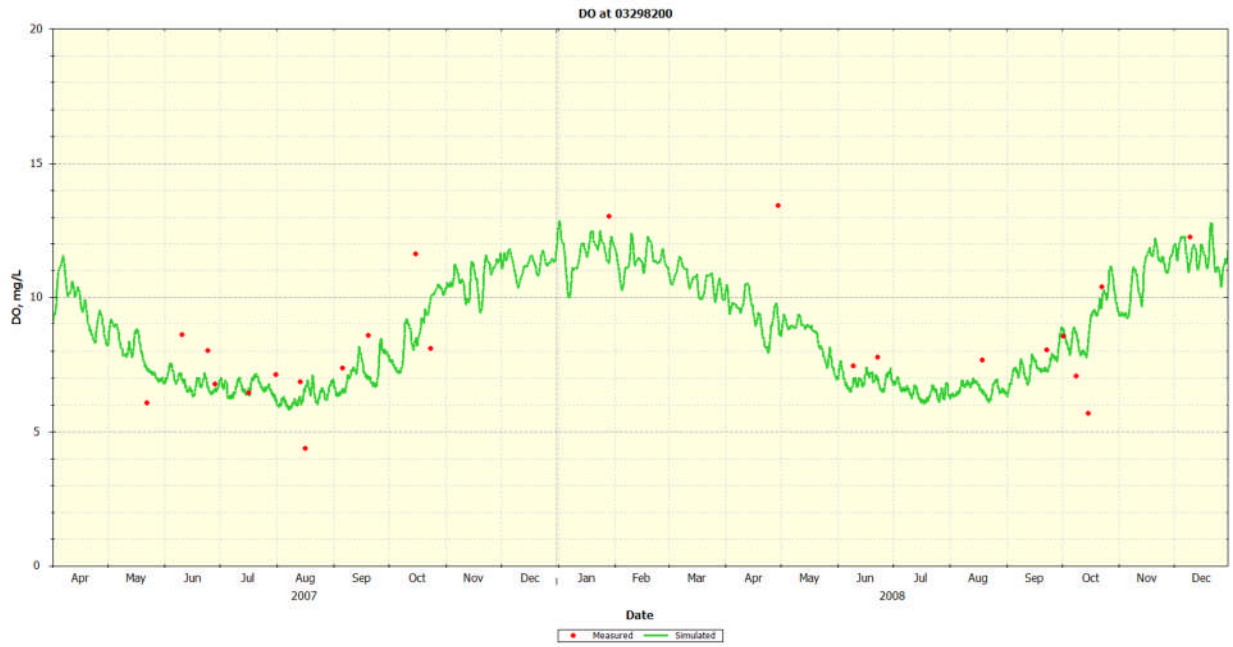


Figure A-50 Modeled vs. Observed DO (mg/L) at 03298200

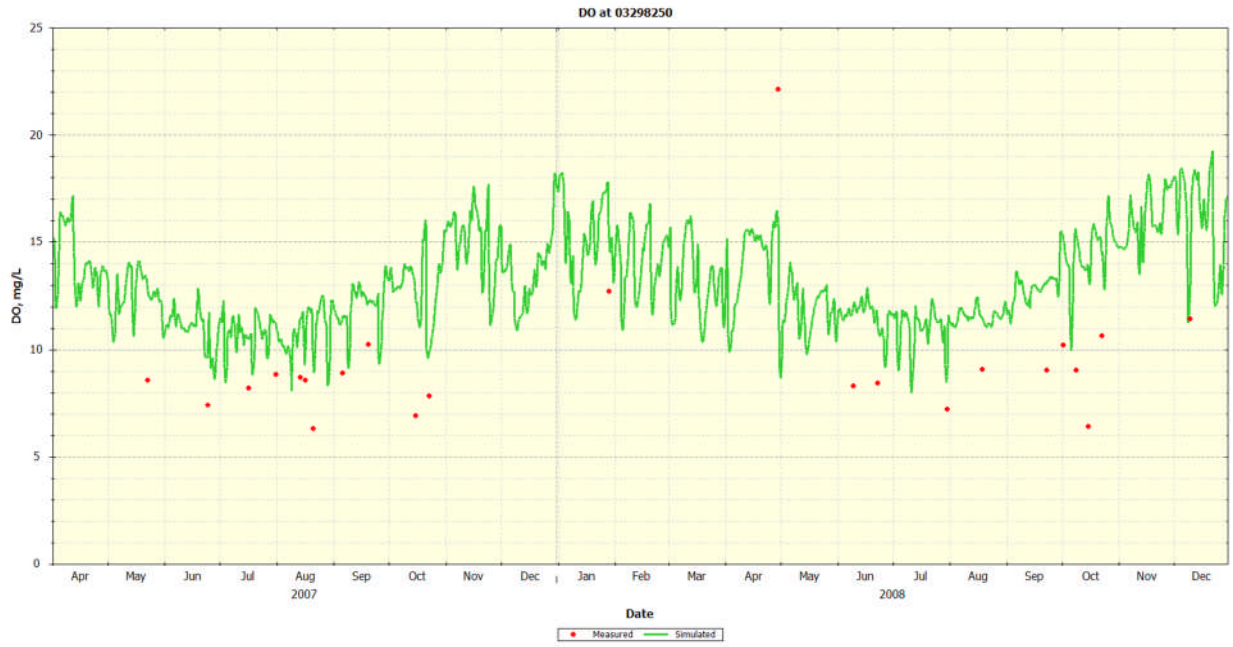


Figure A-51 Modeled vs. Observed DO (mg/L) at 03298250

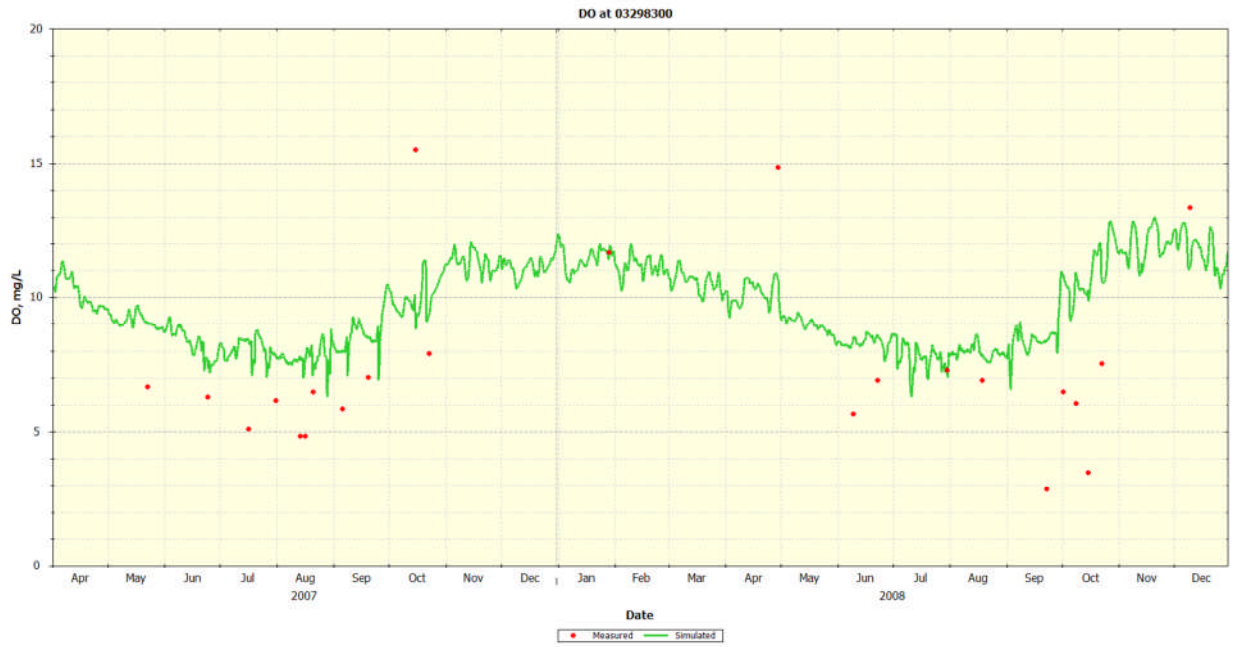


Figure A-52 Modeled vs. Observed DO (mg/L) at 03298300

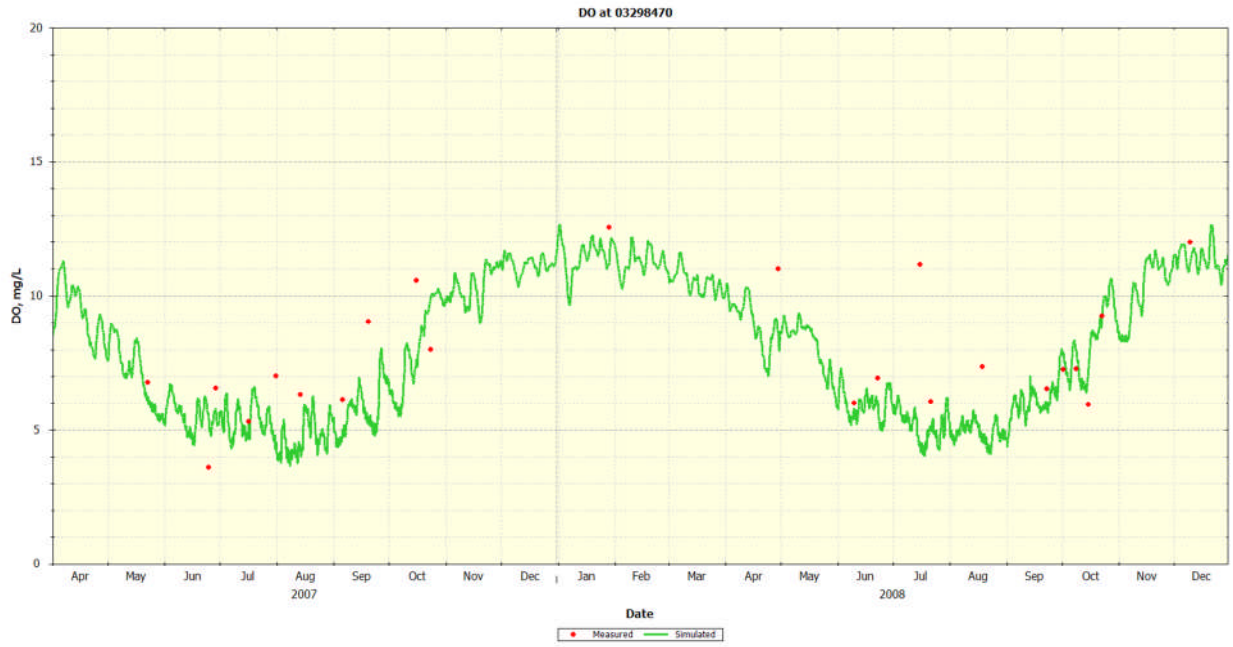


Figure A-53 Modeled vs. Observed DO (mg/L) at 03298470

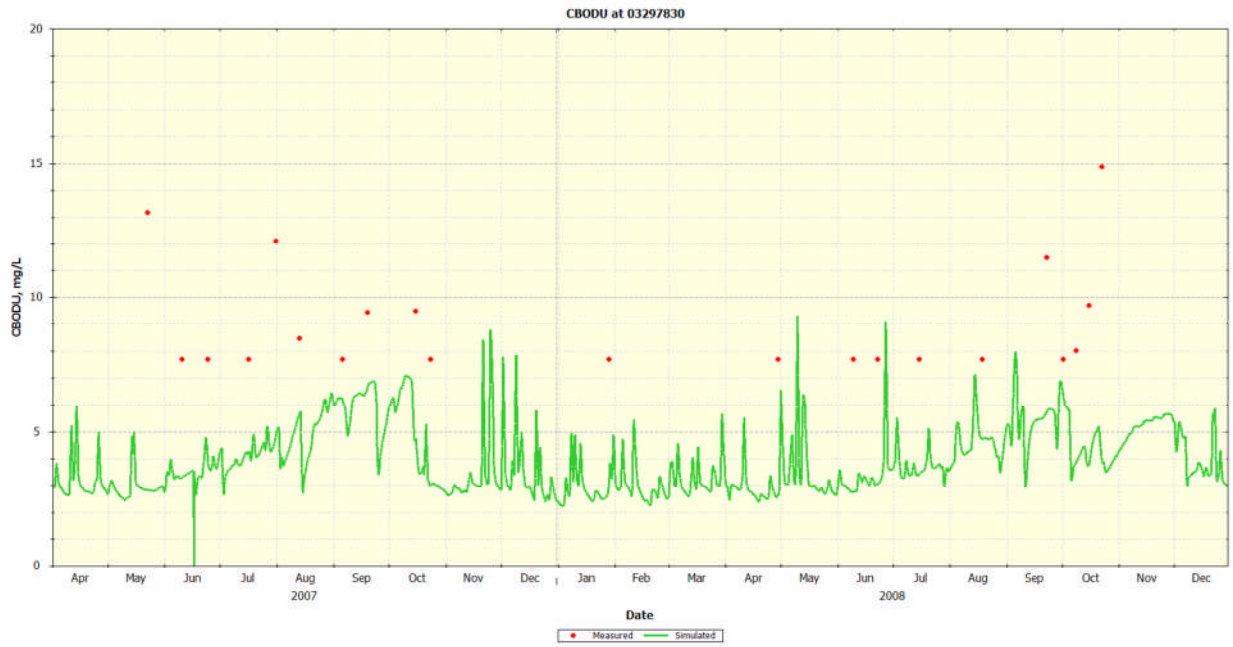


Figure A-54 Modeled vs. Observed CBOD (mg/L) at 03297830

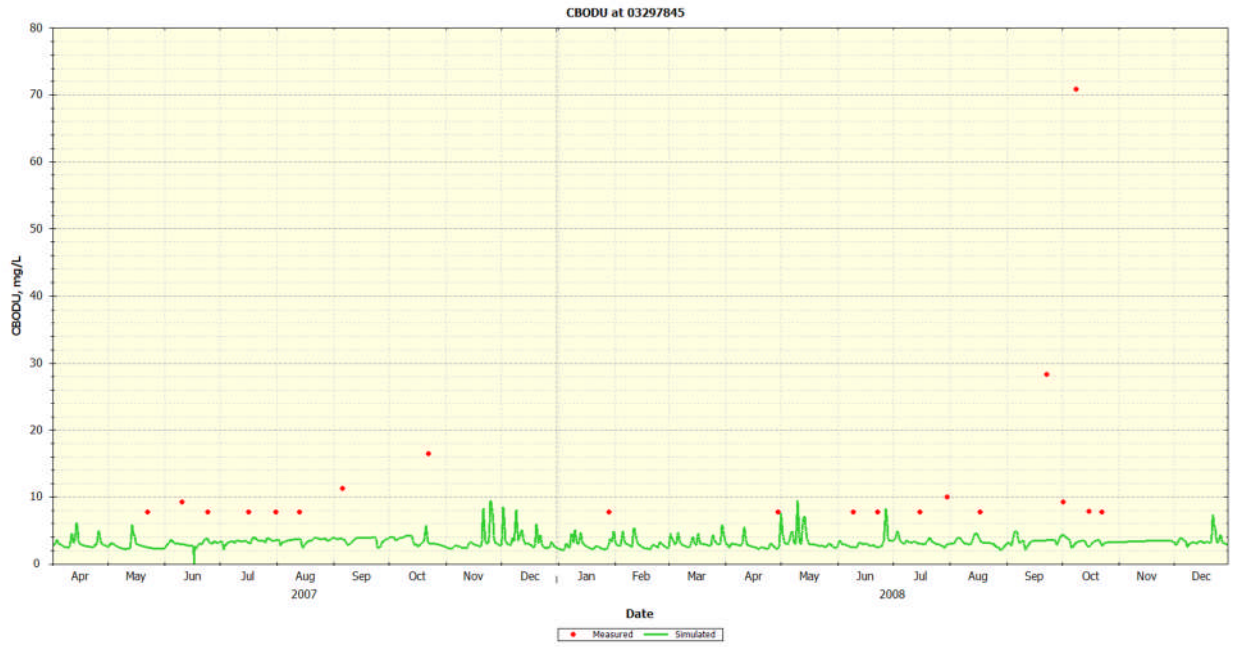


Figure A-55 Modeled vs. Observed CBOD (mg/L) at 03297845

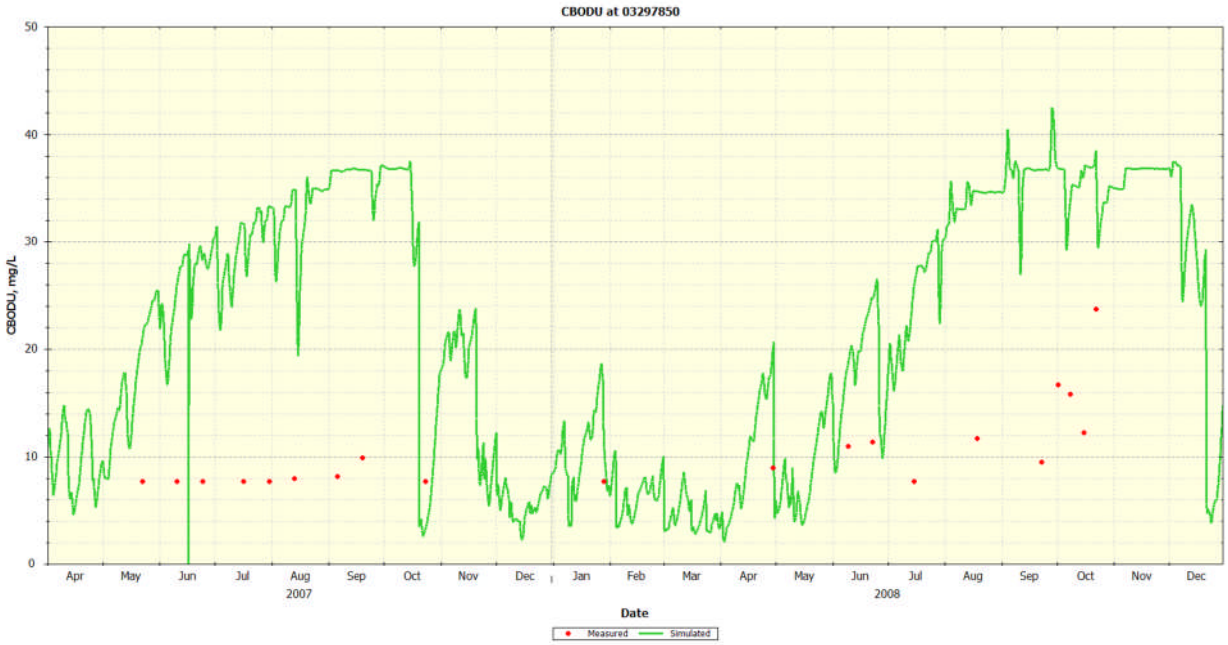


Figure A-56 Modeled vs. Observed CBOD (mg/L) at 03297850

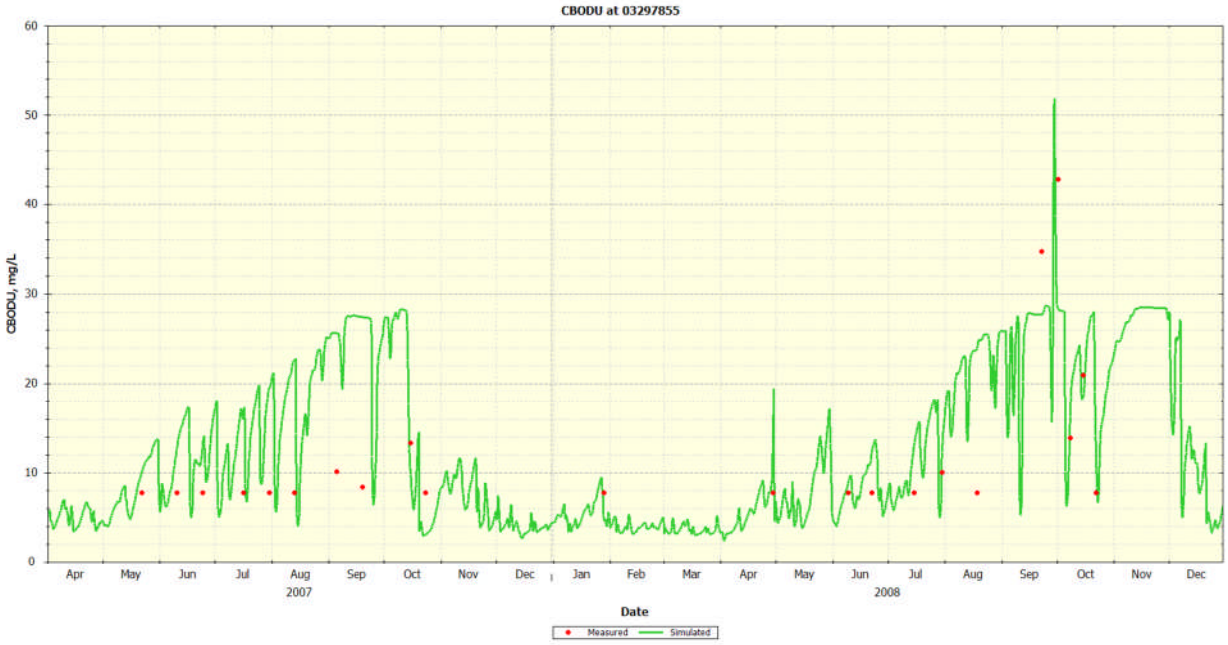


Figure A-57 Modeled vs. Observed CBOD (mg/L) at 03297855

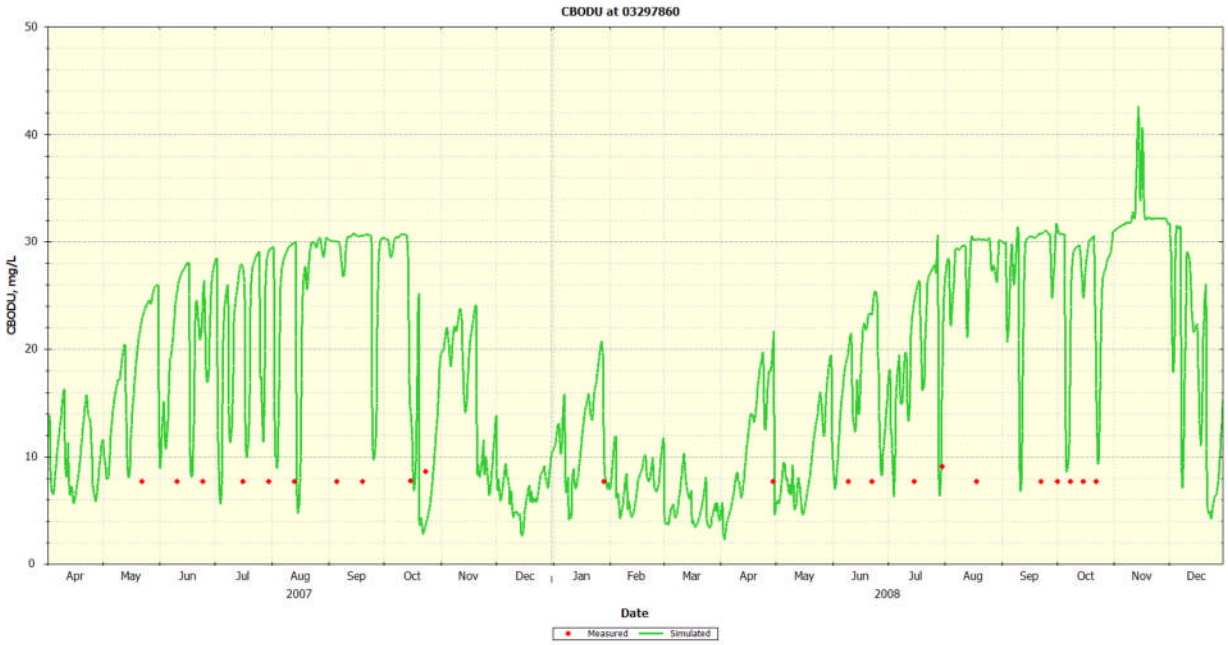


Figure A-58 Modeled vs. Observed CBOD (mg/L) at 03297860

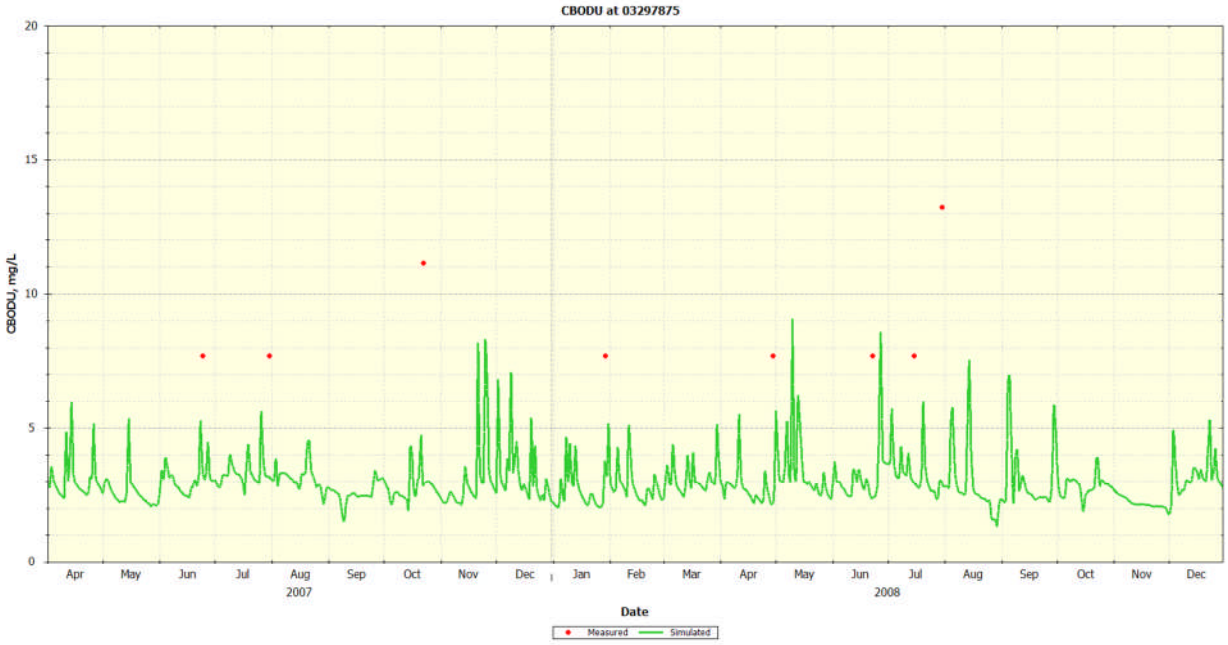


Figure A-59 Modeled vs. Observed CBOD (mg/L) at 03297875

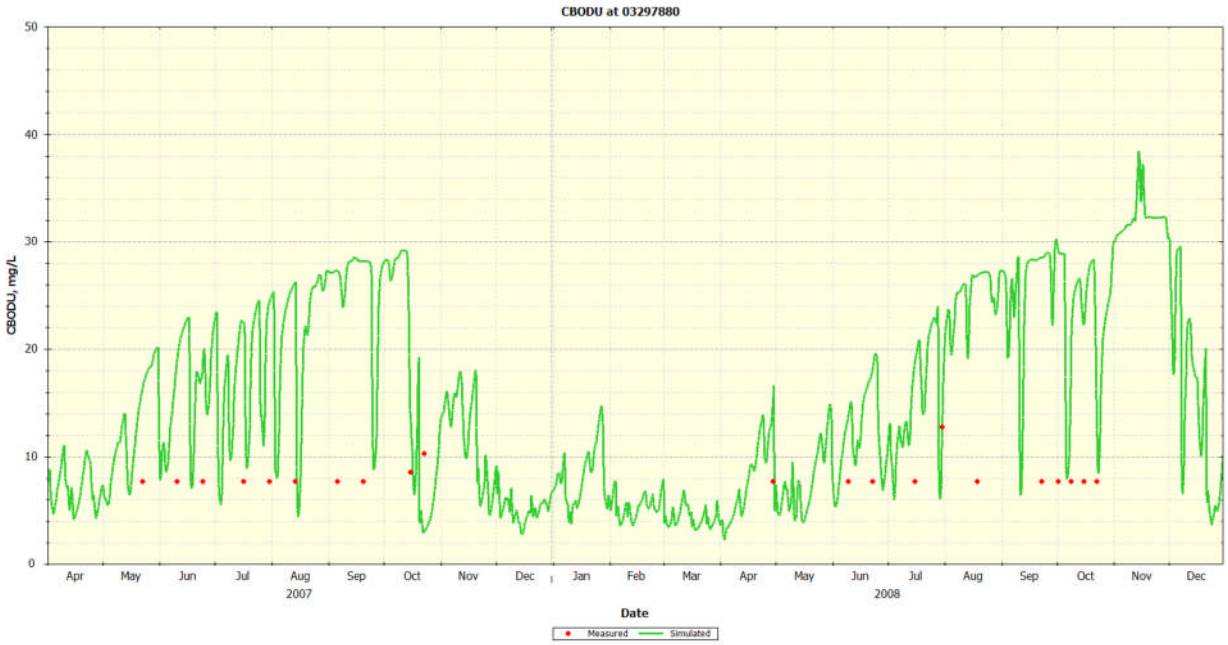


Figure A-60 Modeled vs. Observed CBOD (mg/L) at 03297880

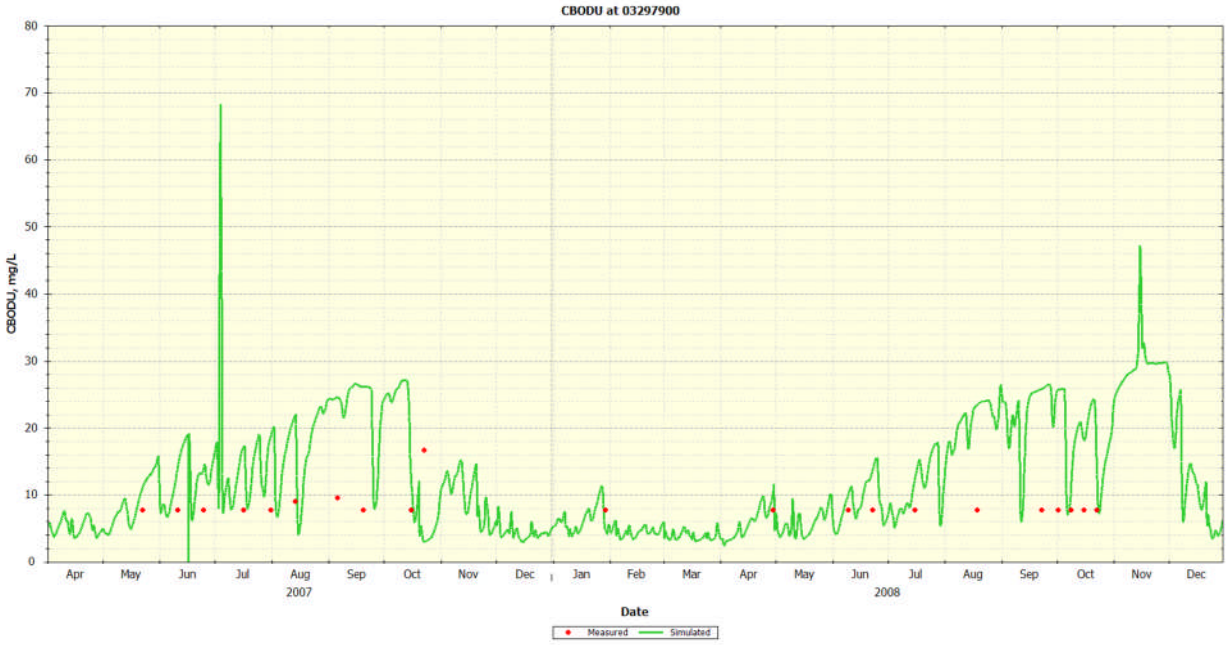


Figure A-61 Modeled vs. Observed CBOD (mg/L) at 03297900

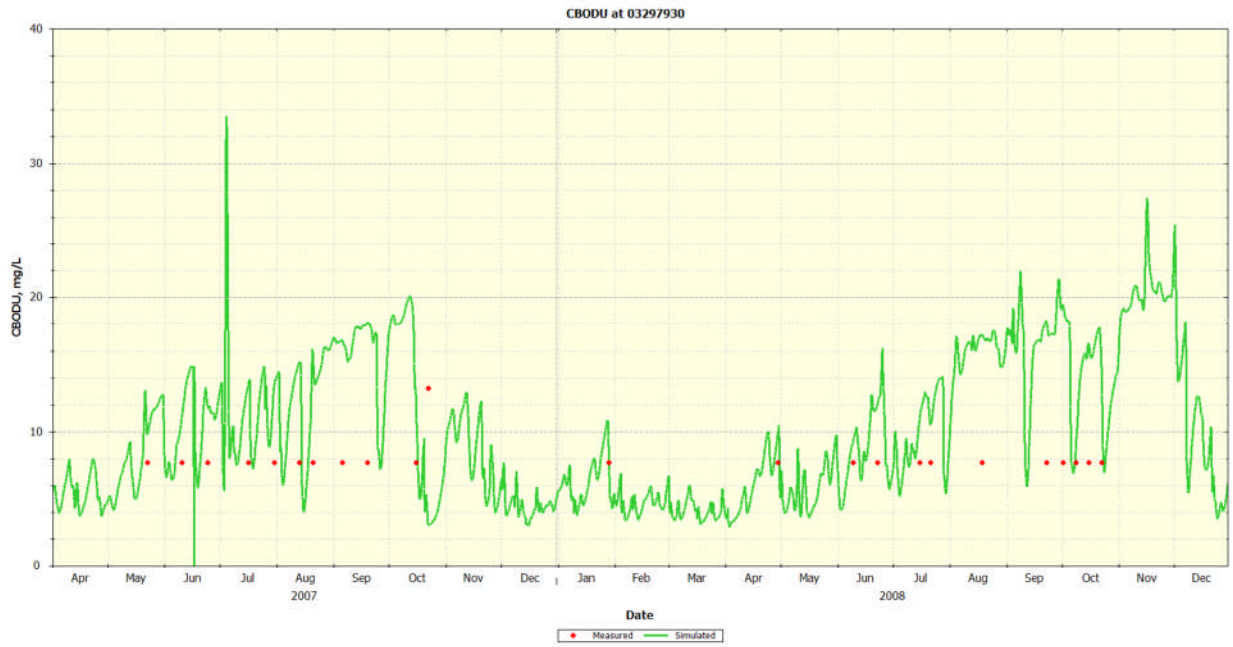


Figure A-62 Modeled vs. Observed CBOD (mg/L) at 03297930

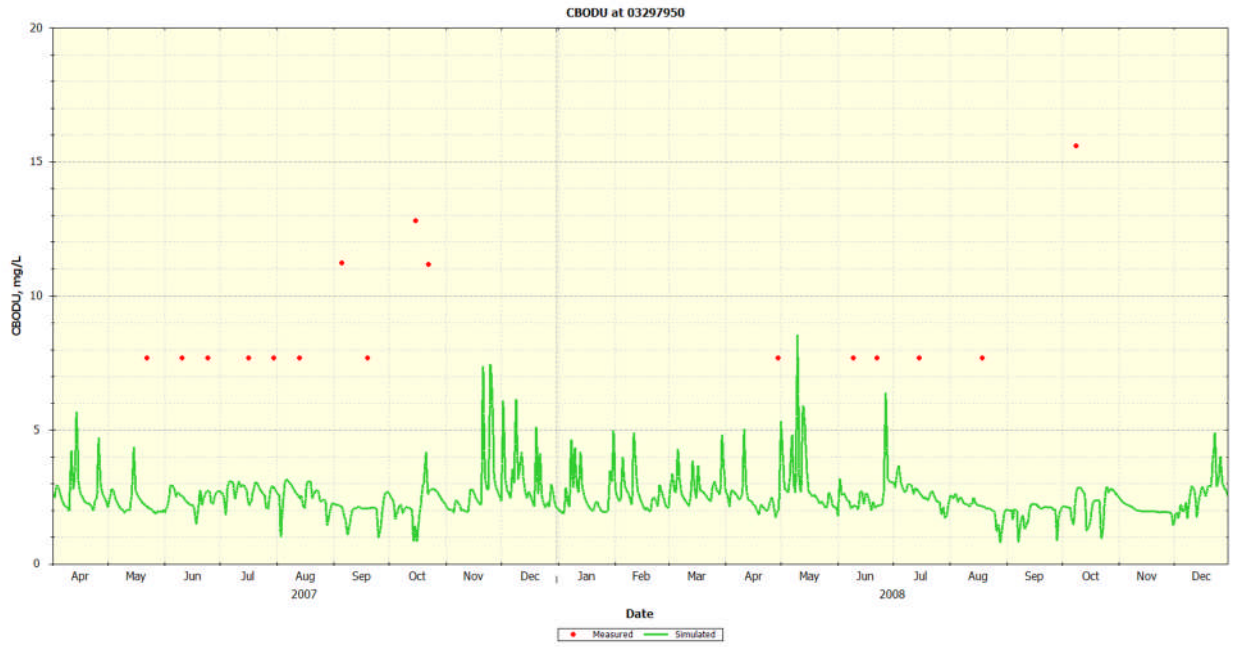


Figure A-63 Modeled vs. Observed CBOD (mg/L) at 03297950

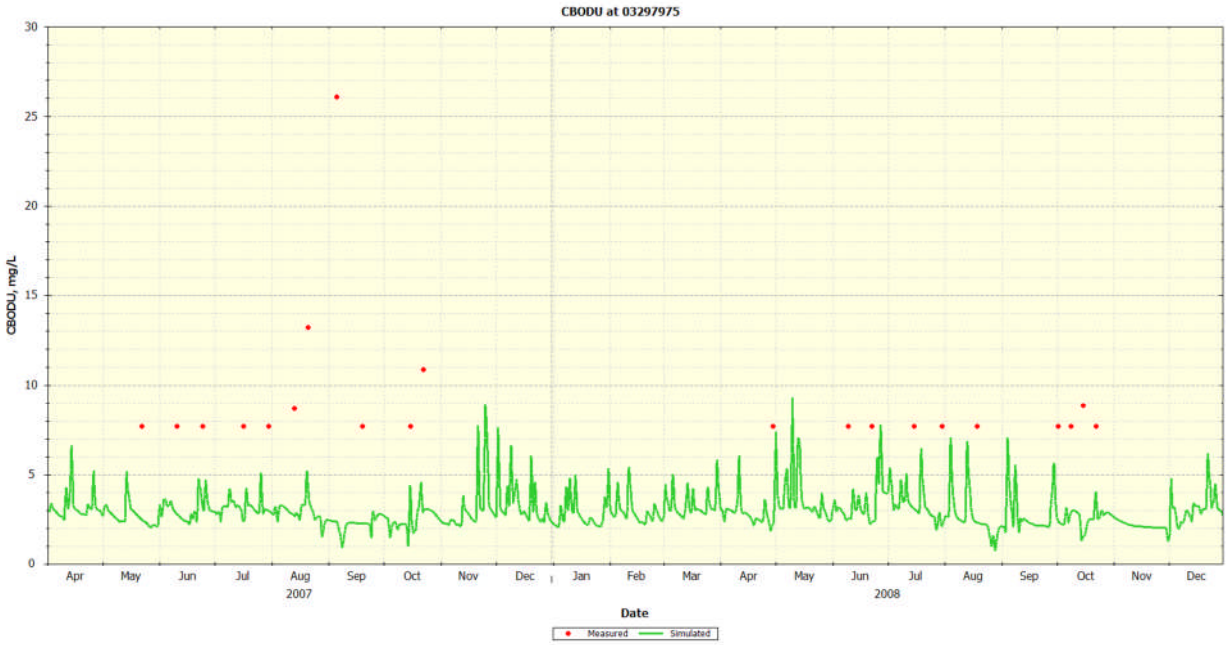


Figure A-64 Modeled vs. Observed CBOD (mg/L) at 03297975

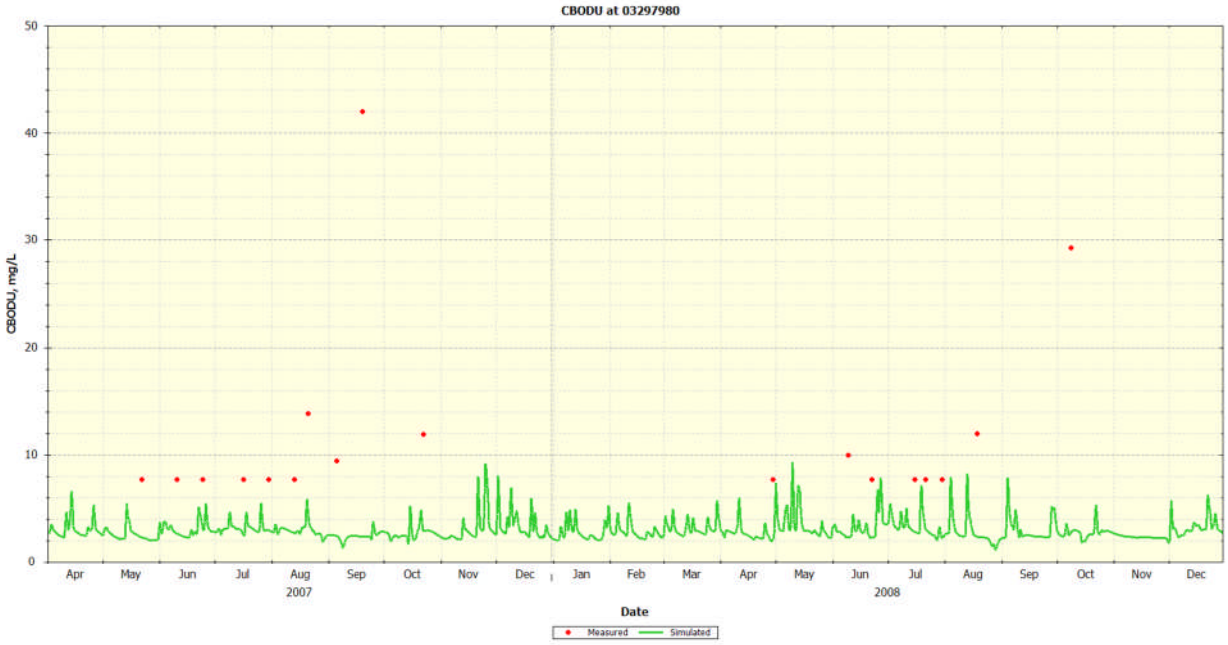


Figure A-65 Modeled vs. Observed CBOD (mg/L) at 03297980

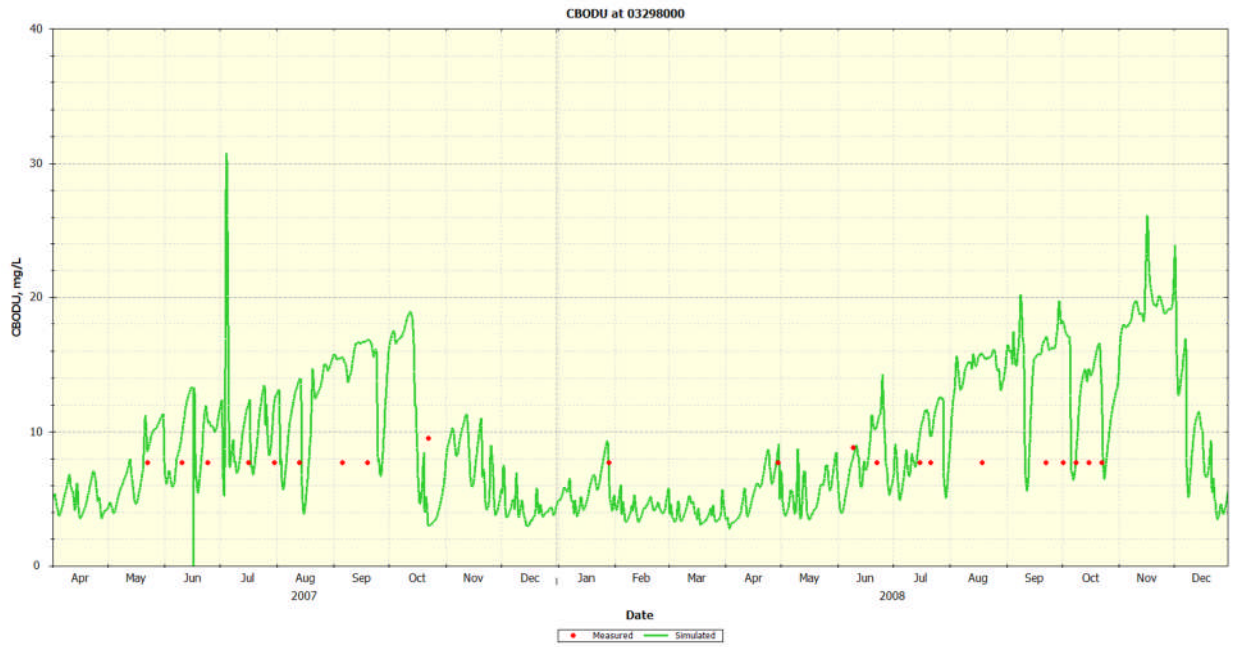


Figure A-66 Modeled vs. Observed CBOD (mg/L) at 03298000

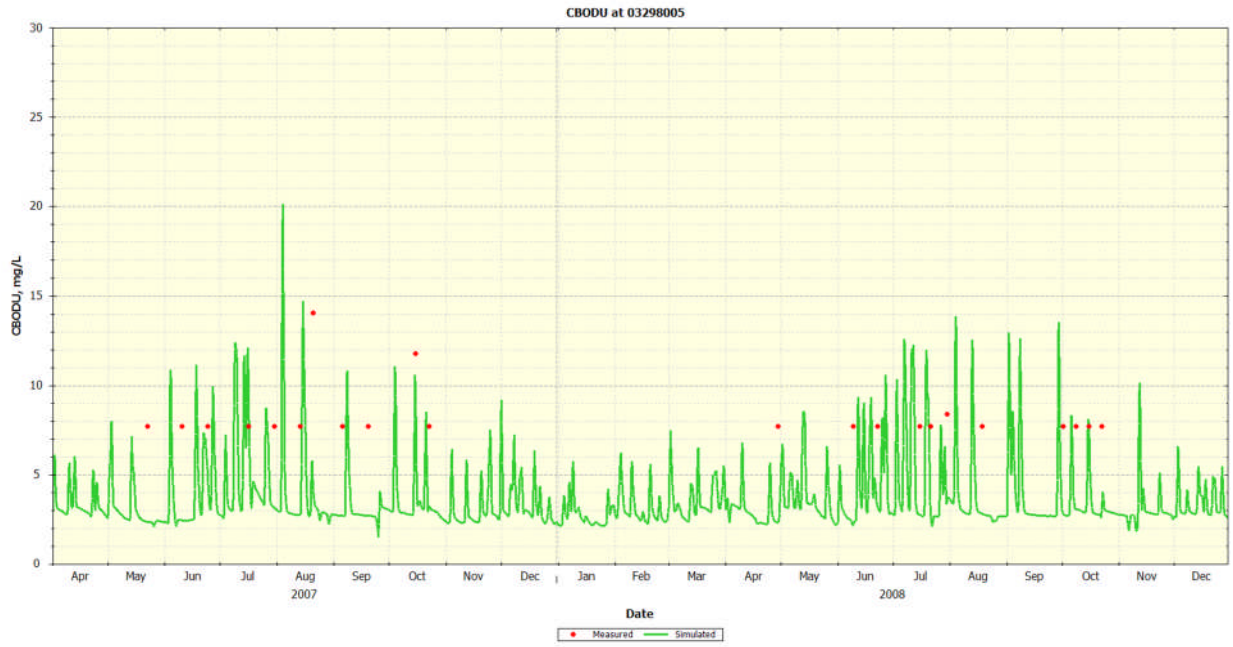


Figure A-67 Modeled vs. Observed CBOD (mg/L) at 03298005

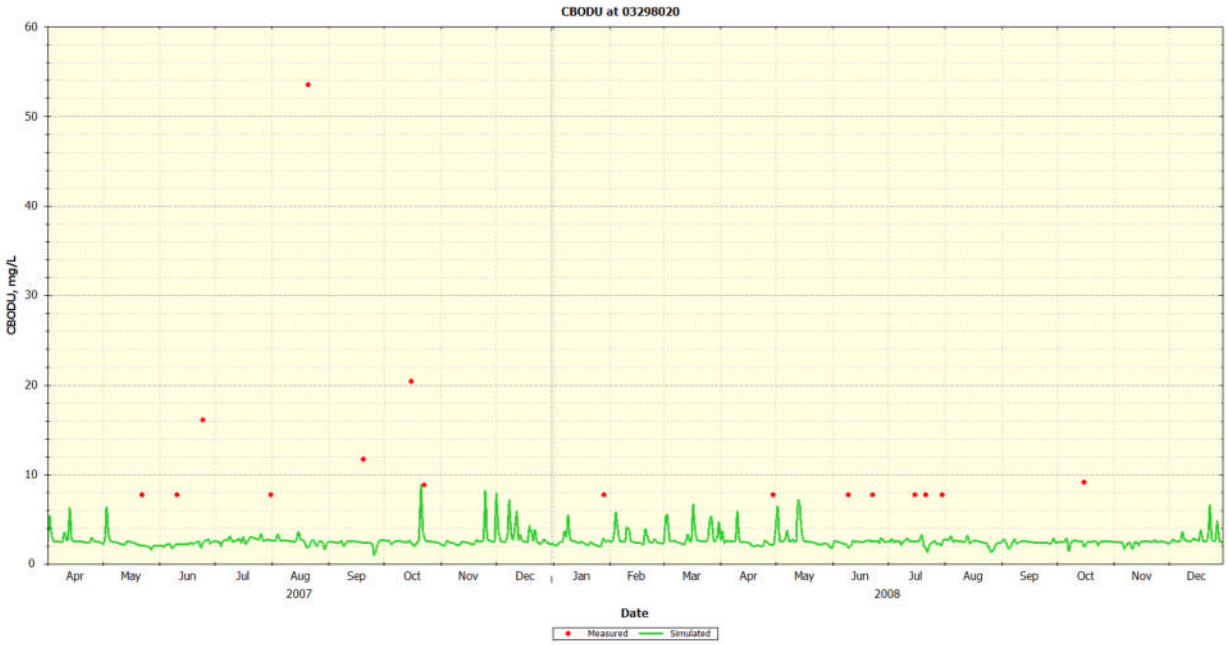


Figure A-68 Modeled vs. Observed CBOD (mg/L) at 03298020

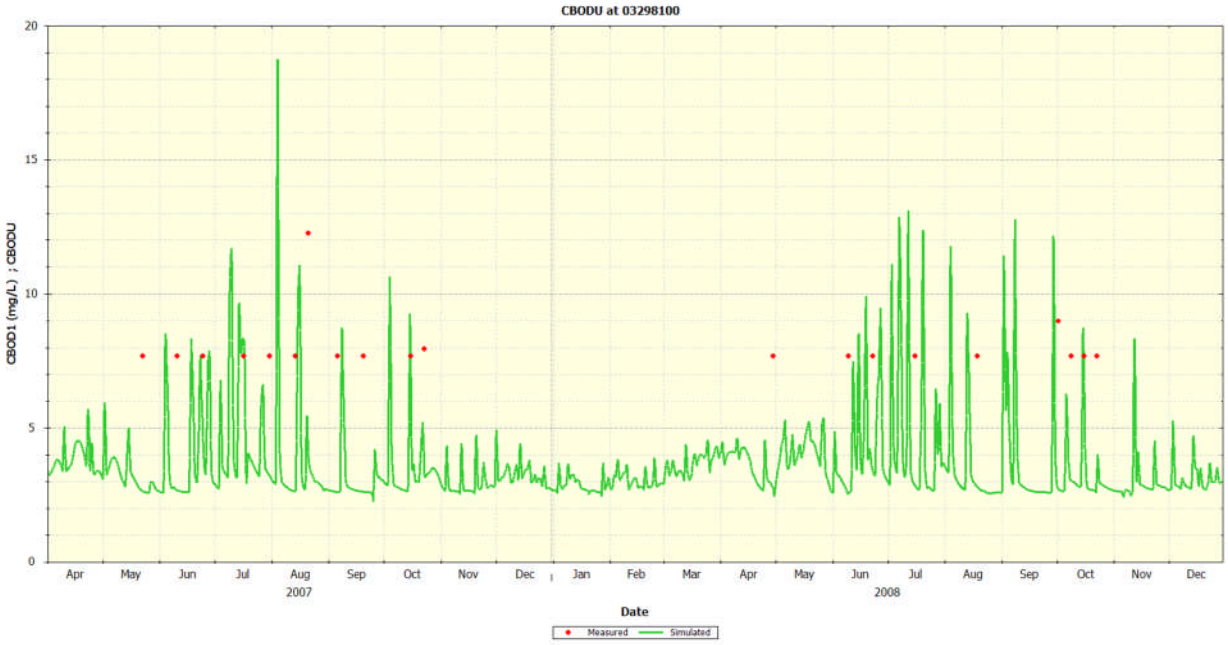


Figure A-69 Modeled vs. Observed CBOD (mg/L) at 03298100

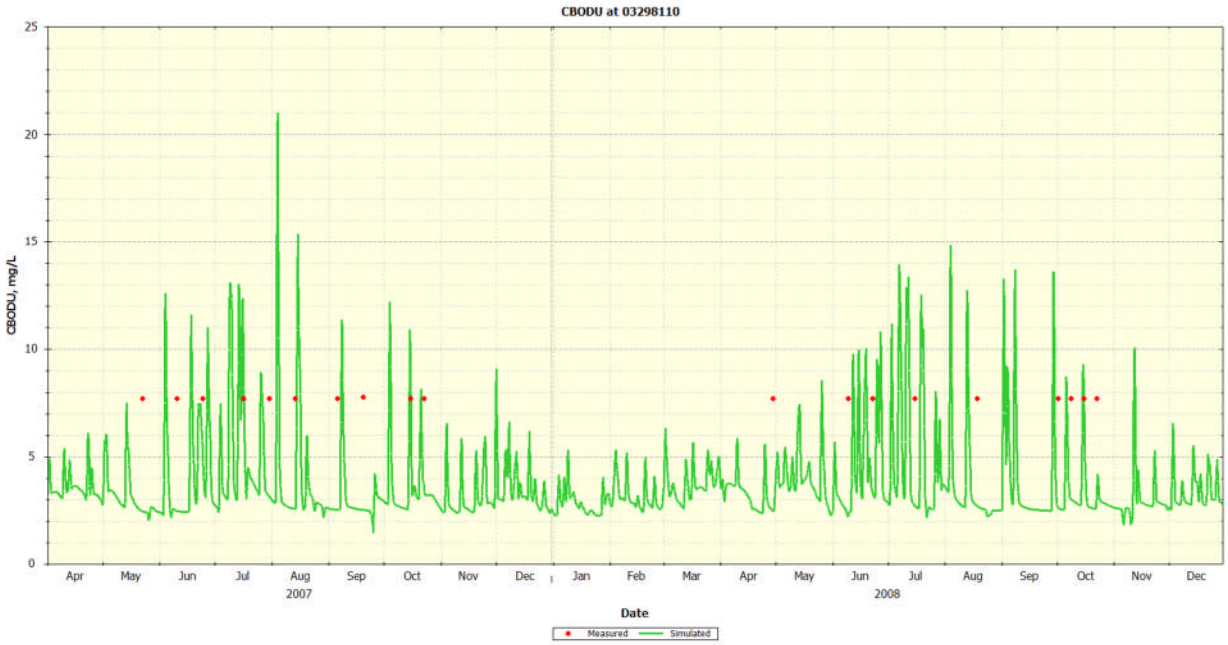


Figure A-70 Modeled vs. Observed CBOD (mg/L) at 03298110

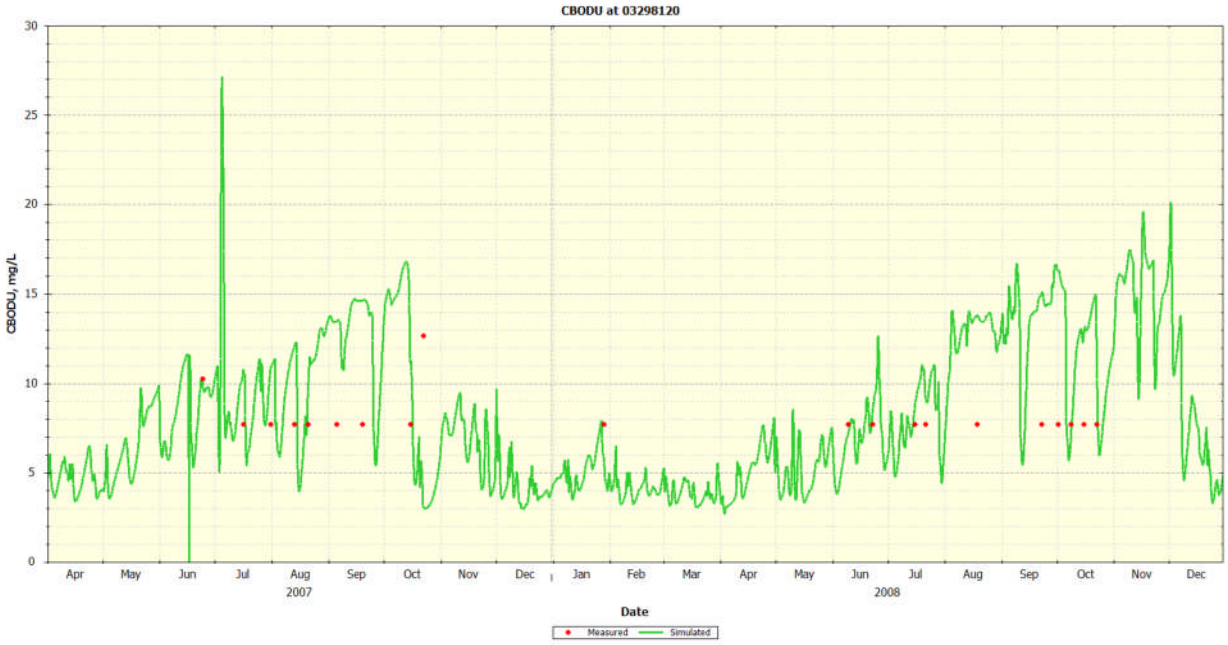


Figure A-71 Modeled vs. Observed CBOD (mg/L) at 03298120

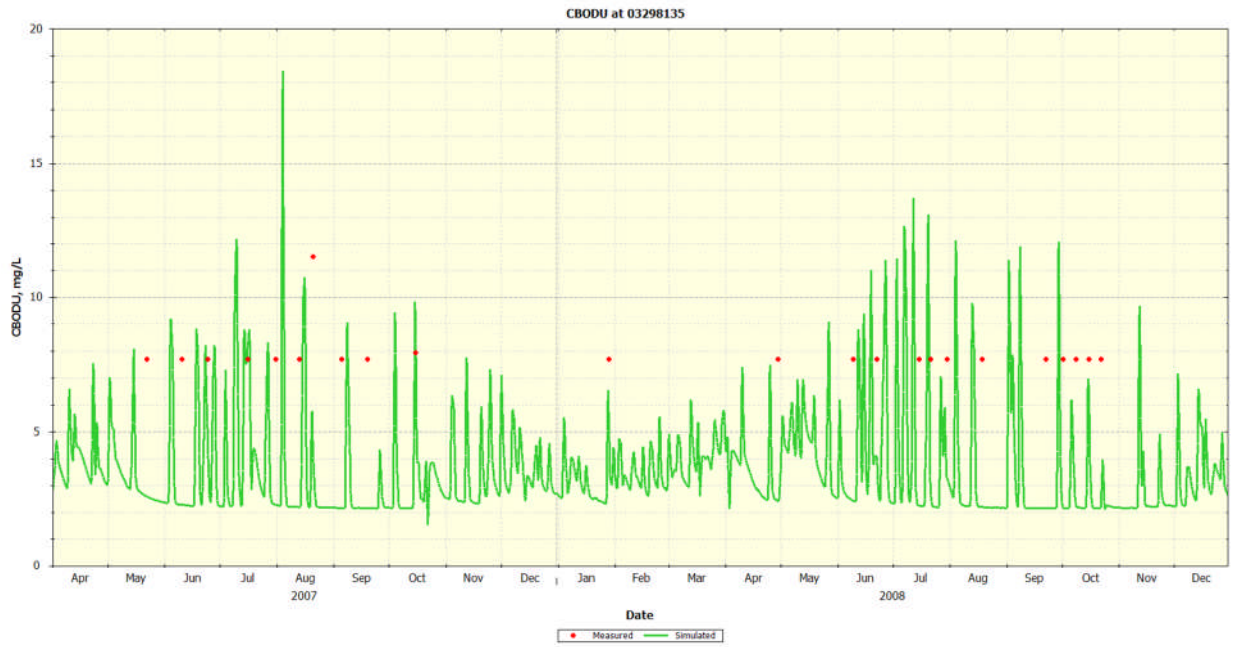


Figure A-72 Modeled vs. Observed CBOD (mg/L) at 03298135

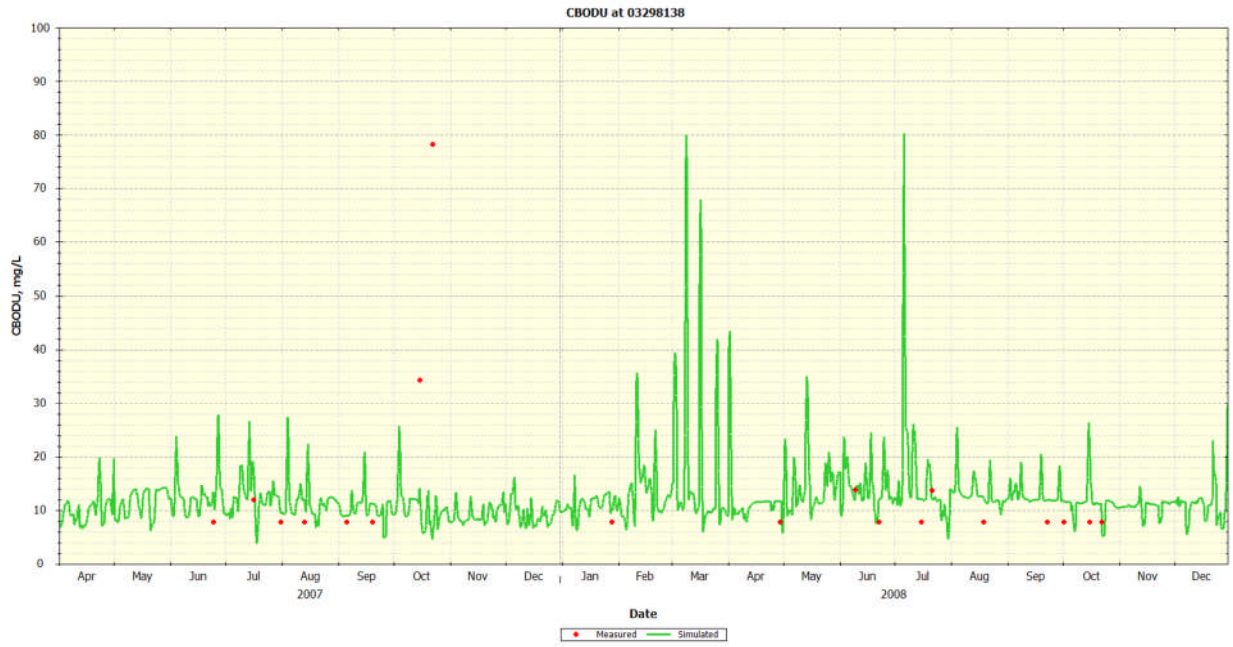


Figure A-73 Modeled vs. Observed CBOD (mg/L) at 03298138

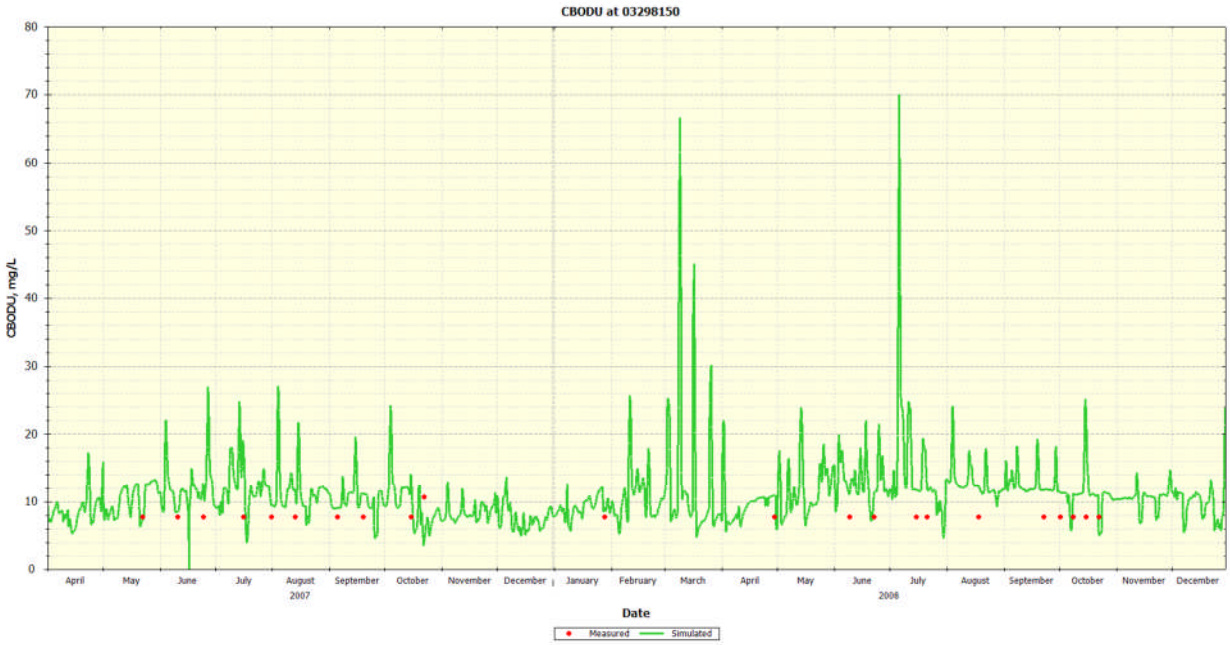


Figure A-74 Modeled vs. Observed CBOD (mg/L) at 03298150

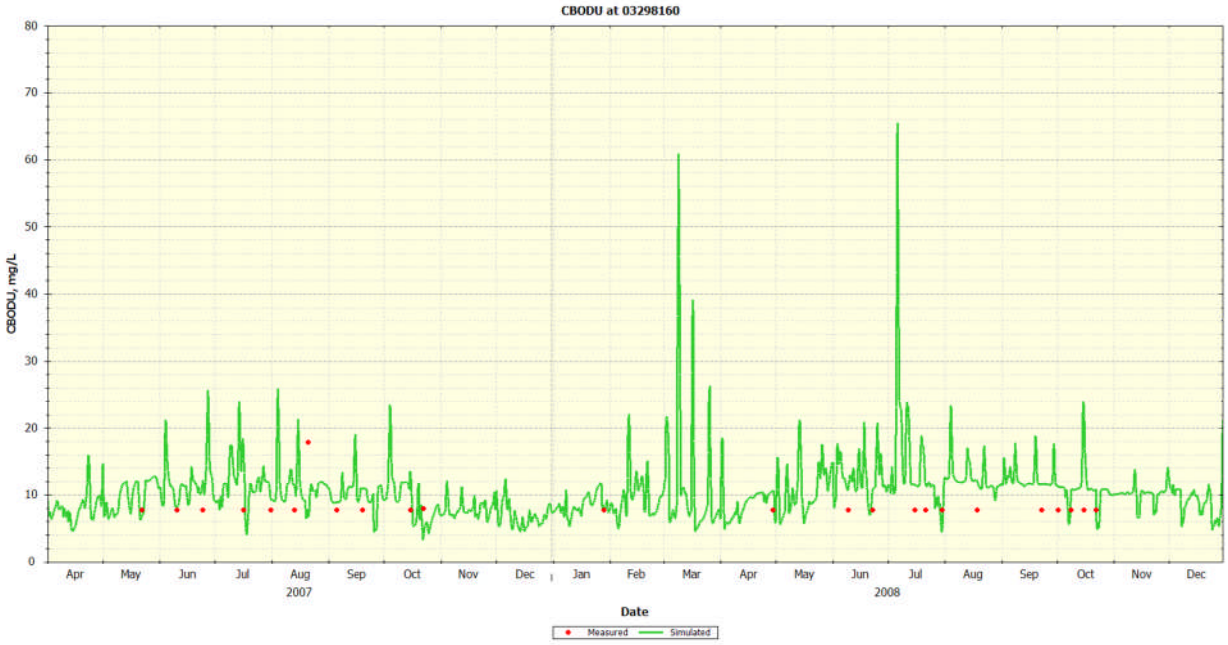


Figure A-75 Modeled vs. Observed CBOD (mg/L) at 03298160

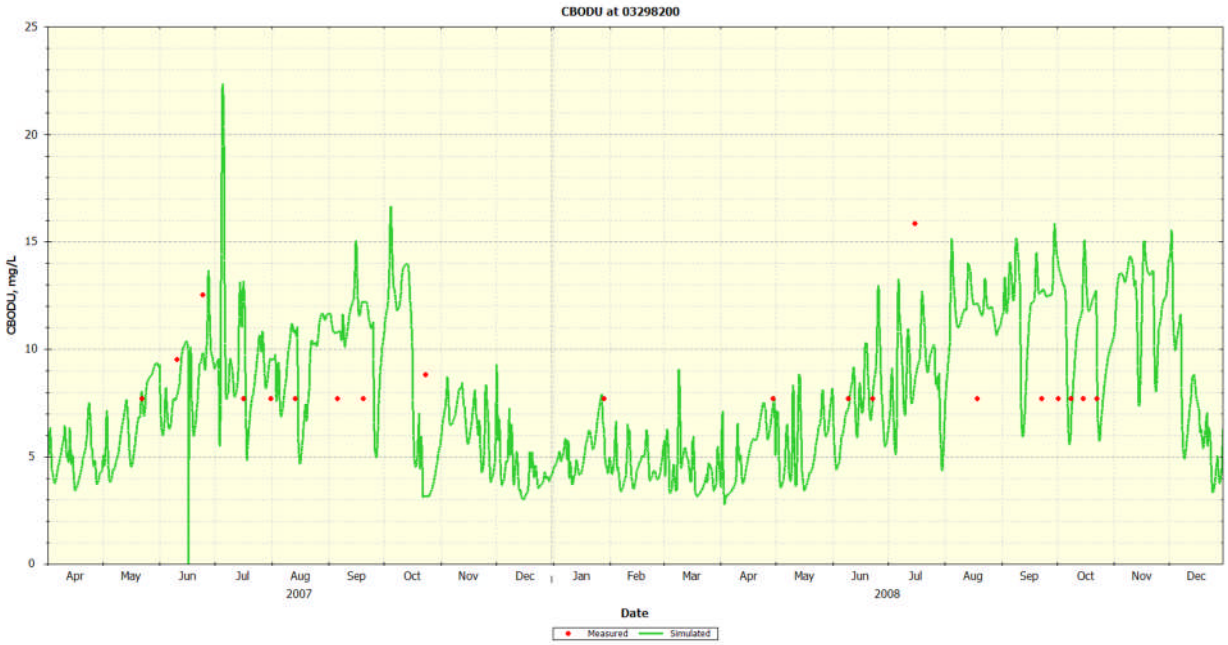


Figure A-76 Modeled vs. Observed CBOD (mg/L) at 03298200

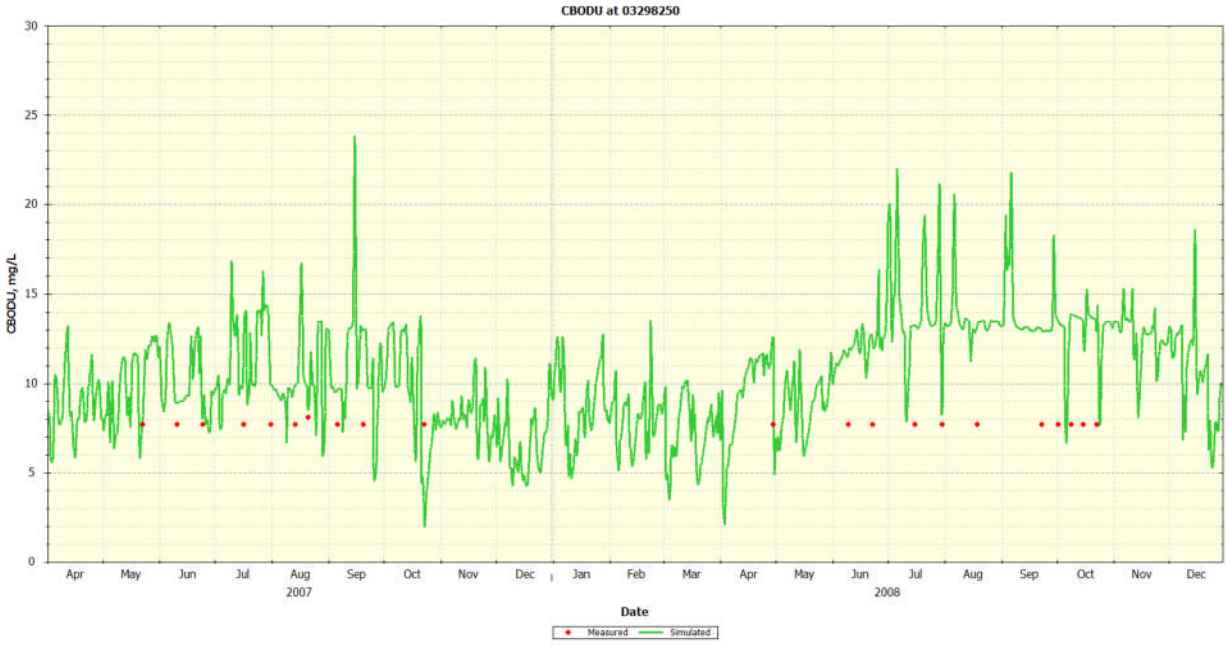


Figure A-77 Modeled vs. Observed CBOD (mg/L) at 03298250

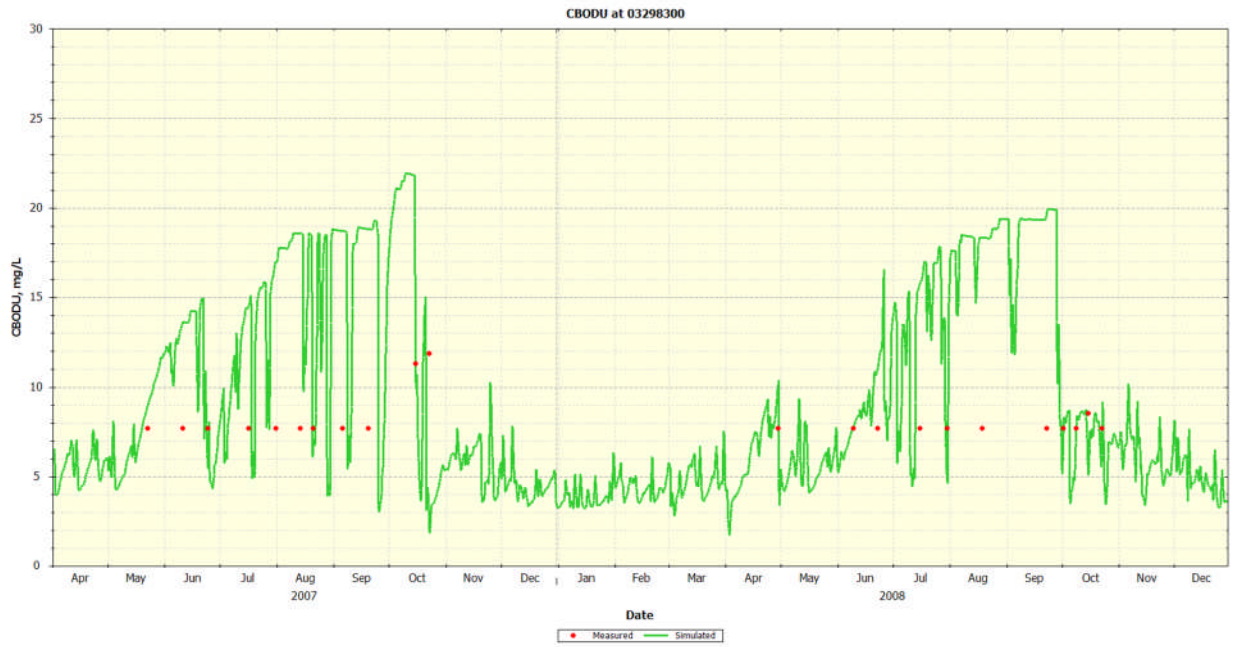


Figure A-78 Modeled vs. Observed CBOD (mg/L) at 03298300

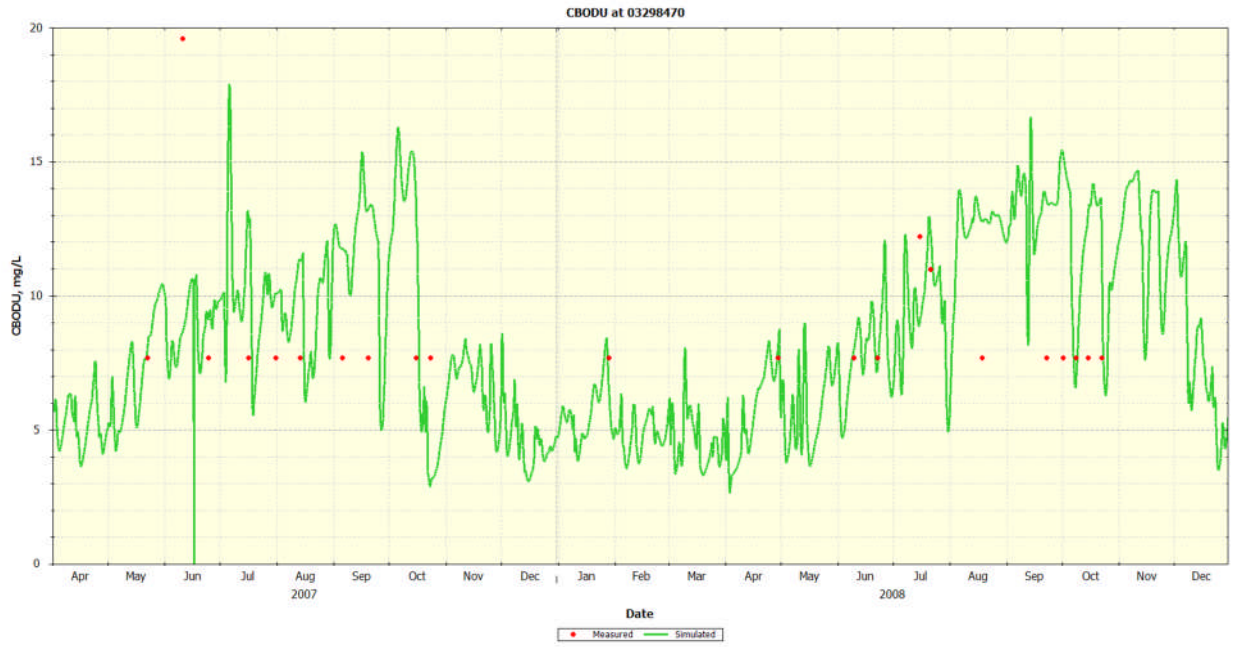


Figure A-79 Modeled vs. Observed CBOD (mg/L) at 03298470

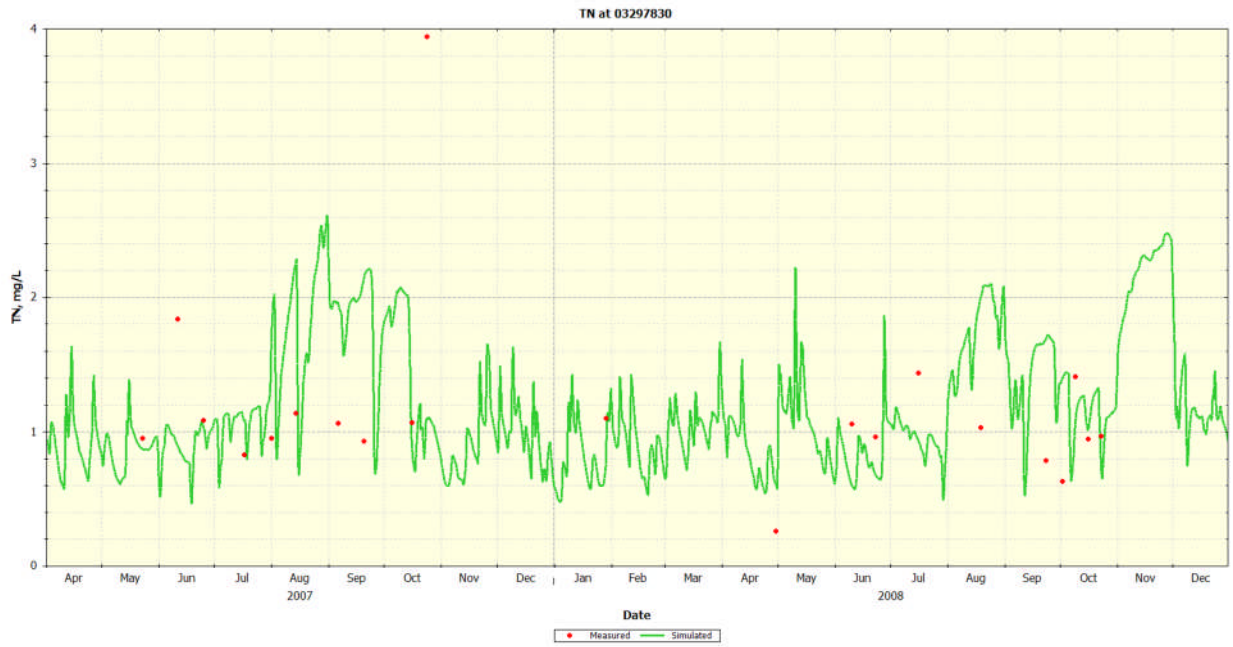


Figure A-80 Modeled vs. Observed TN (mg/L) at 03297830

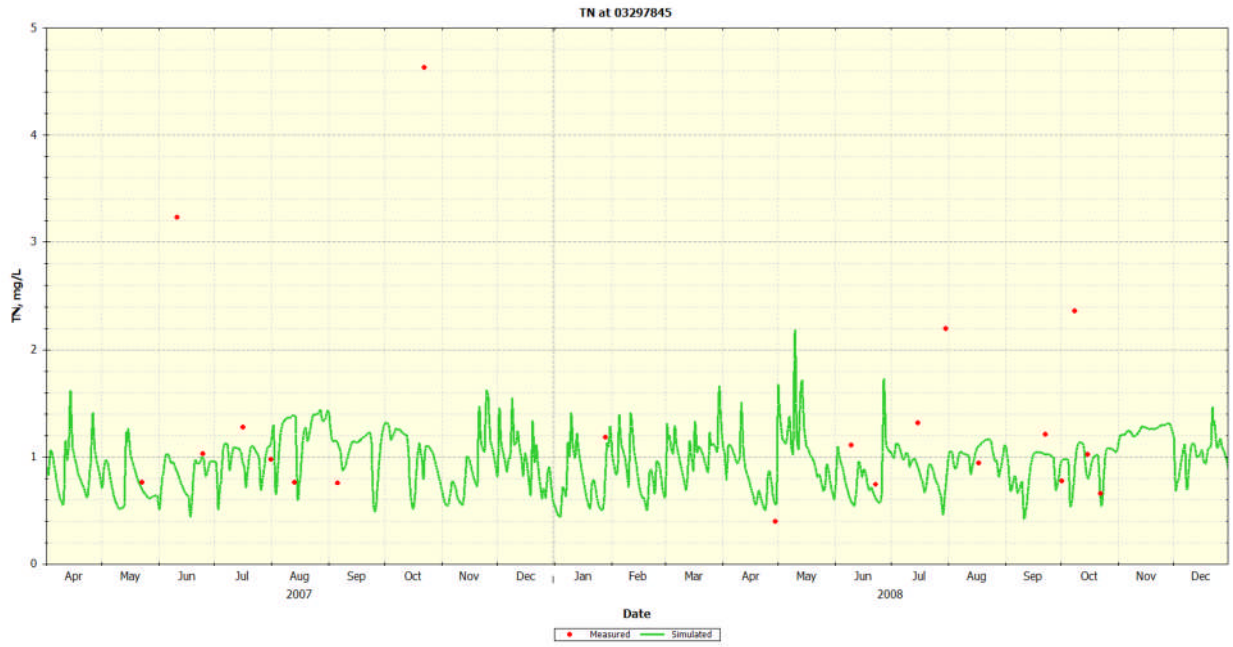


Figure A-81 Modeled vs. Observed TN (mg/L) at 03297845

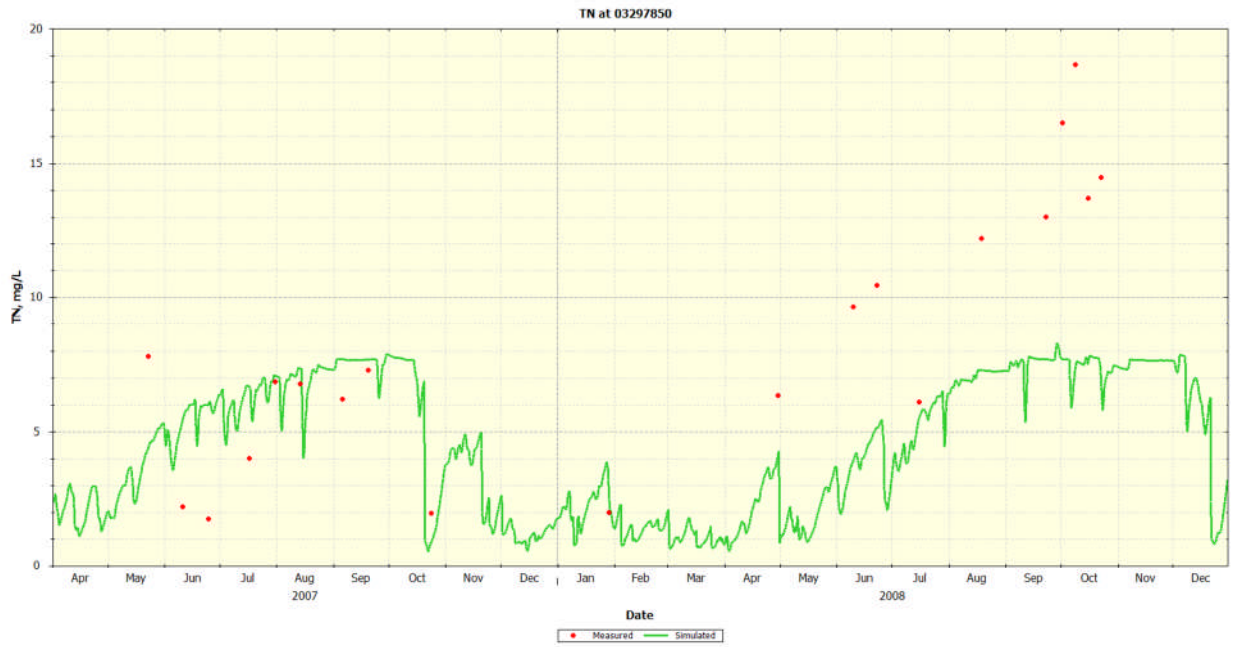


Figure A-82 Modeled vs. Observed TN (mg/L) at 03297850

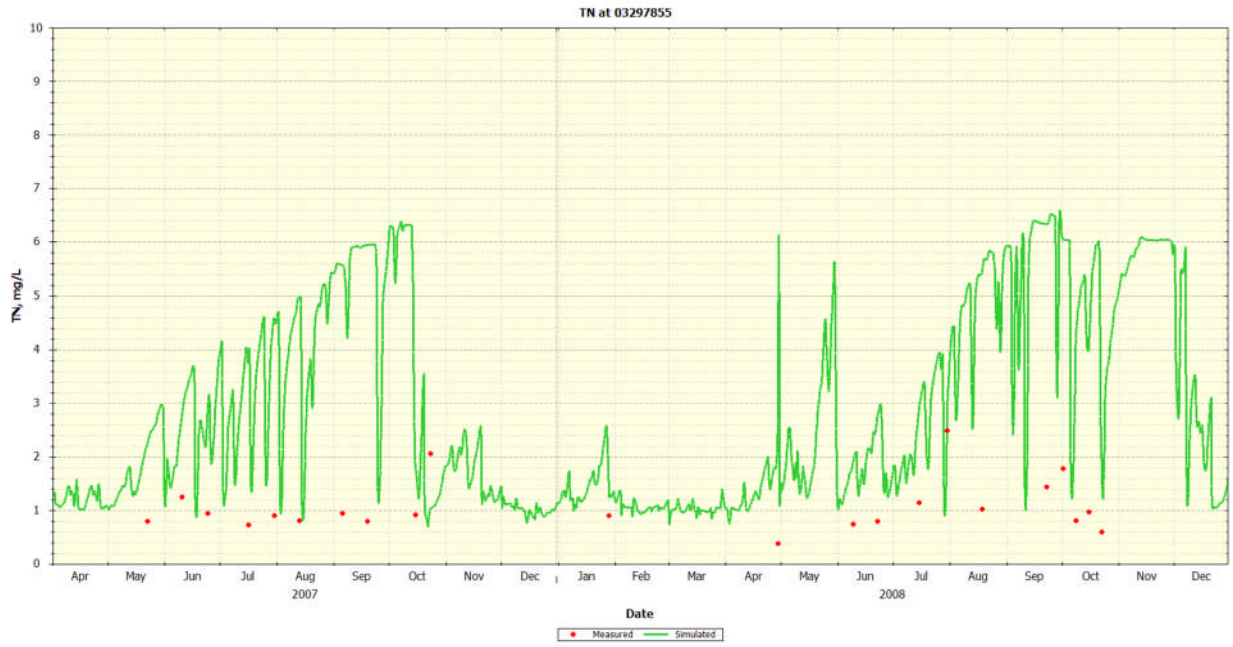


Figure A-83 Modeled vs. Observed TN (mg/L) at 03297855

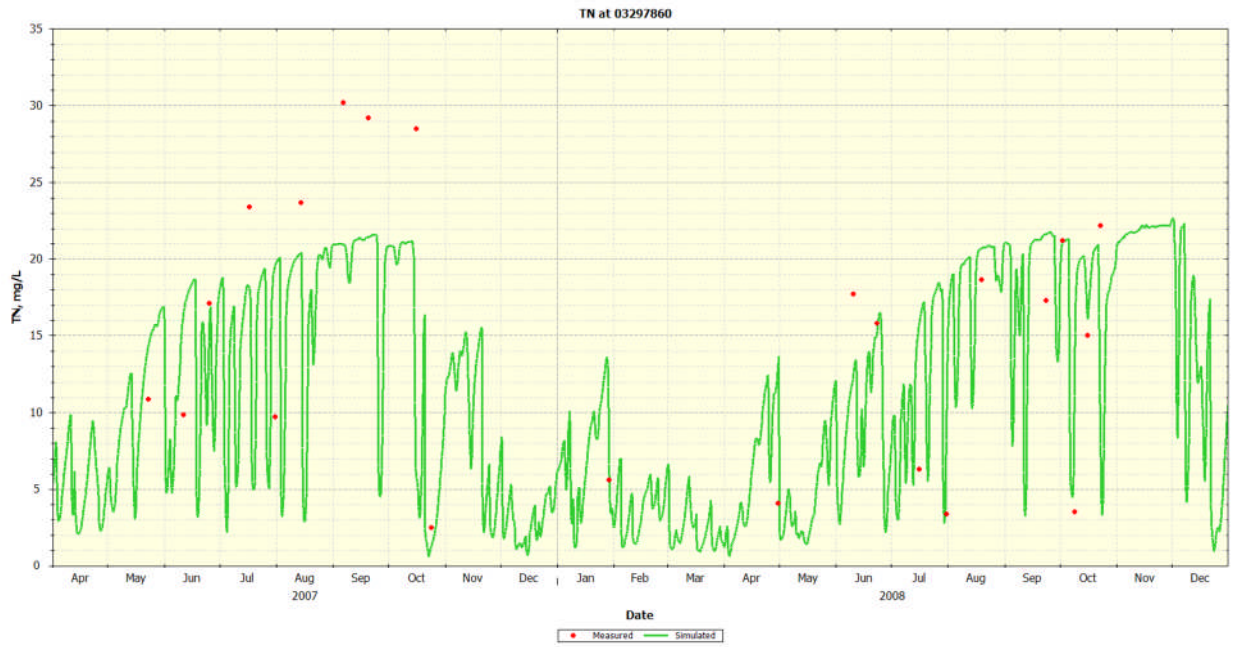


Figure A-84 Modeled vs. Observed TN (mg/L) at 03297860

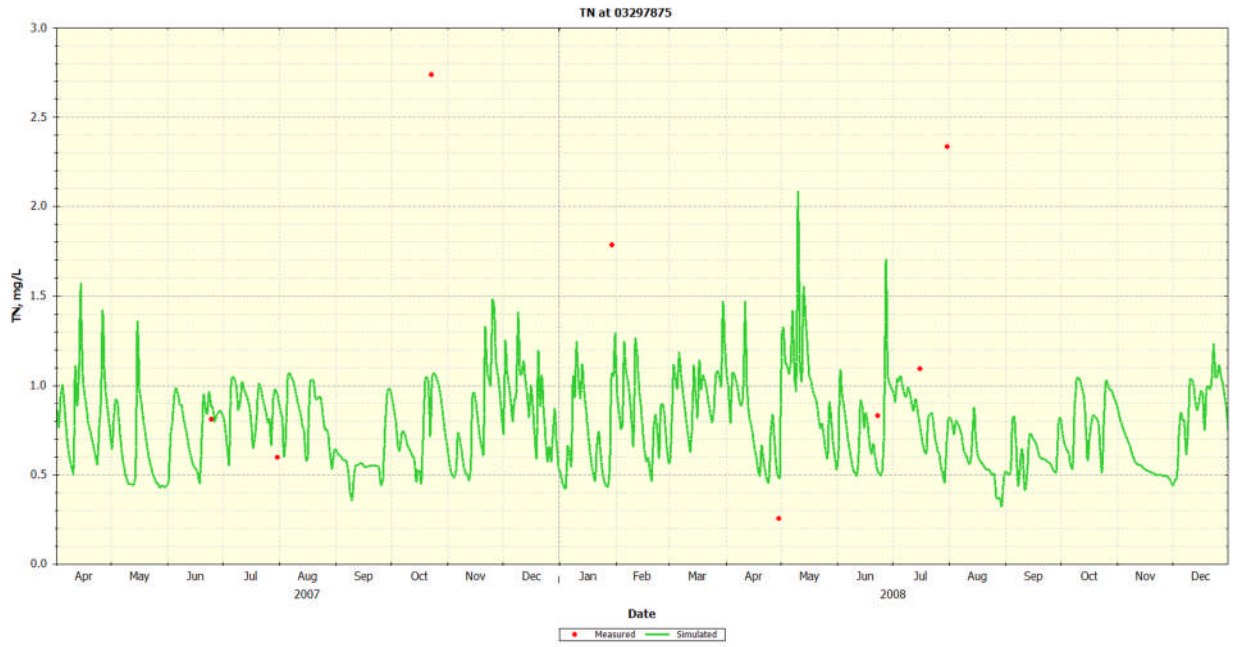


Figure A-85 Modeled vs. Observed TN (mg/L) at 03297875

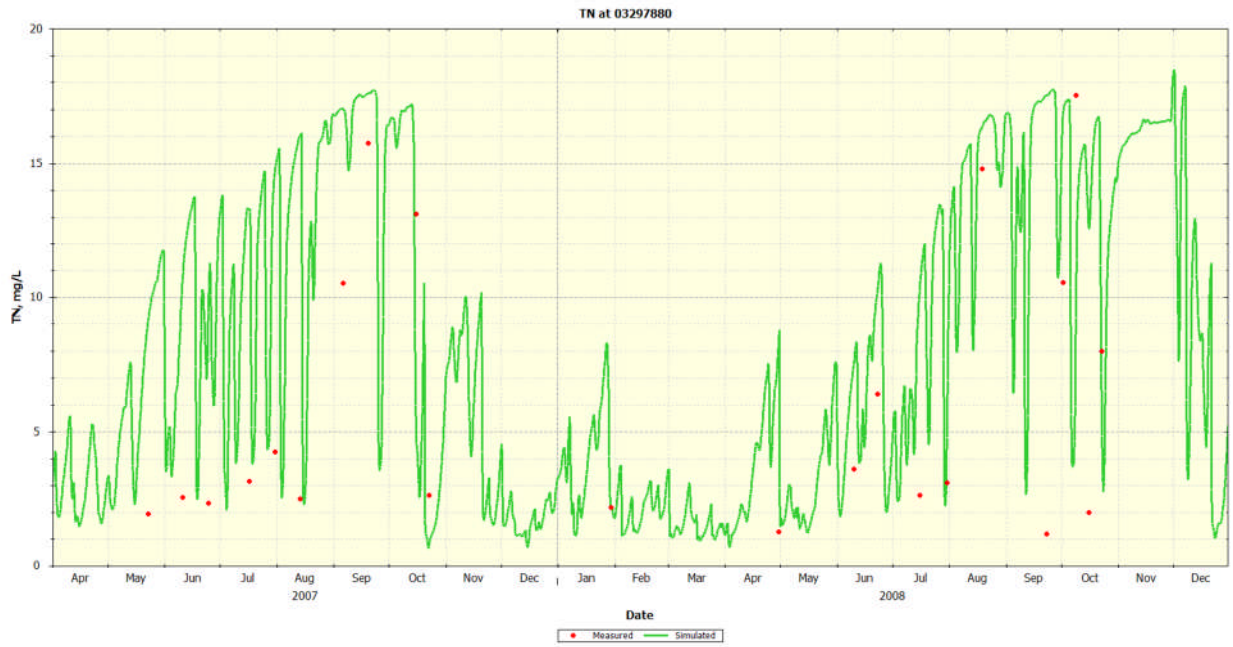


Figure A-86 Modeled vs. Observed TN (mg/L) at 03297880

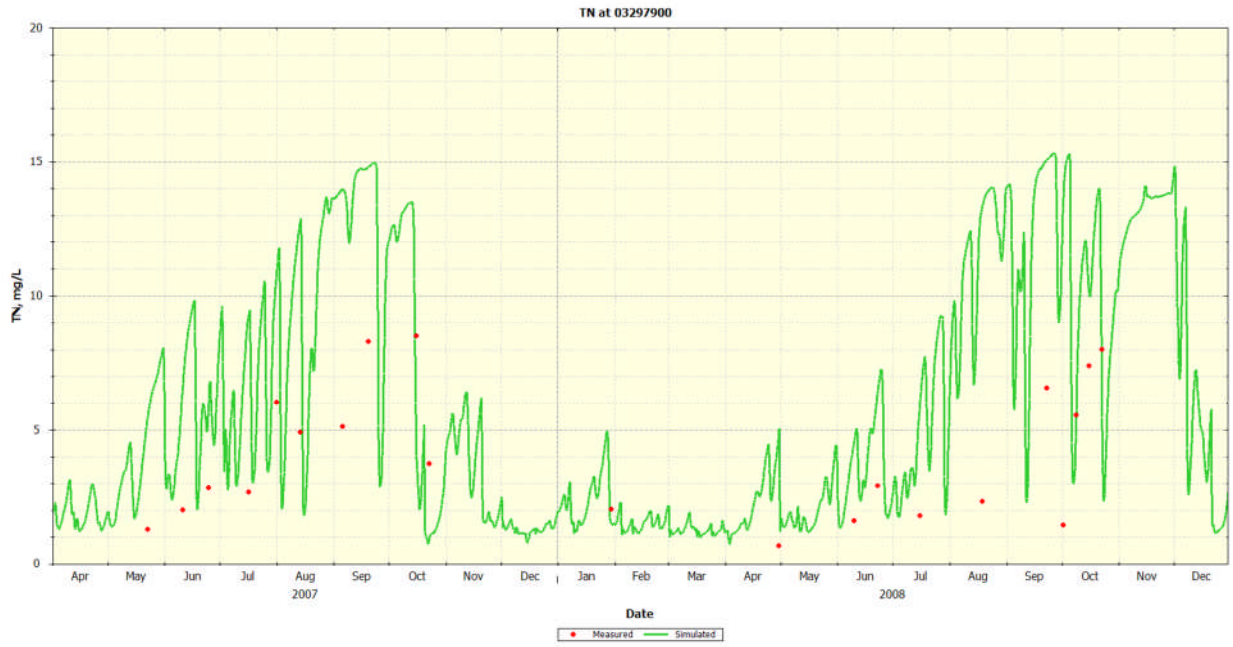


Figure A-87 Modeled vs. Observed TN (mg/L) at 03297900

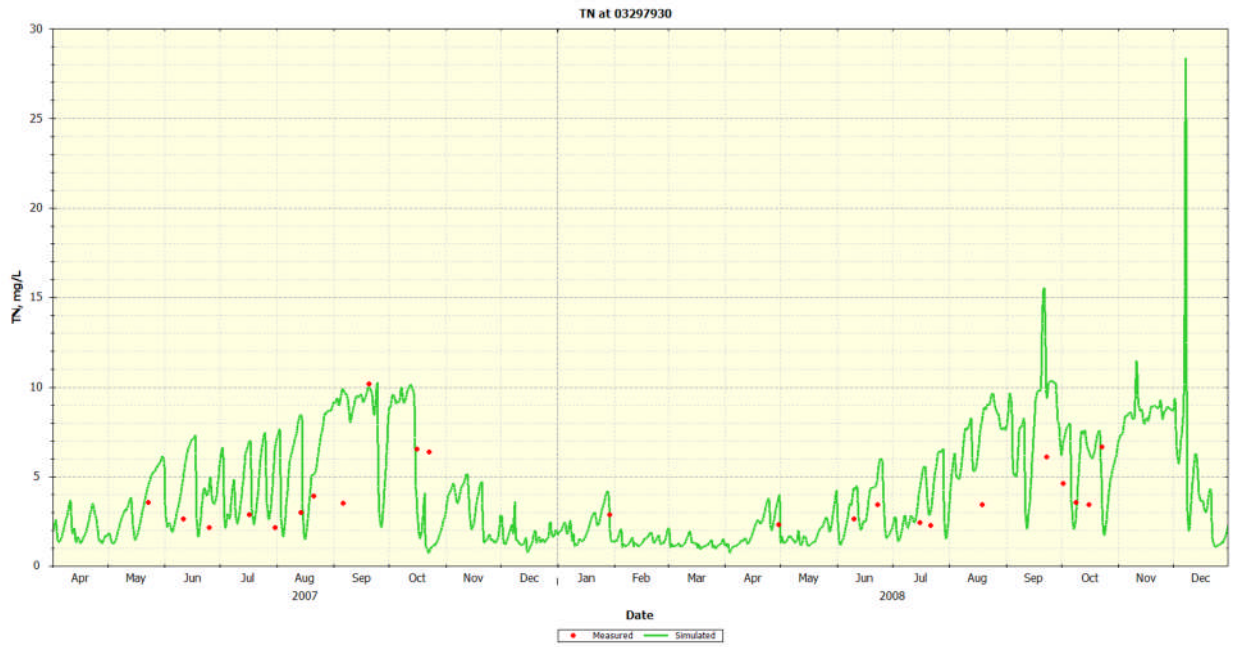


Figure A-88 Modeled vs. Observed TN (mg/L) at 03297930

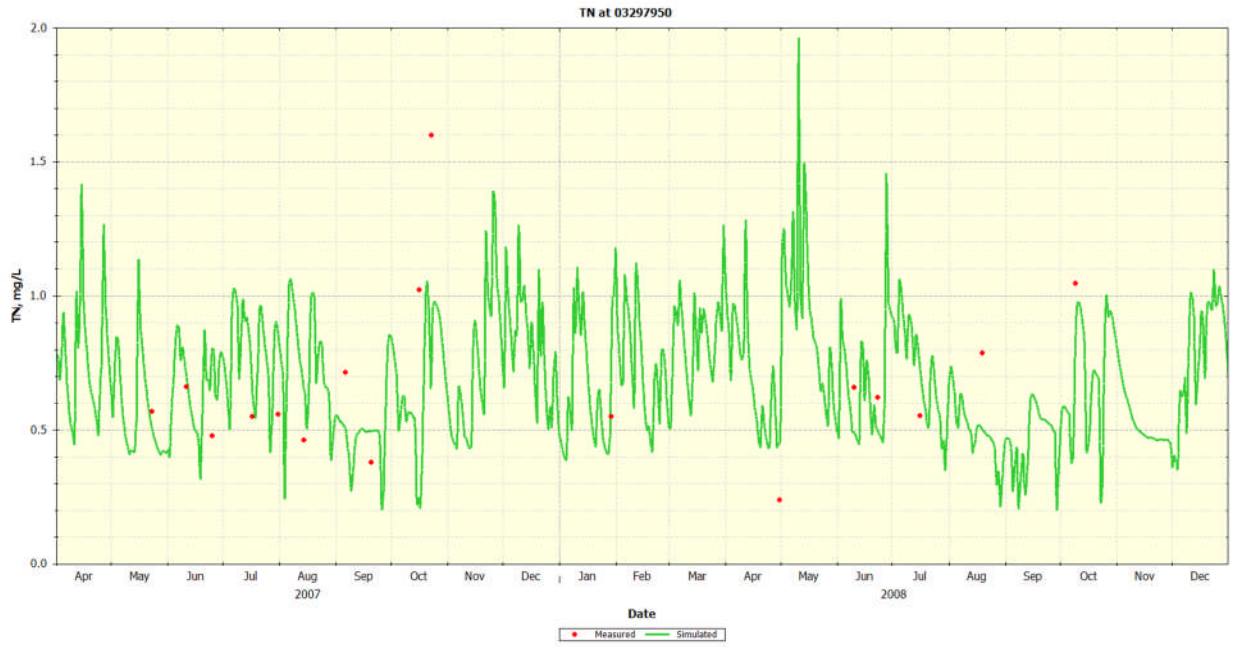


Figure A-89 Modeled vs. Observed TN (mg/L) at 03297950

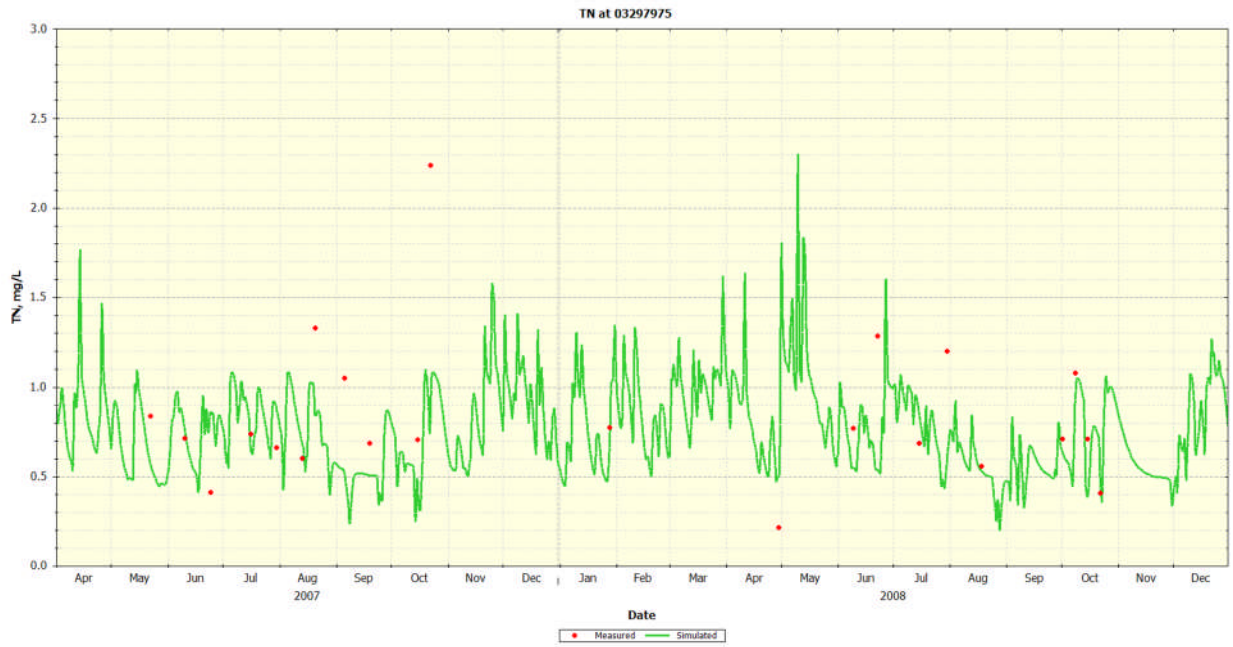


Figure A-90 Modeled vs. Observed TN (mg/L) at 03297975

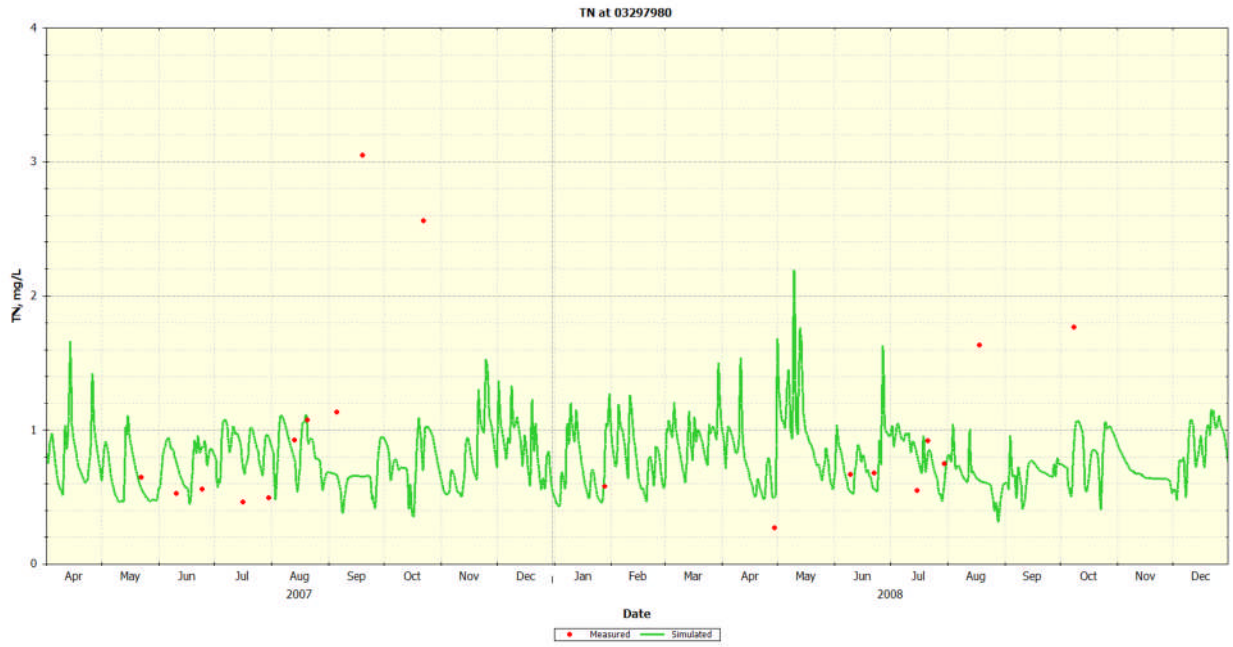


Figure A-91 Modeled vs. Observed TN (mg/L) at 03297980

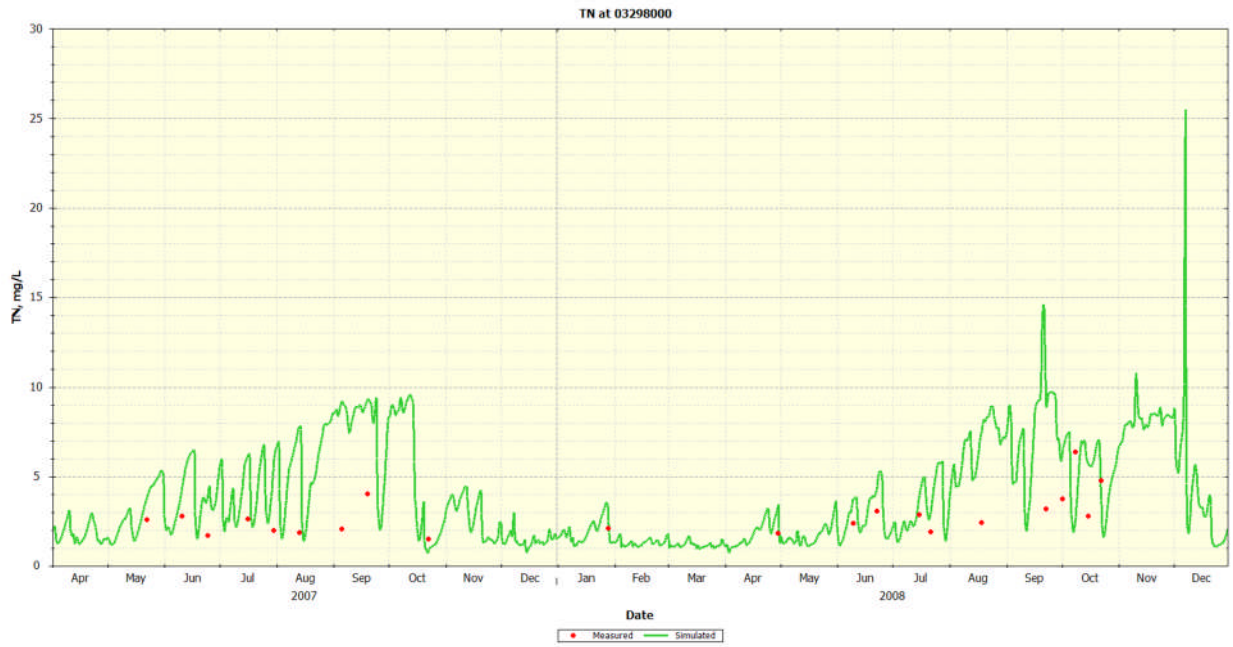


Figure A-92 Modeled vs. Observed TN (mg/L) at 03298000

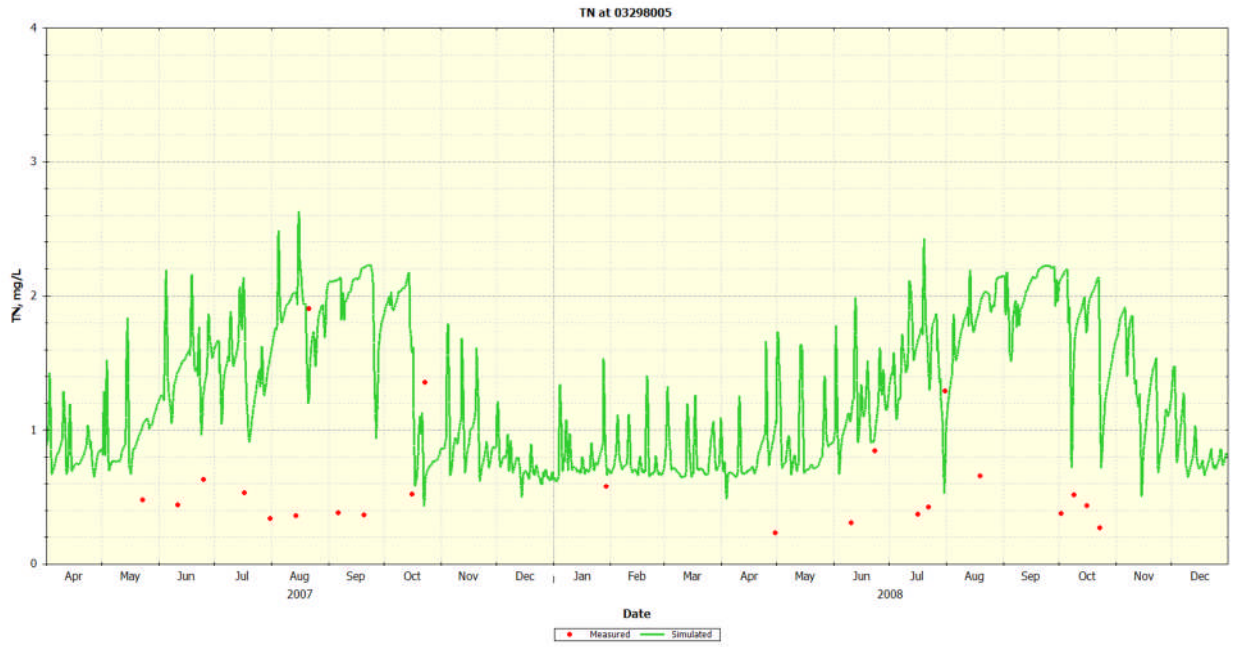


Figure A-93 Modeled vs. Observed TN (mg/L) at 03298005

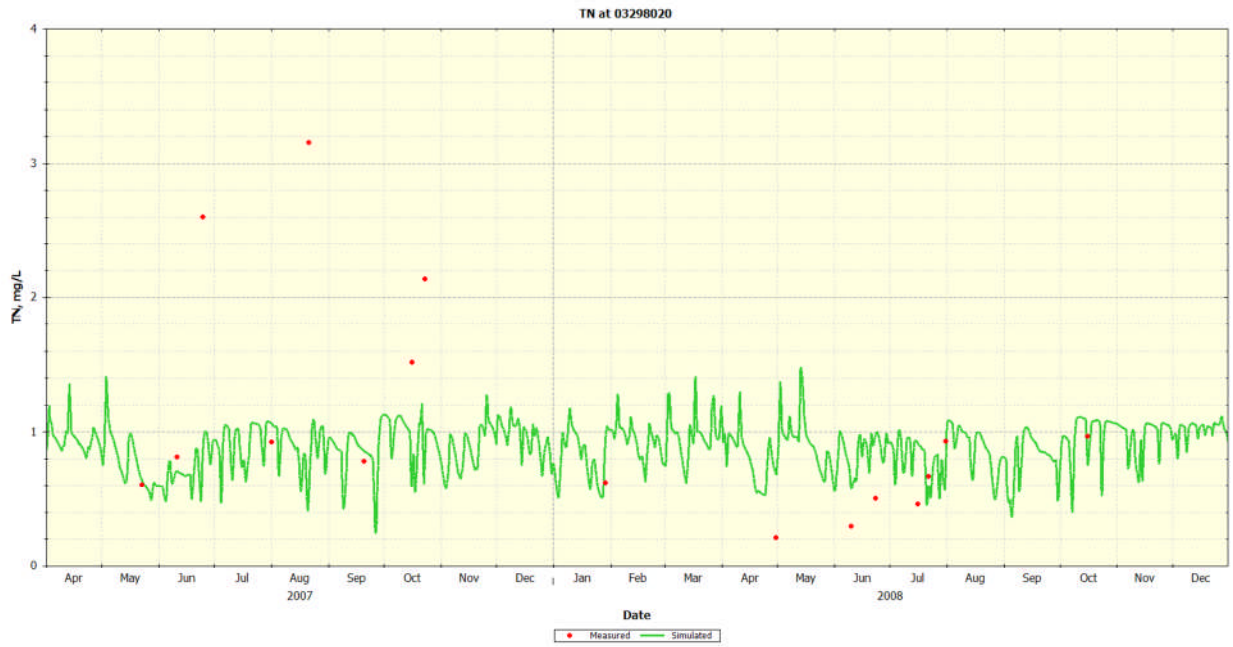


Figure A-94 Modeled vs. Observed TN (mg/L) at 03298020

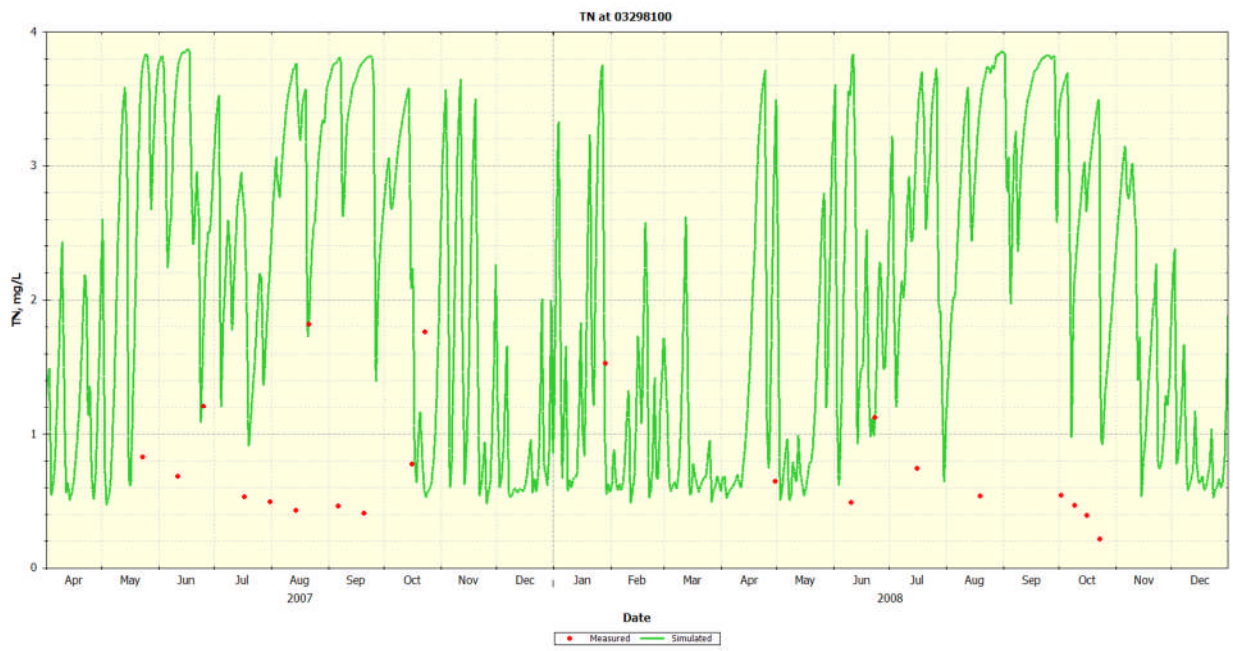


Figure A-95 Modeled vs. Observed TN (mg/L) at 03298100

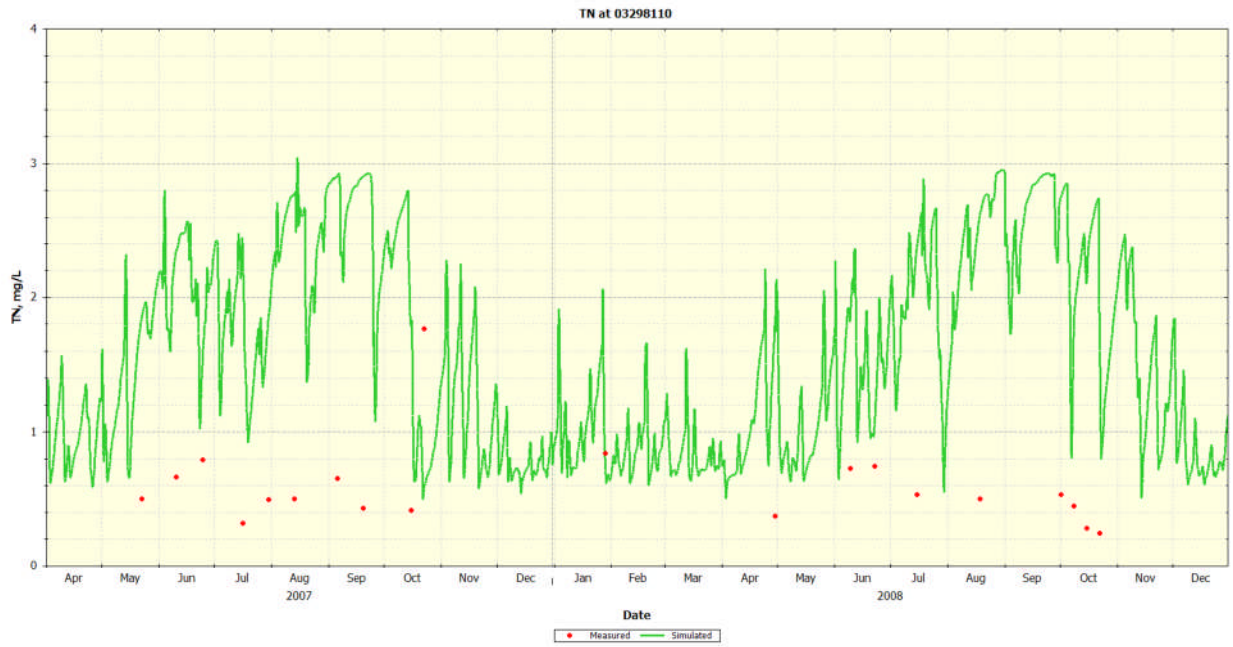


Figure A-96 Modeled vs. Observed TN (mg/L) at 03298110

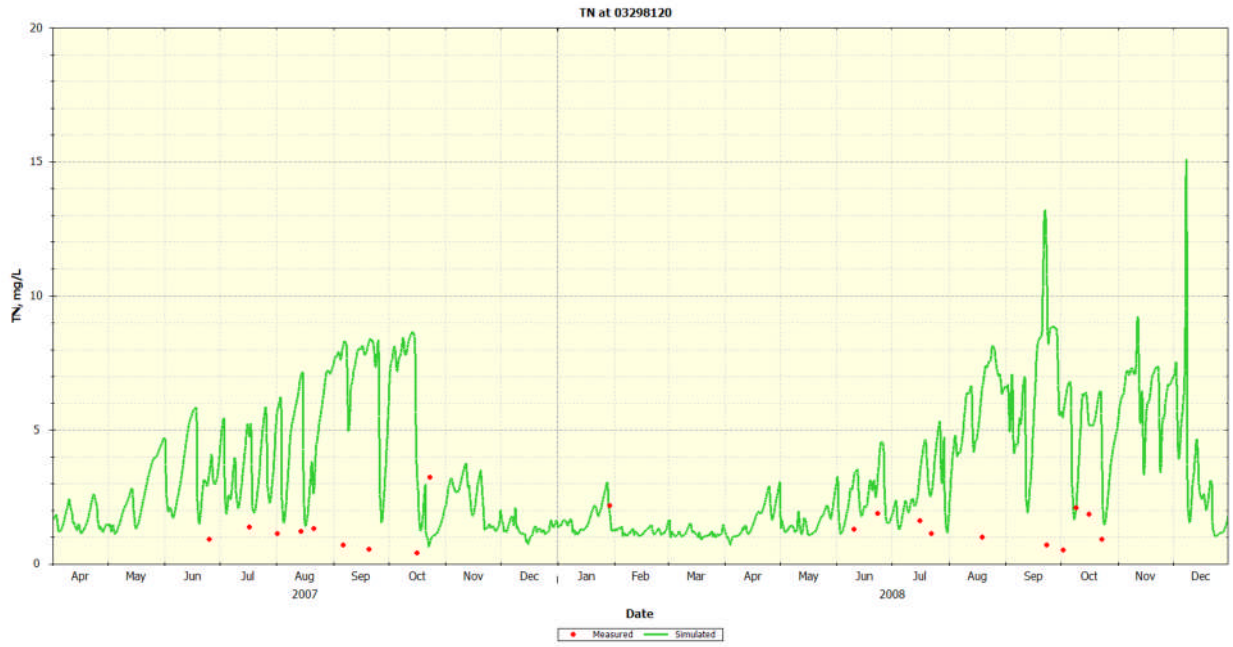


Figure A-97 Modeled vs. Observed TN (mg/L) at 03298120

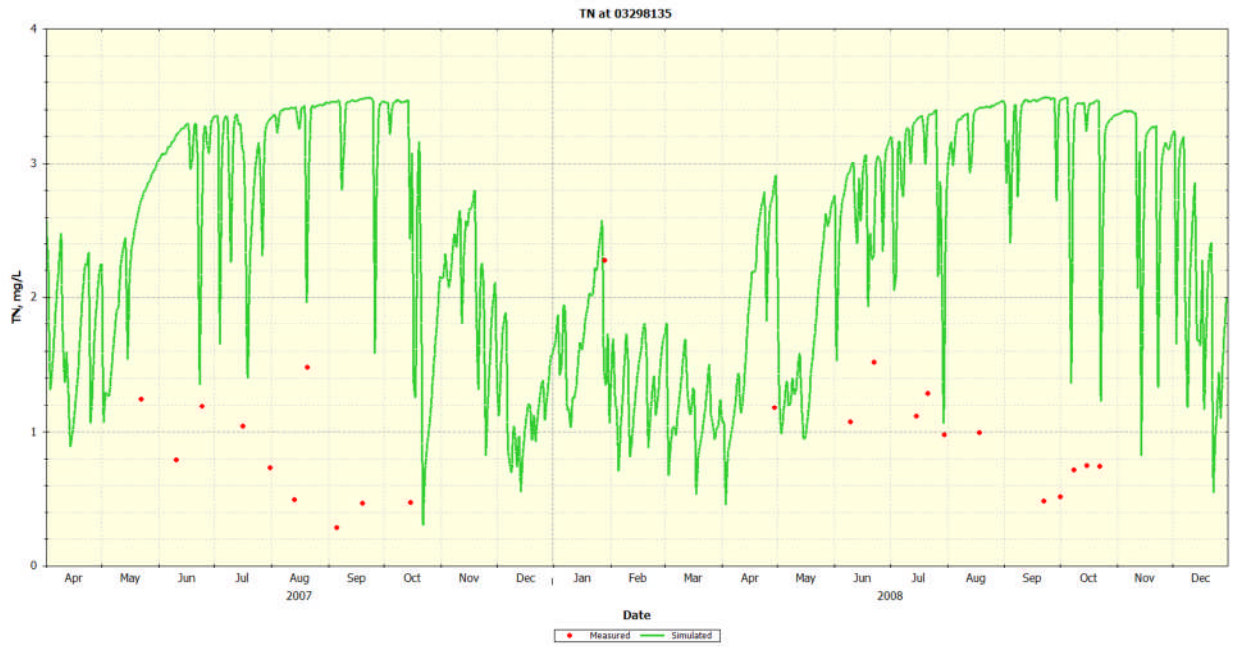


Figure A-98 Modeled vs. Observed TN (mg/L) at 03298135

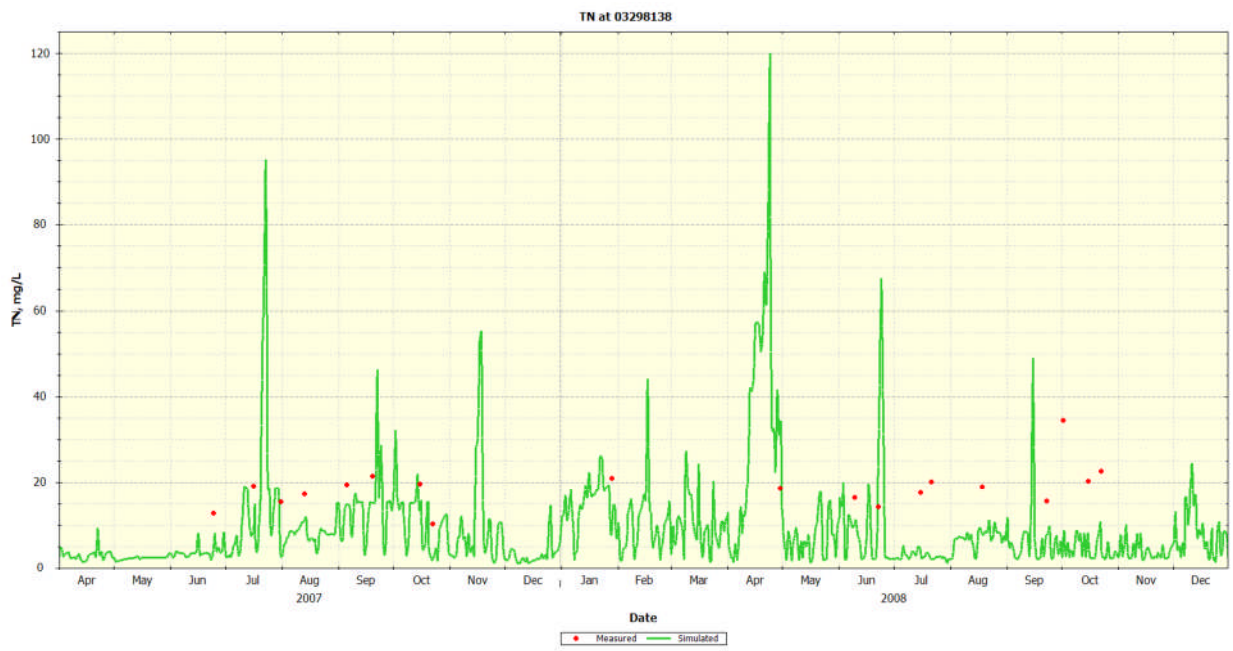


Figure A-99 Modeled vs. Observed TN (mg/L) at 03298138

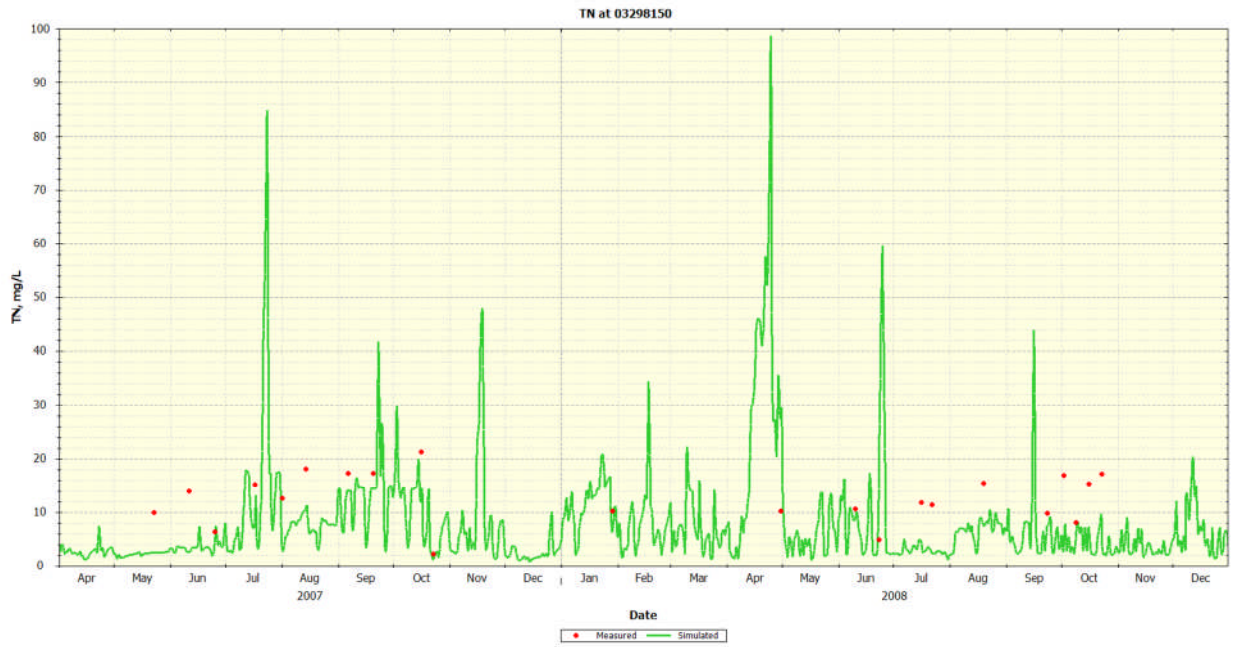


Figure A-100 Modeled vs. Observed TN (mg/L) at 03298150

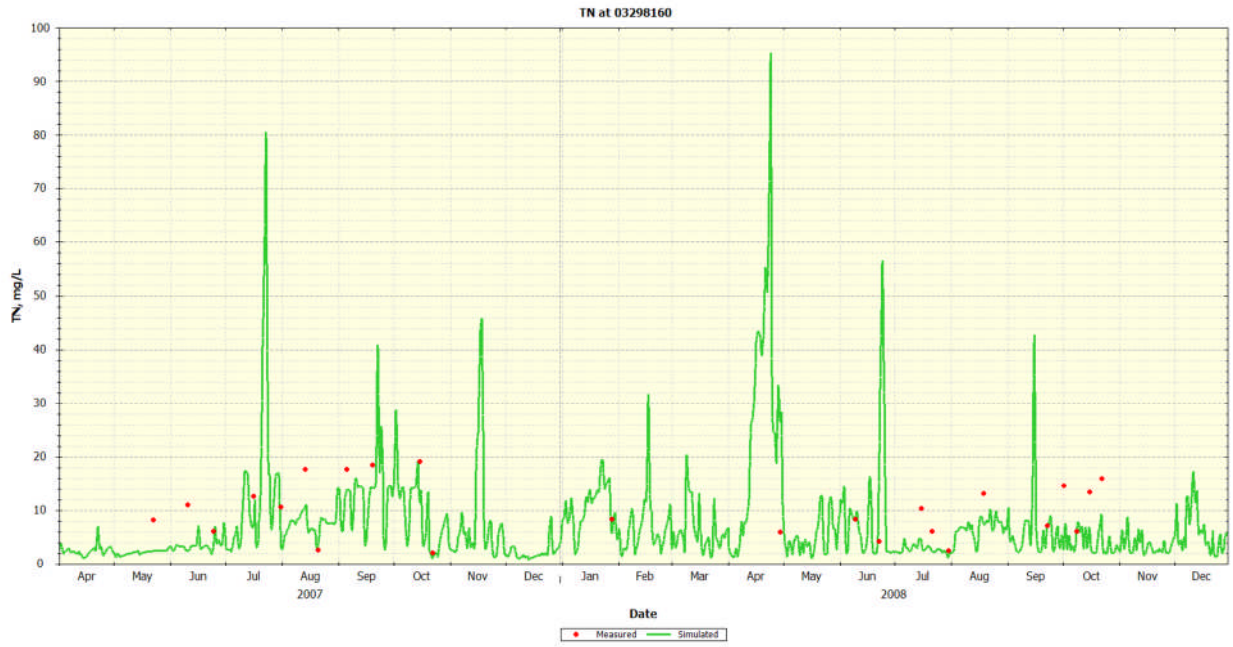


Figure A-101 Modeled vs. Observed TN (mg/L) at 03298160

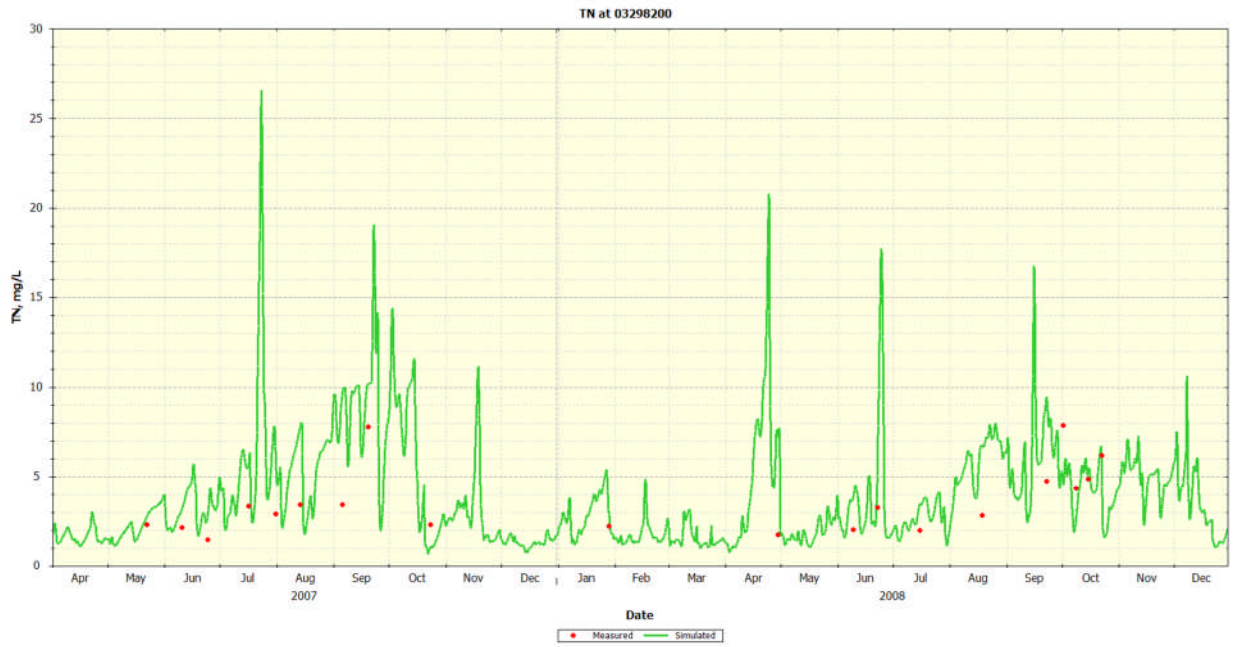


Figure A-102 Modeled vs. Observed TN (mg/L) at 03298200

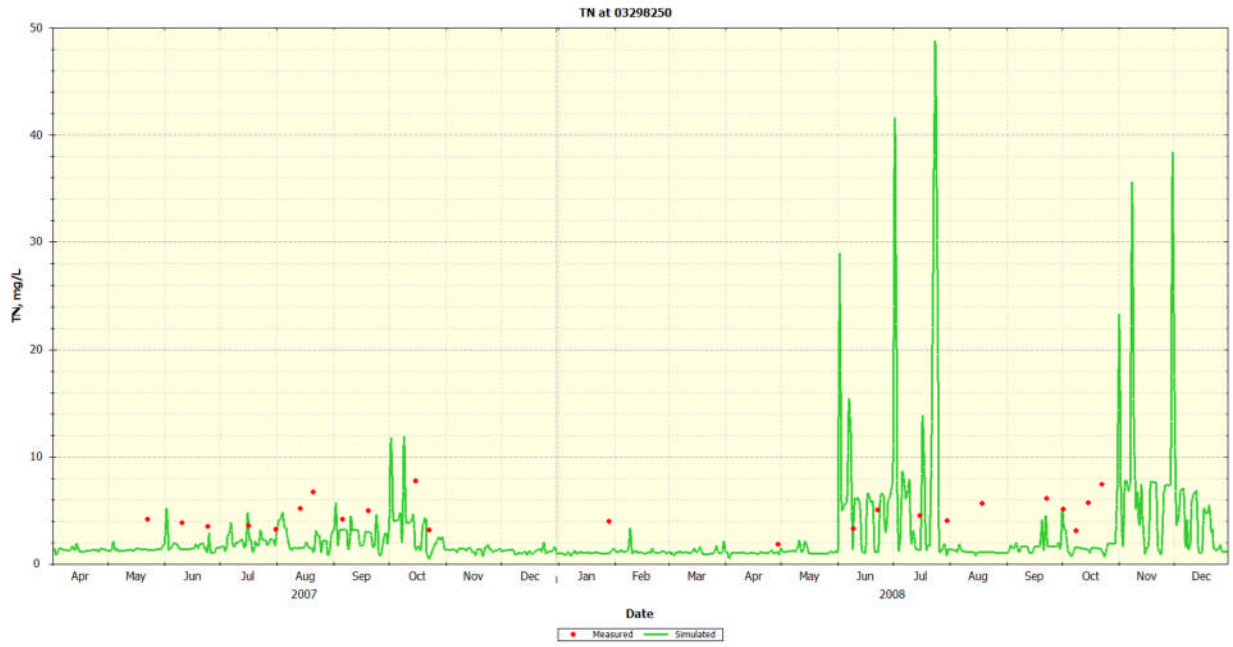


Figure A-103 Modeled vs. Observed TN (mg/L) at 03298250

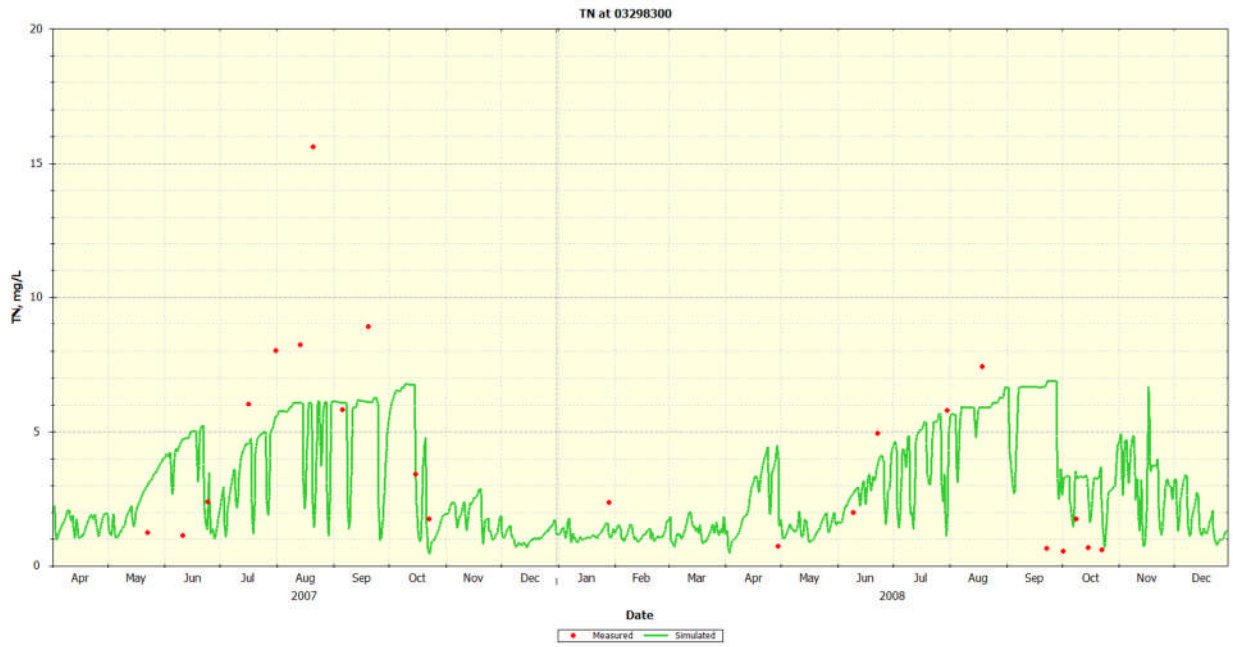


Figure A-104 Modeled vs. Observed TN (mg/L) at 03298300

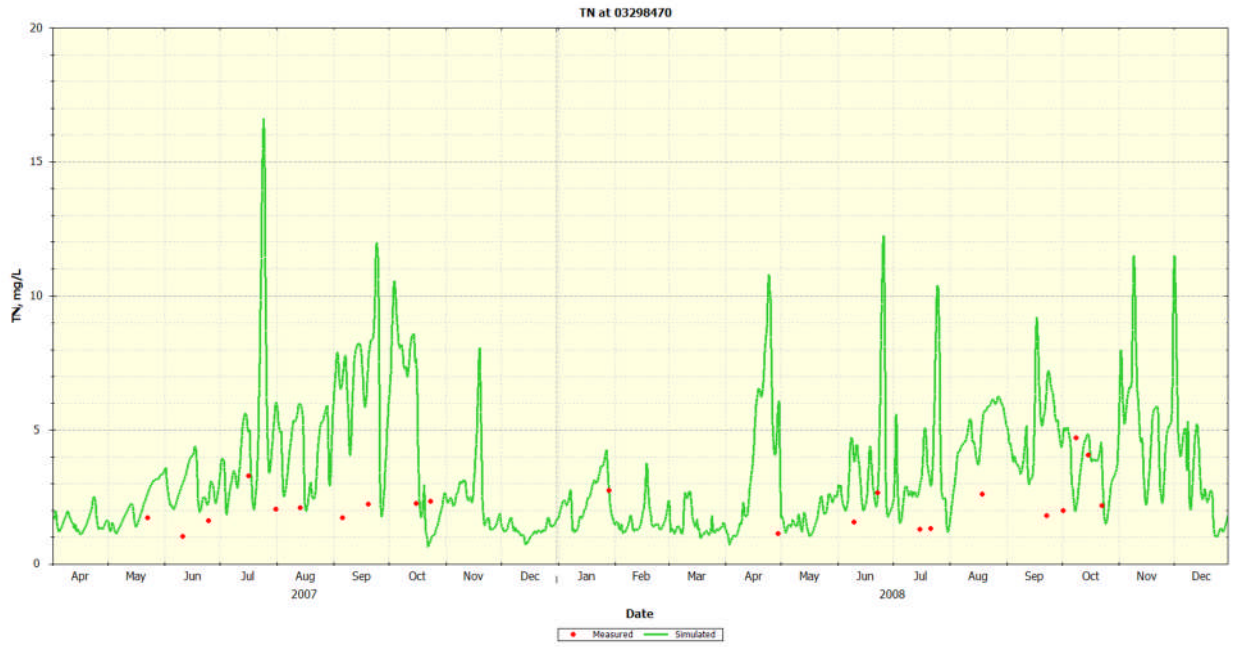


Figure A-105 Modeled vs. Observed TN (mg/L) at 03298470

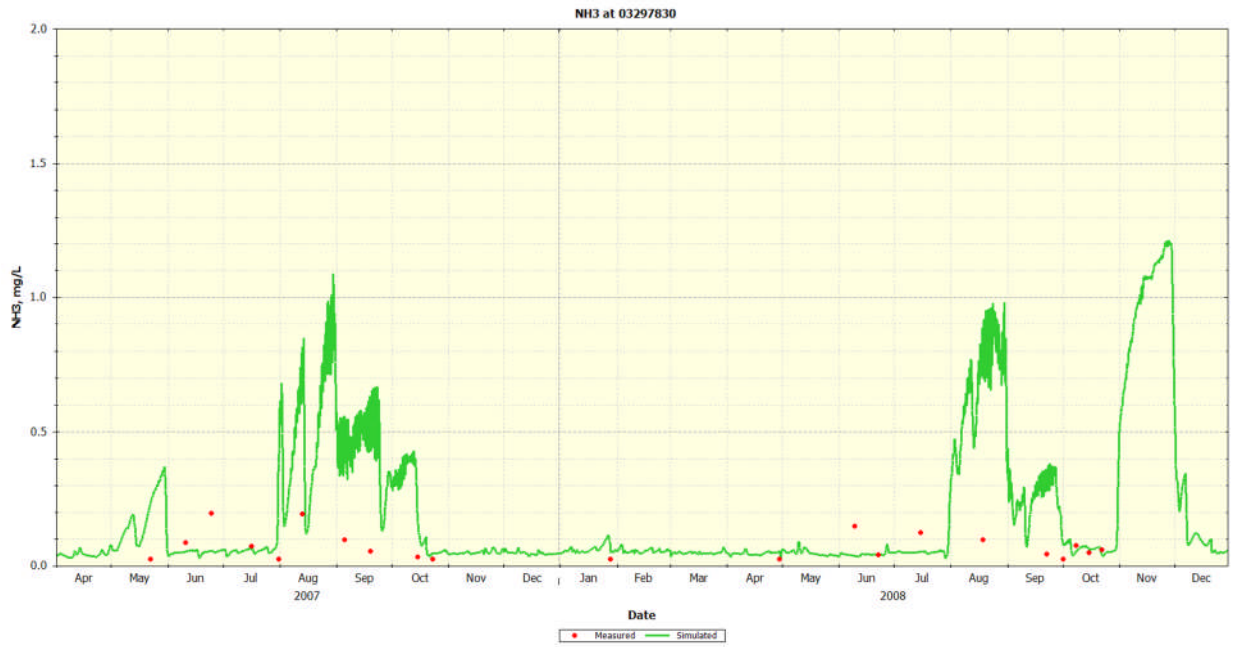


Figure A-106 Modeled vs. Observed NH_3 (mg/L) at 03297830

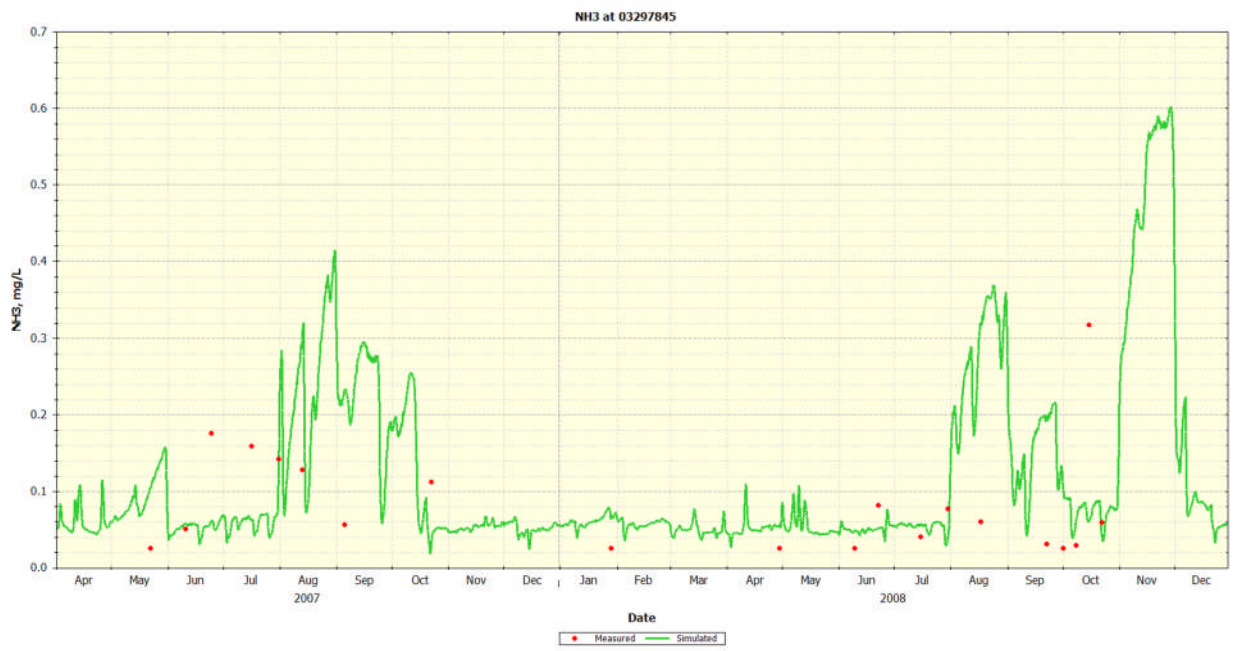


Figure A-107 Modeled vs. Observed NH_3 (mg/L) at 03297845

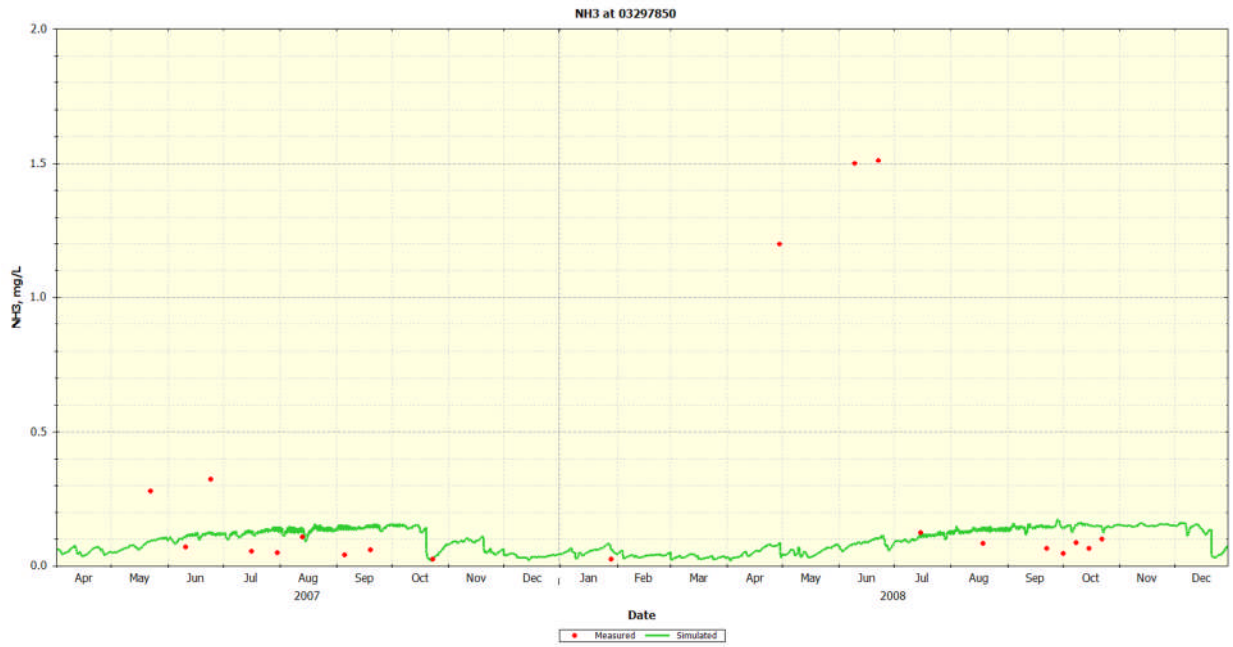


Figure A-108 Modeled vs. Observed NH_3 (mg/L) at 03297850

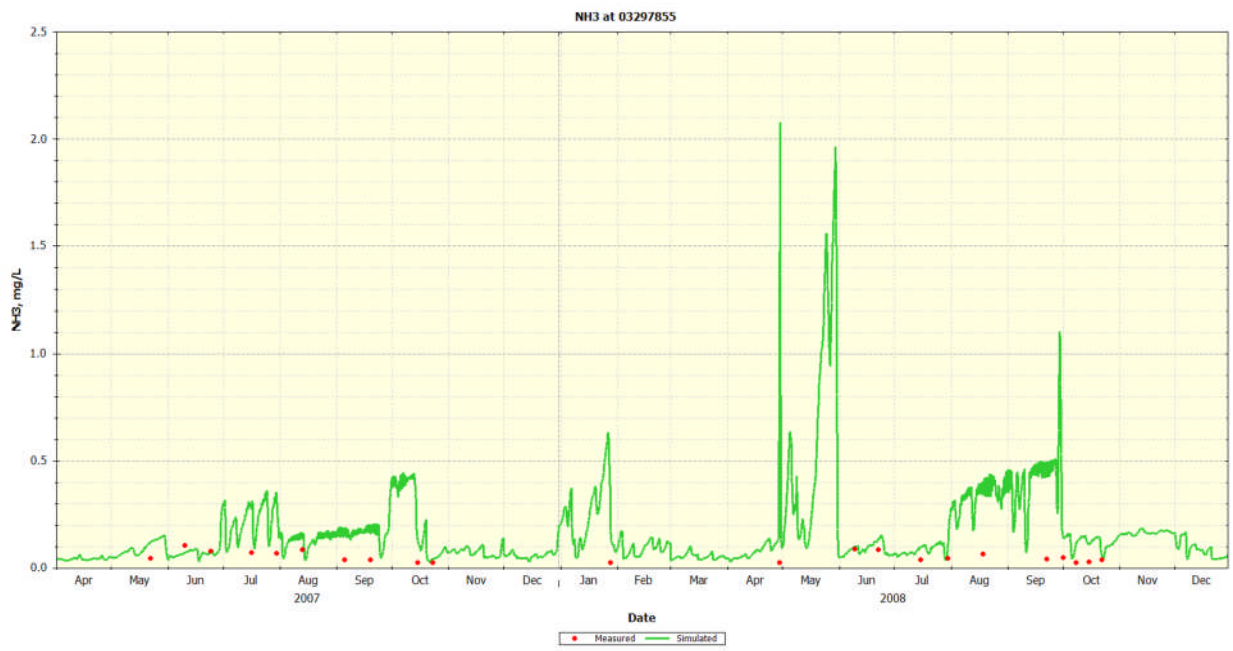


Figure A-109 Modeled vs. Observed NH_3 (mg/L) at 03297855

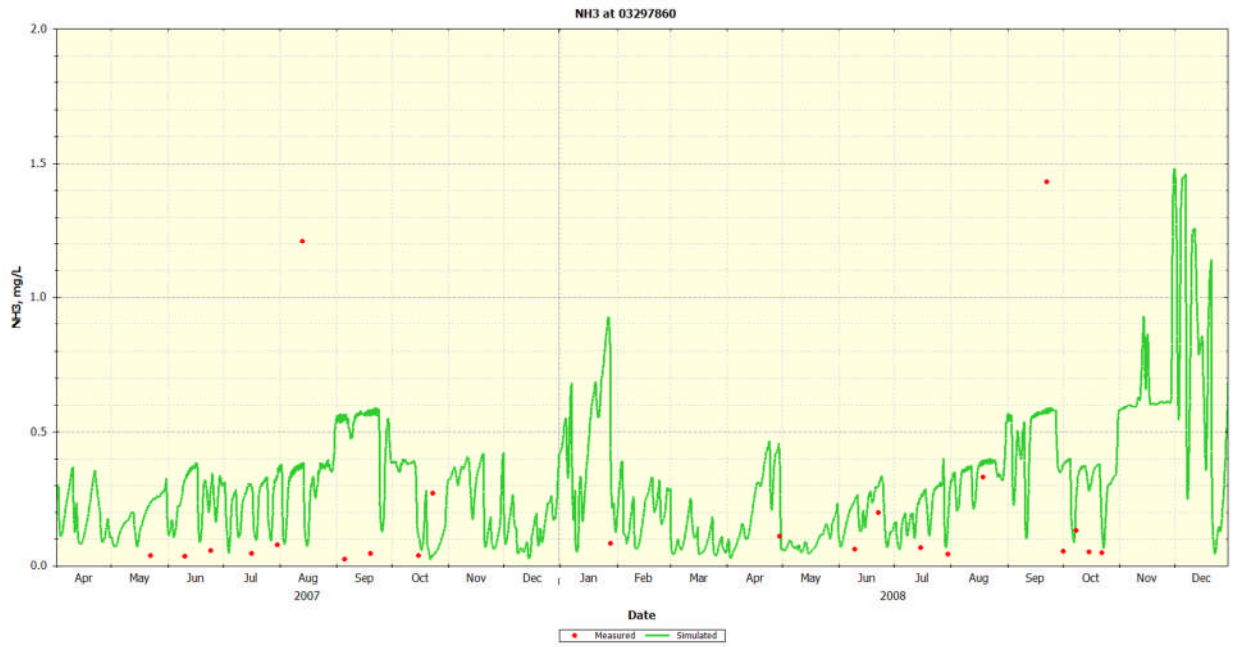


Figure A-110 Modeled vs. Observed NH_3 (mg/L) at 03297860

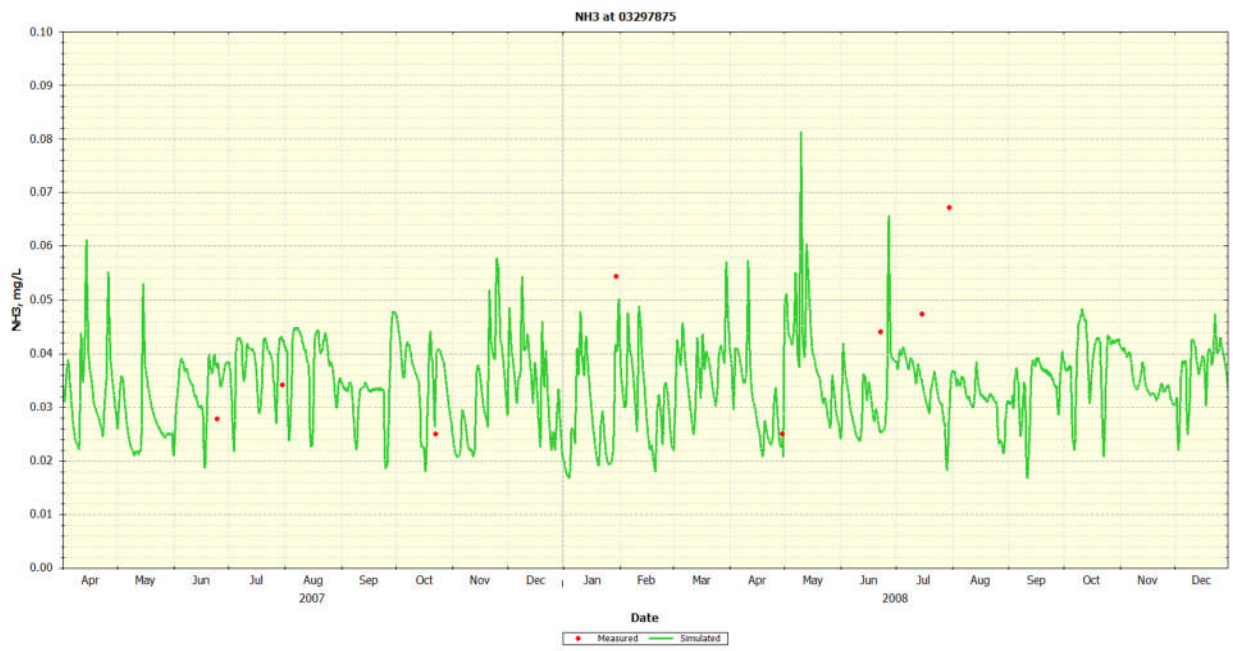


Figure A-111 Modeled vs. Observed NH_3 (mg/L) at 03297875

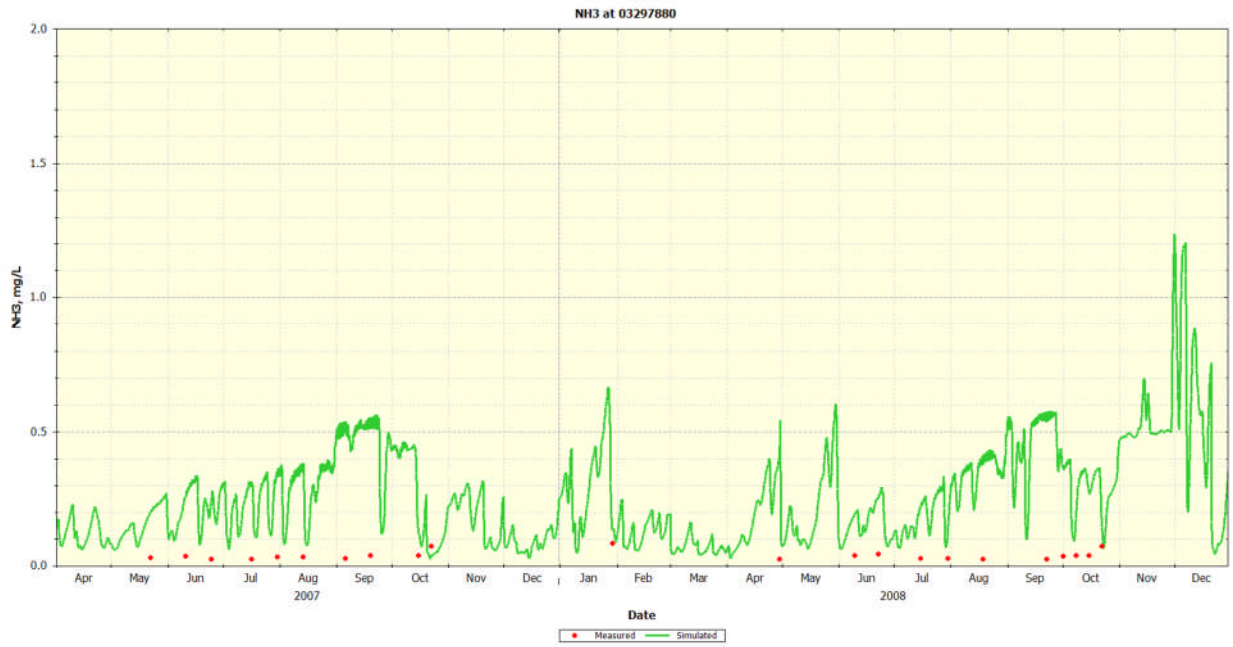


Figure A-112 Modeled vs. Observed NH_3 (mg/L) at 03297880

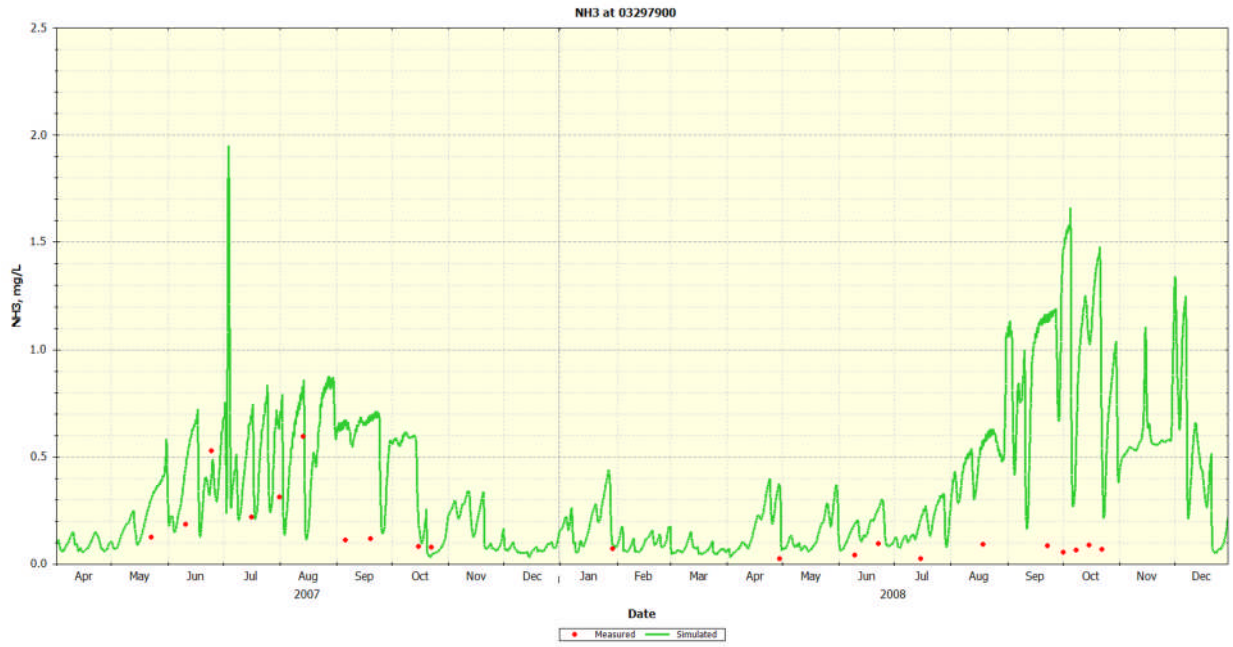


Figure A-113 Modeled vs. Observed NH_3 (mg/L) at 03297900

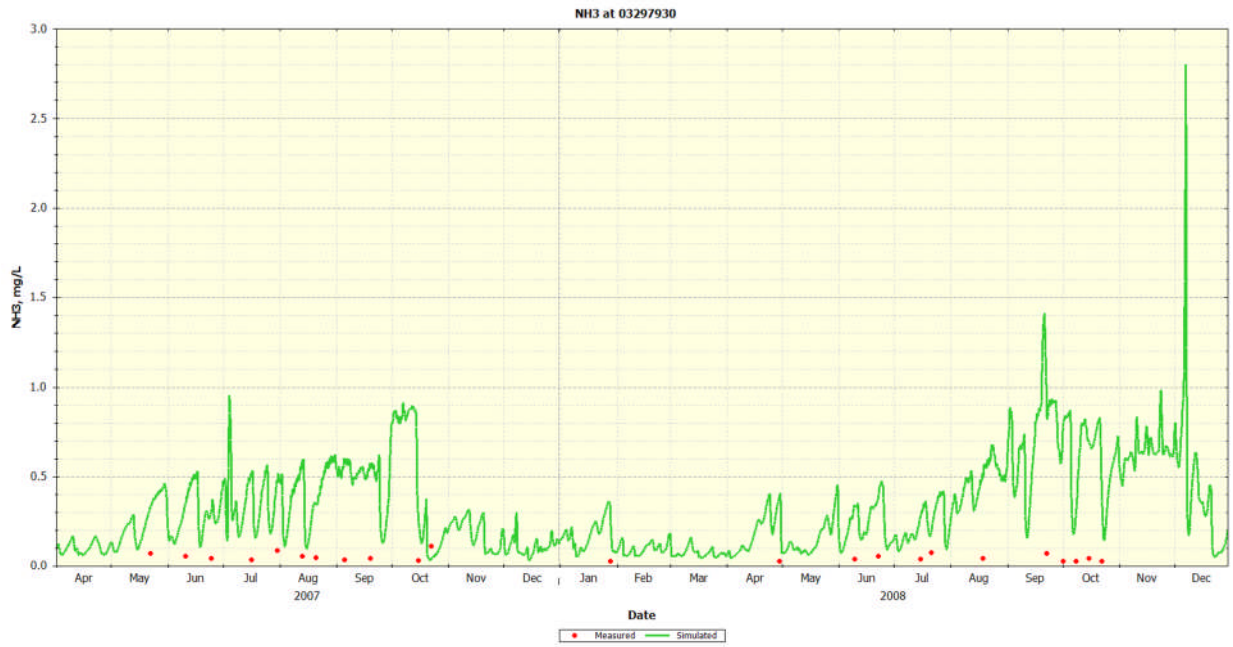


Figure A-114 Modeled vs. Observed NH_3 (mg/L) at 03297930

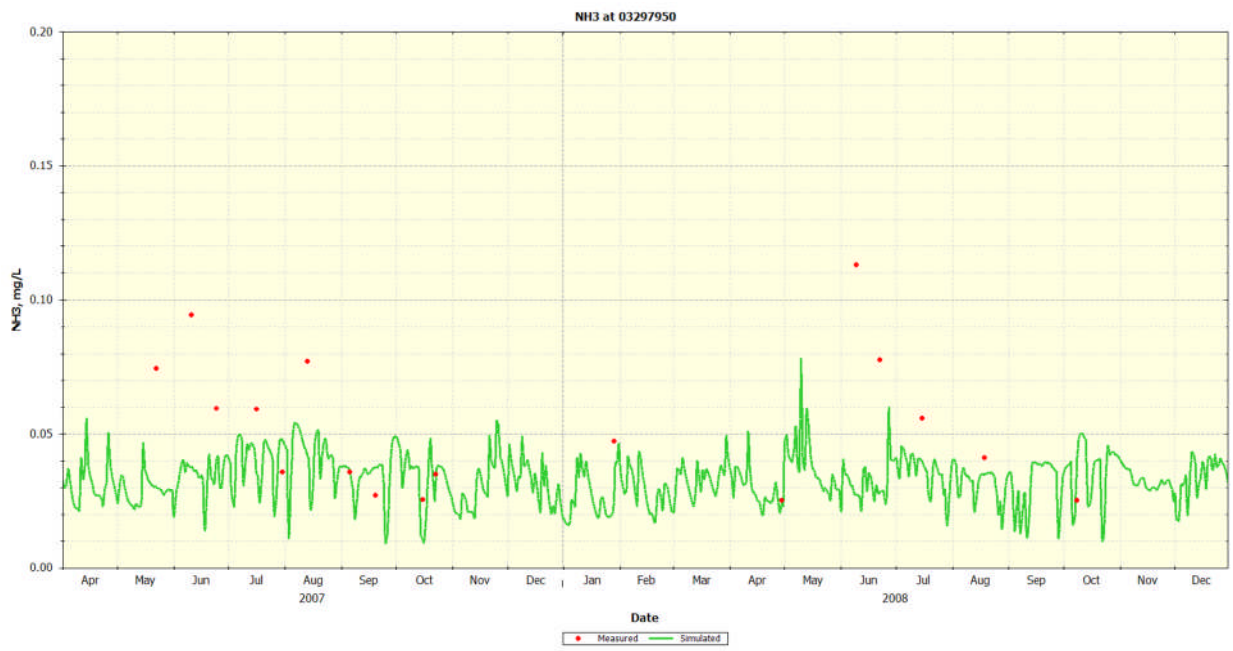


Figure A-115 Modeled vs. Observed NH_3 (mg/L) at 03297950

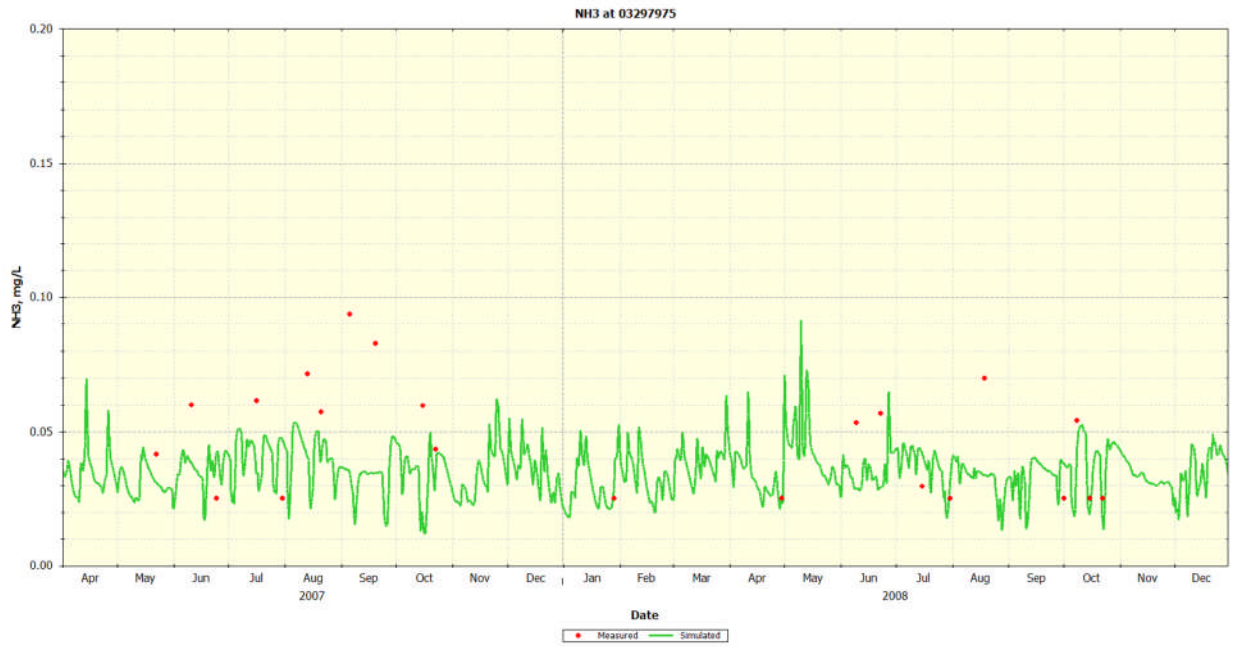


Figure A-116 Modeled vs. Observed NH_3 (mg/L) at 03297975

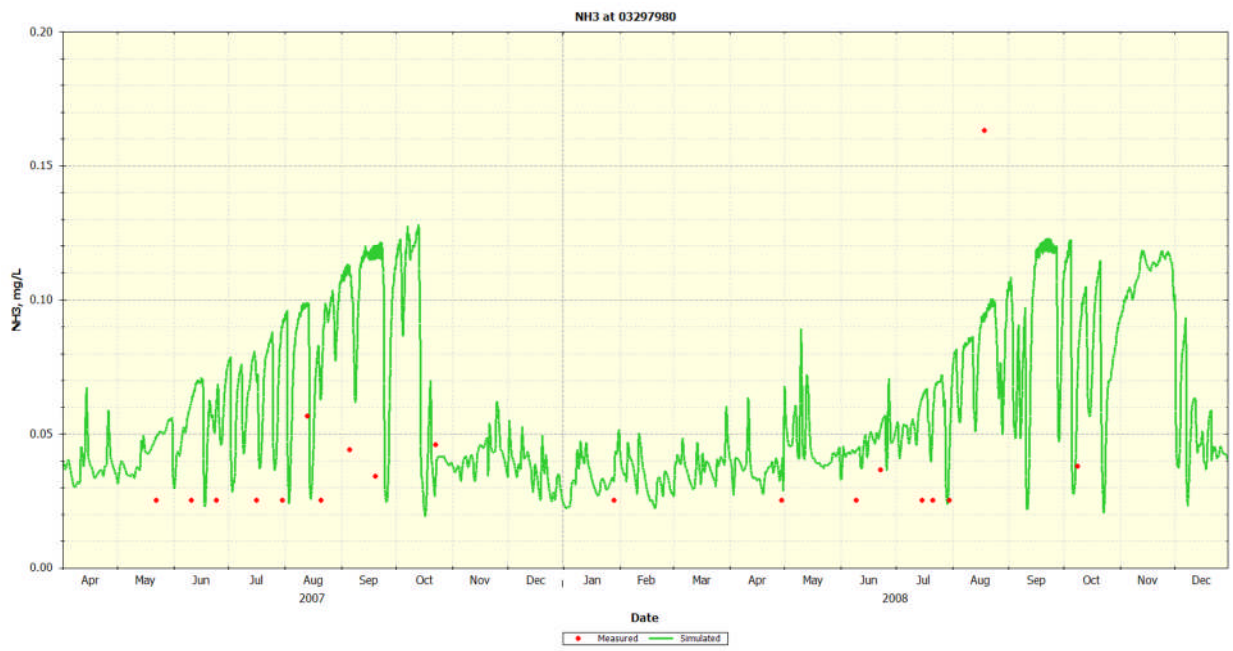


Figure A-117 Modeled vs. Observed NH_3 (mg/L) at 03297980

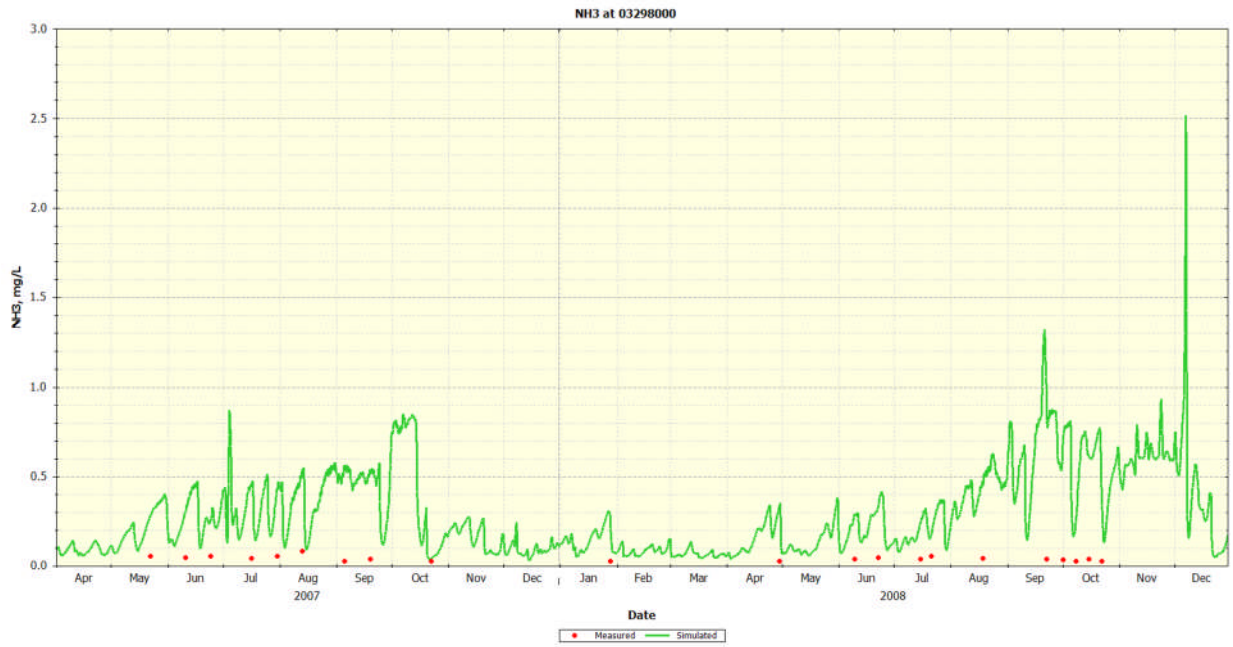


Figure A-118 Modeled vs. Observed NH_3 (mg/L) at 03298000

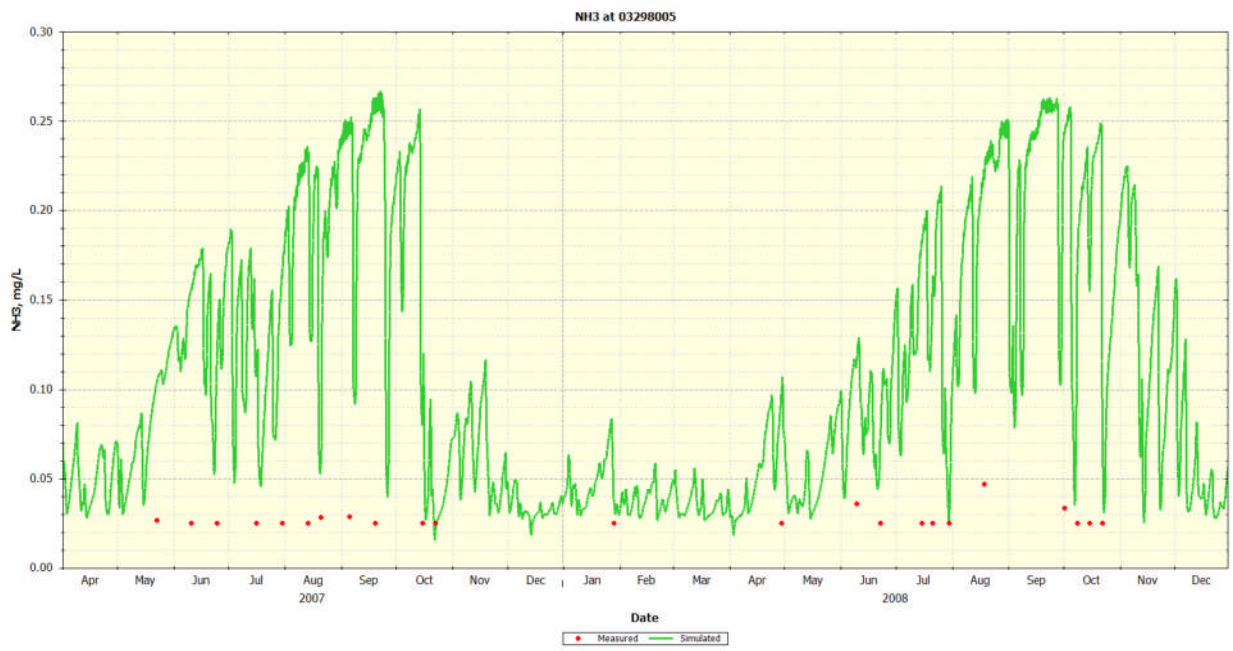


Figure A-119 Modeled vs. Observed NH_3 (mg/L) at 03298005

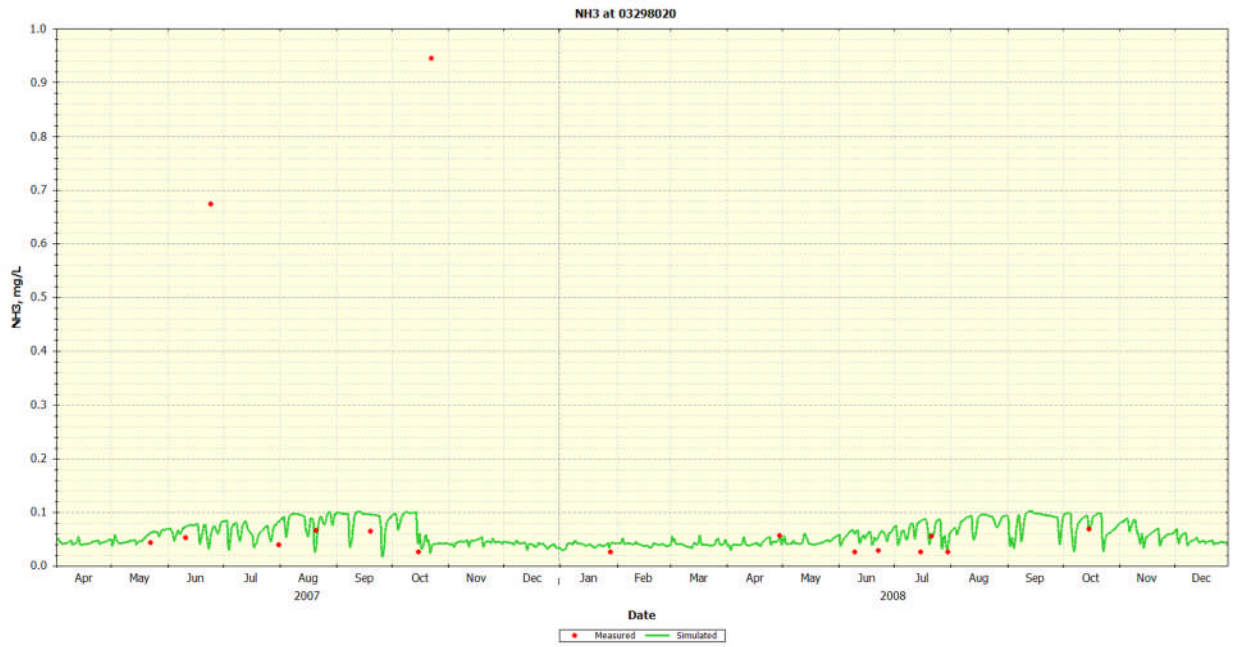


Figure A-120 Modeled vs. Observed NH_3 (mg/L) at 03298020

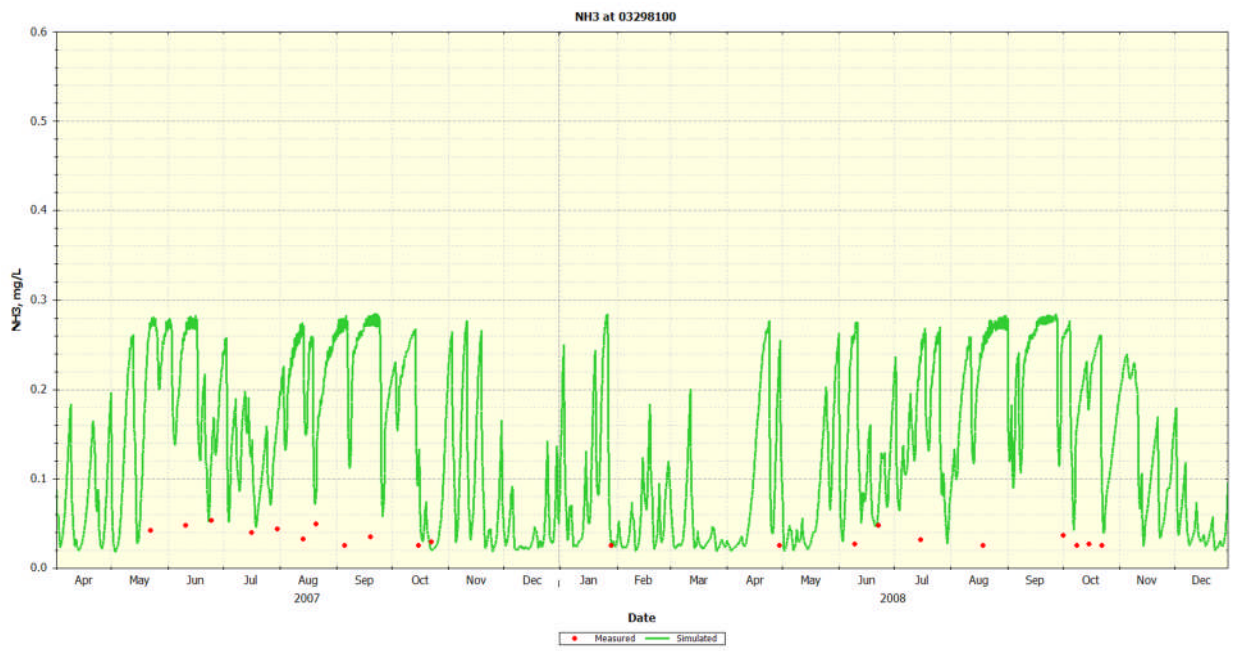


Figure A-121 Modeled vs. Observed NH_3 (mg/L) at 03298100

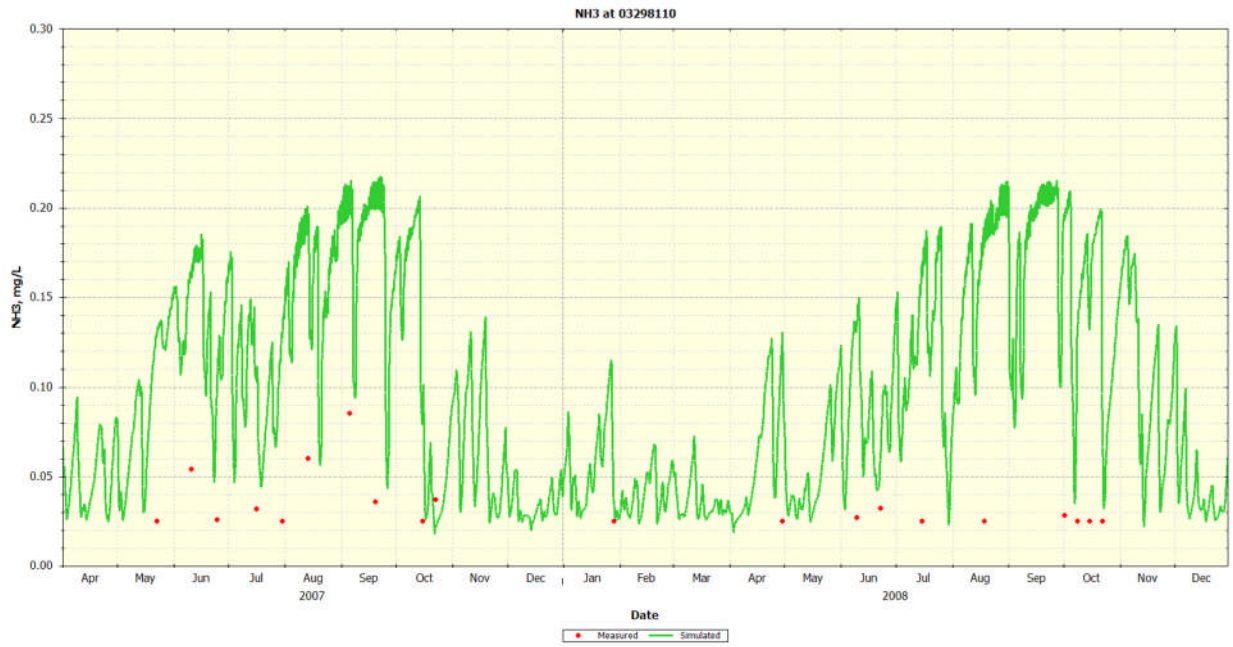


Figure A-122 Modeled vs. Observed NH_3 (mg/L) at 03298110

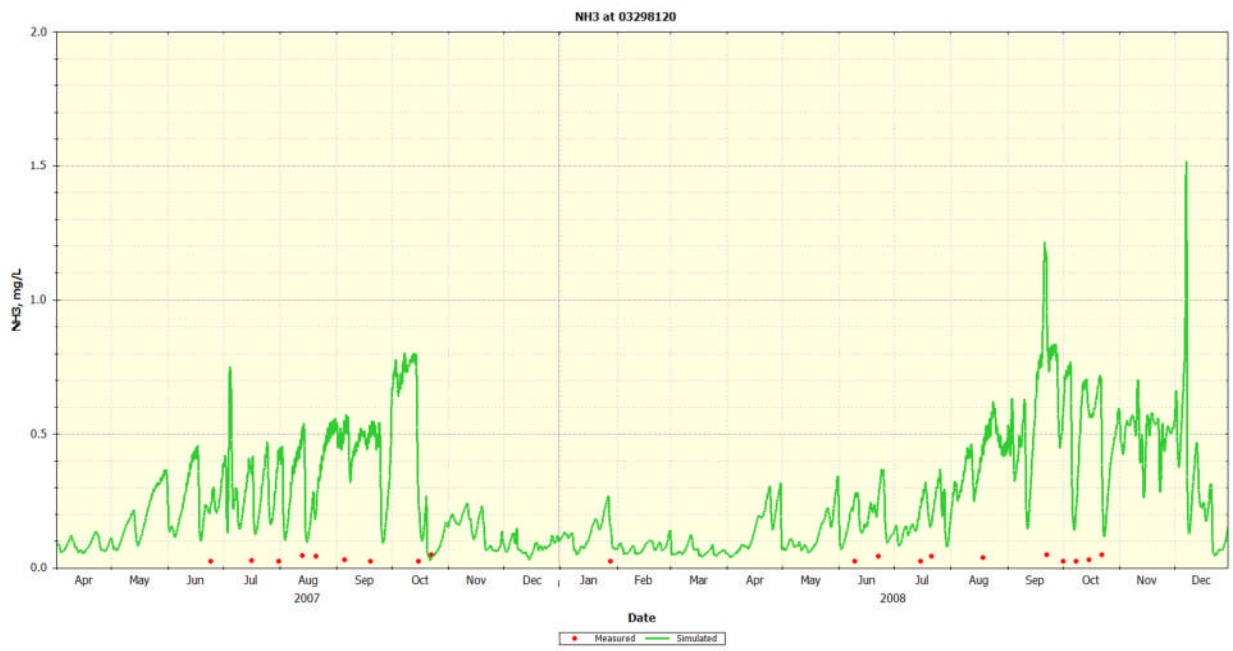


Figure A-123 Modeled vs. Observed NH_3 (mg/L) at 03298120

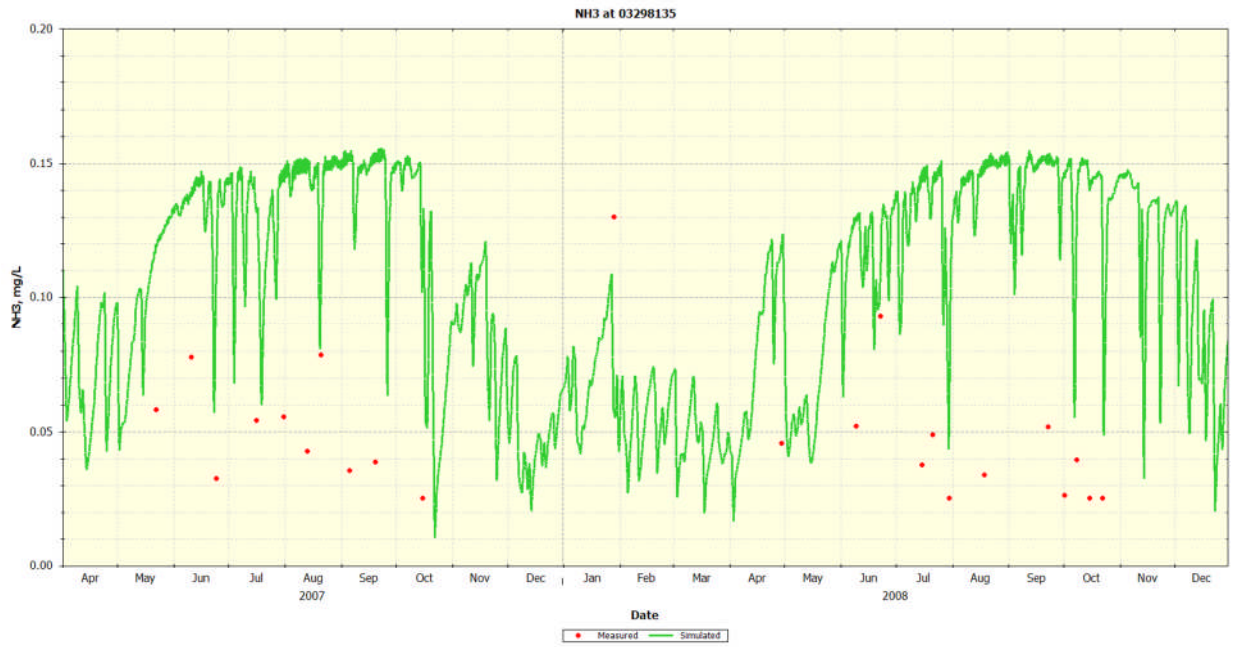


Figure A-124 Modeled vs. Observed NH_3 (mg/L) at 03298135

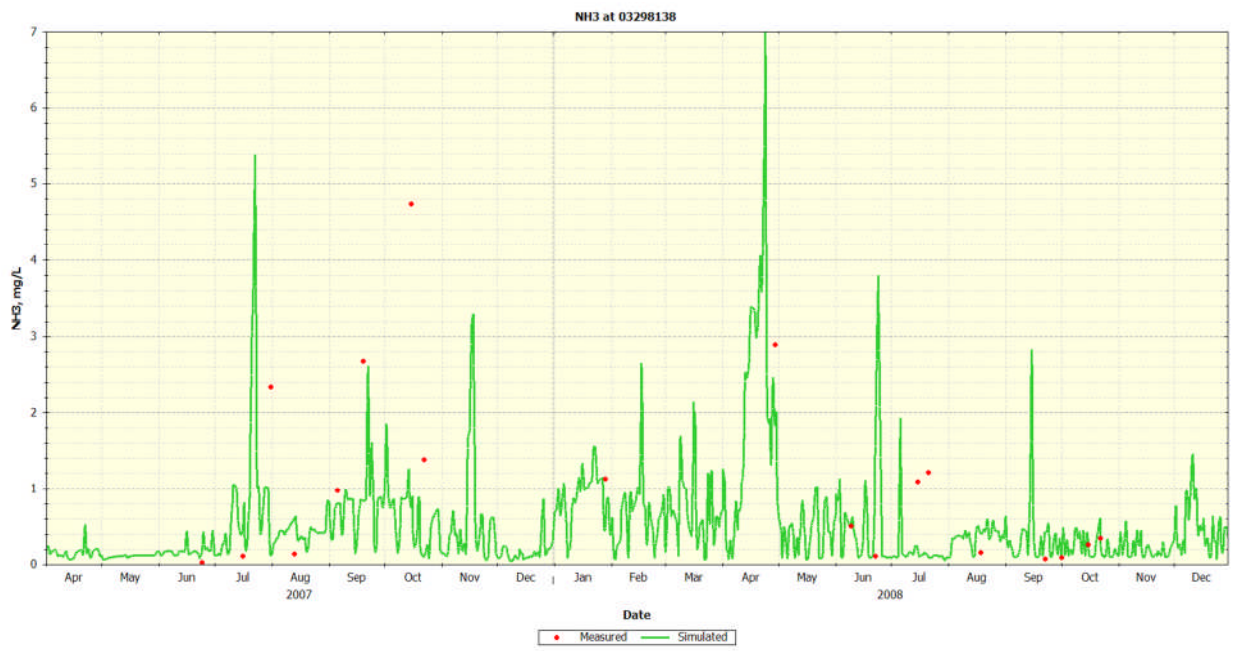


Figure A-125 Modeled vs. Observed NH_3 (mg/L) at 03298138

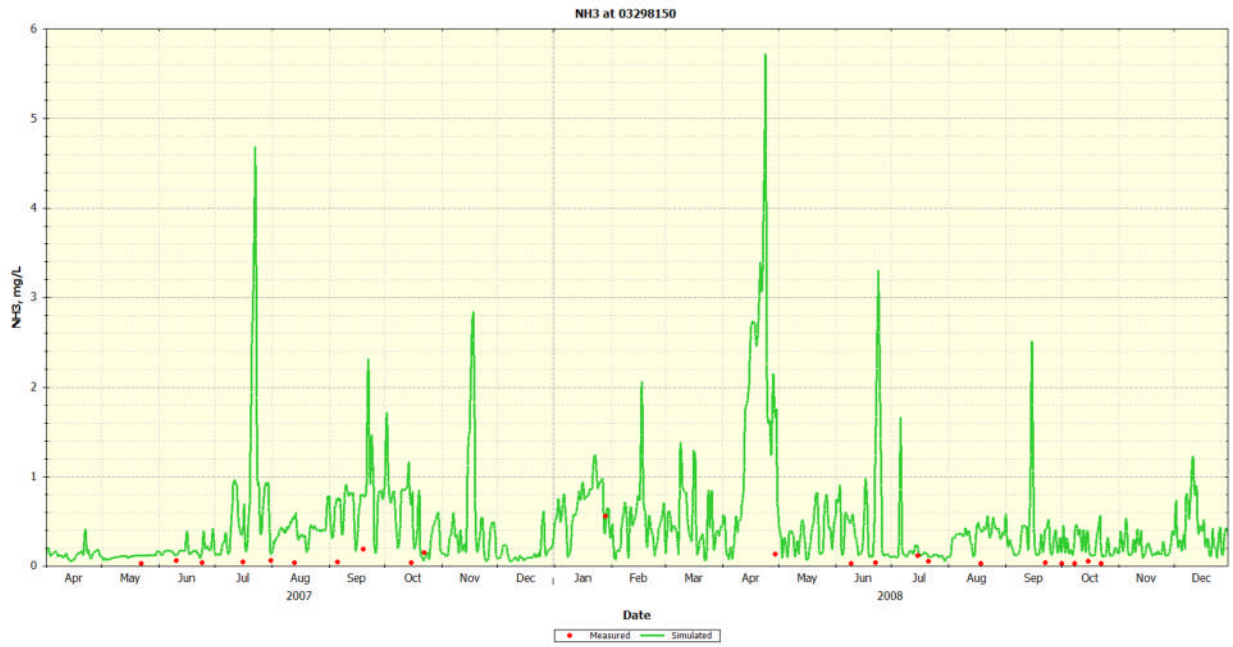


Figure A-126 Modeled vs. Observed NH_3 (mg/L) at 03298150

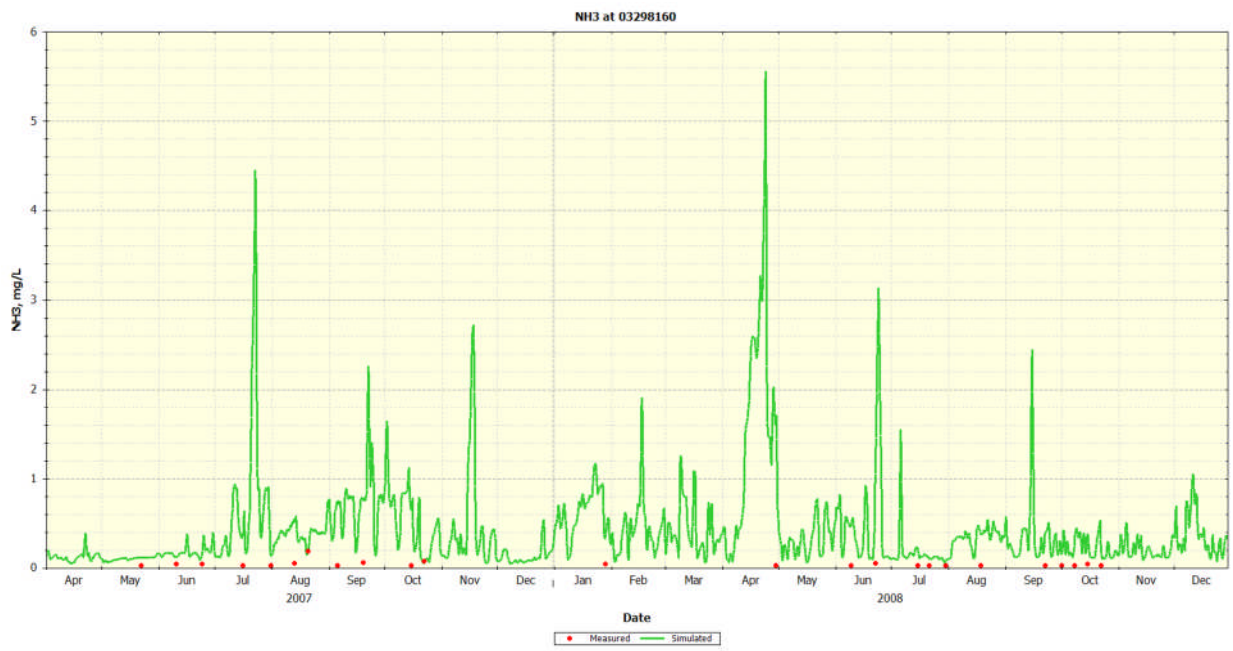


Figure A-127 Modeled vs. Observed NH_3 (mg/L) at 03298160

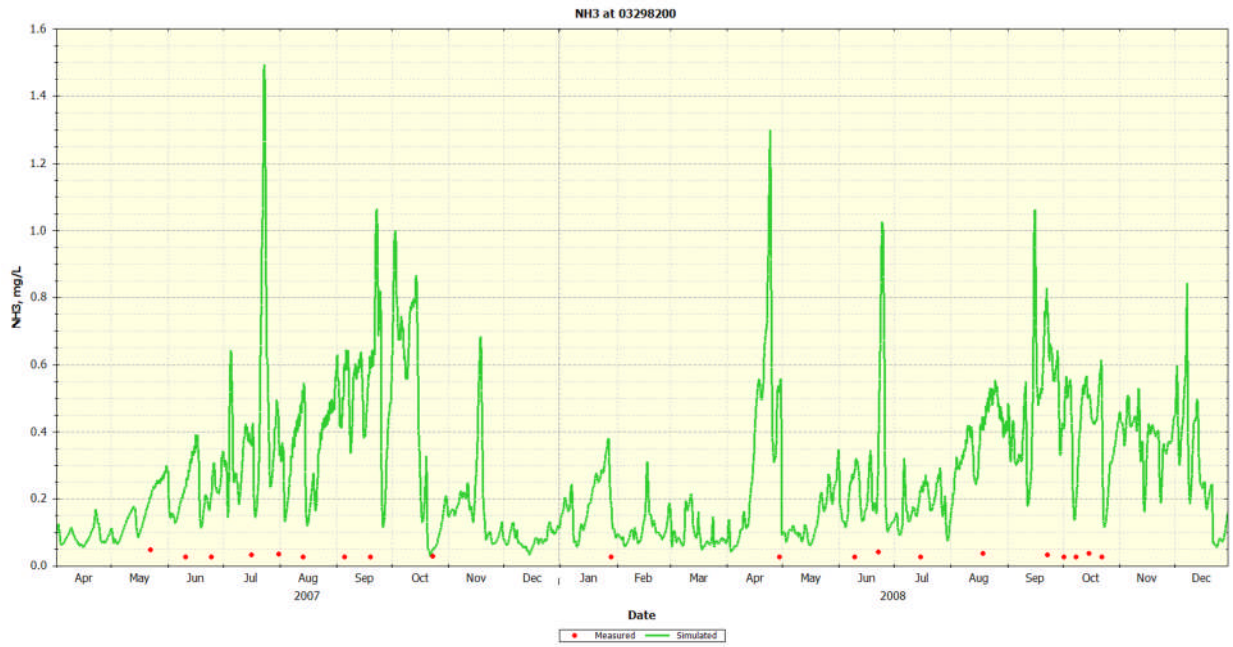


Figure A-128 Modeled vs. Observed NH_3 (mg/L) at 03298200

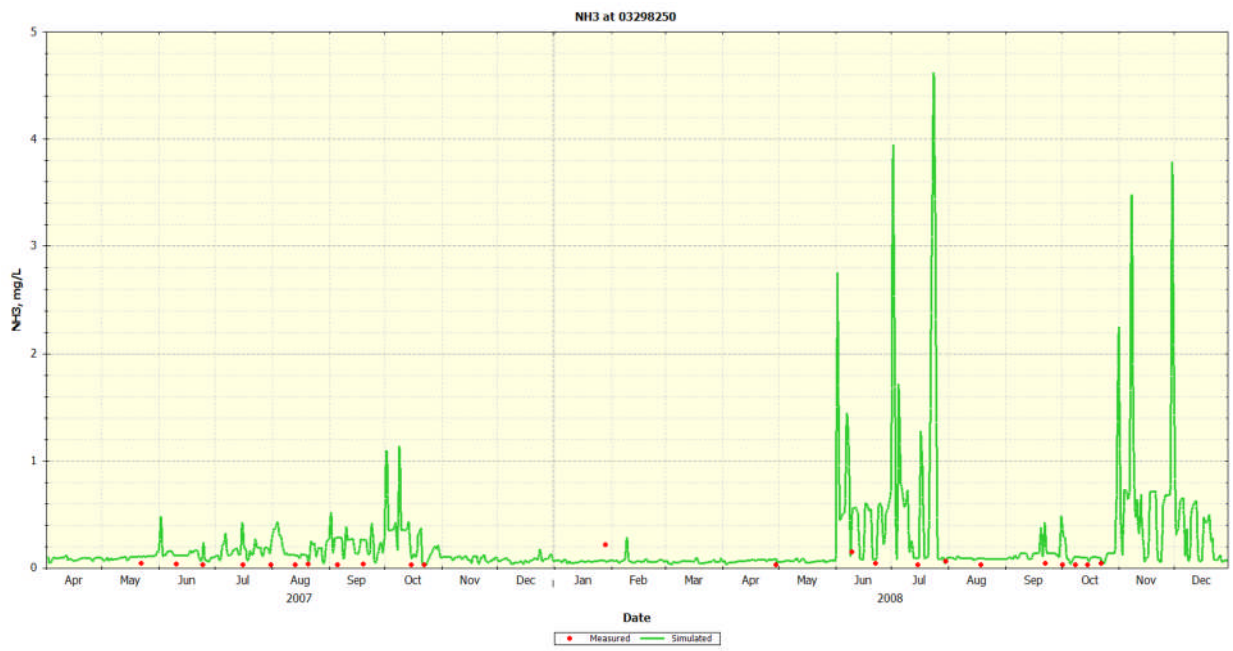


Figure A-129 Modeled vs. Observed NH_3 (mg/L) at 03298250

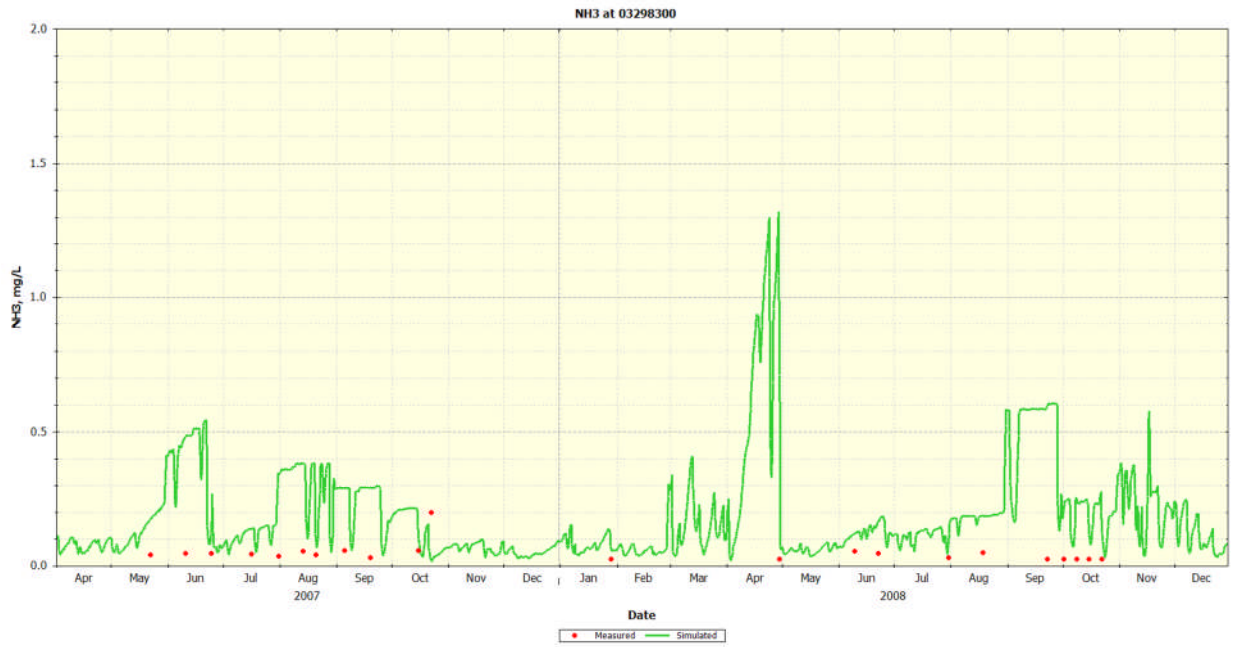


Figure A-130 Modeled vs. Observed NH_3 (mg/L) at 03298300

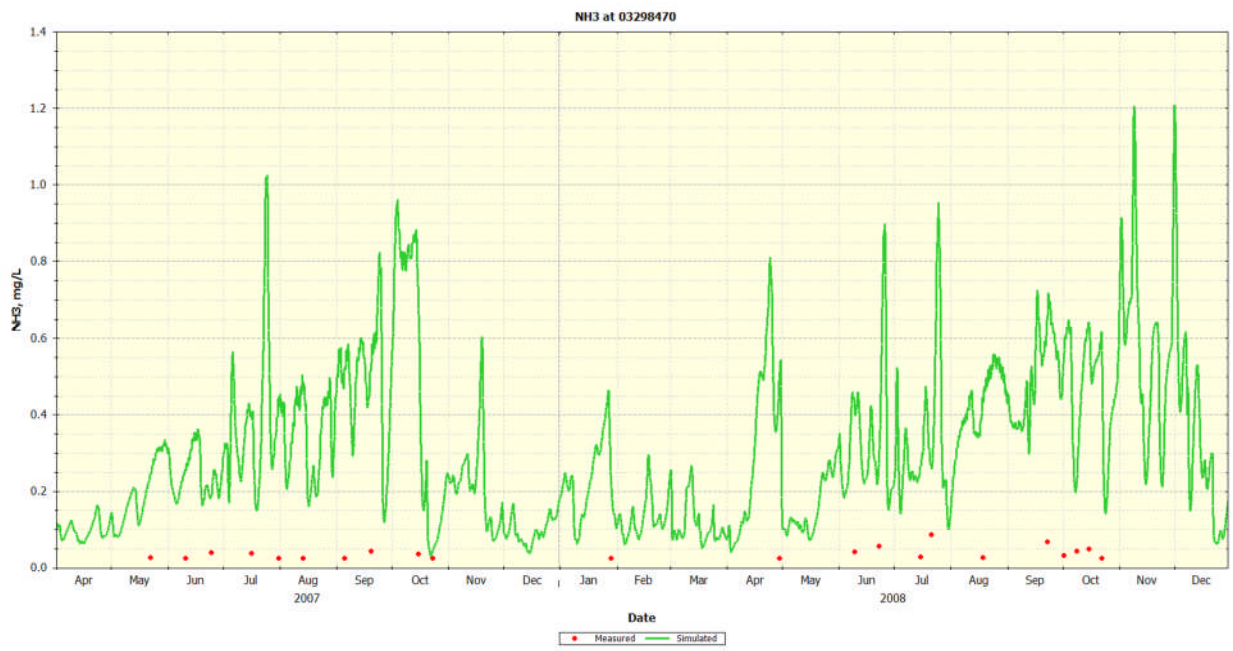


Figure A-131 Modeled vs. Observed NH_3 (mg/L) at 03298470

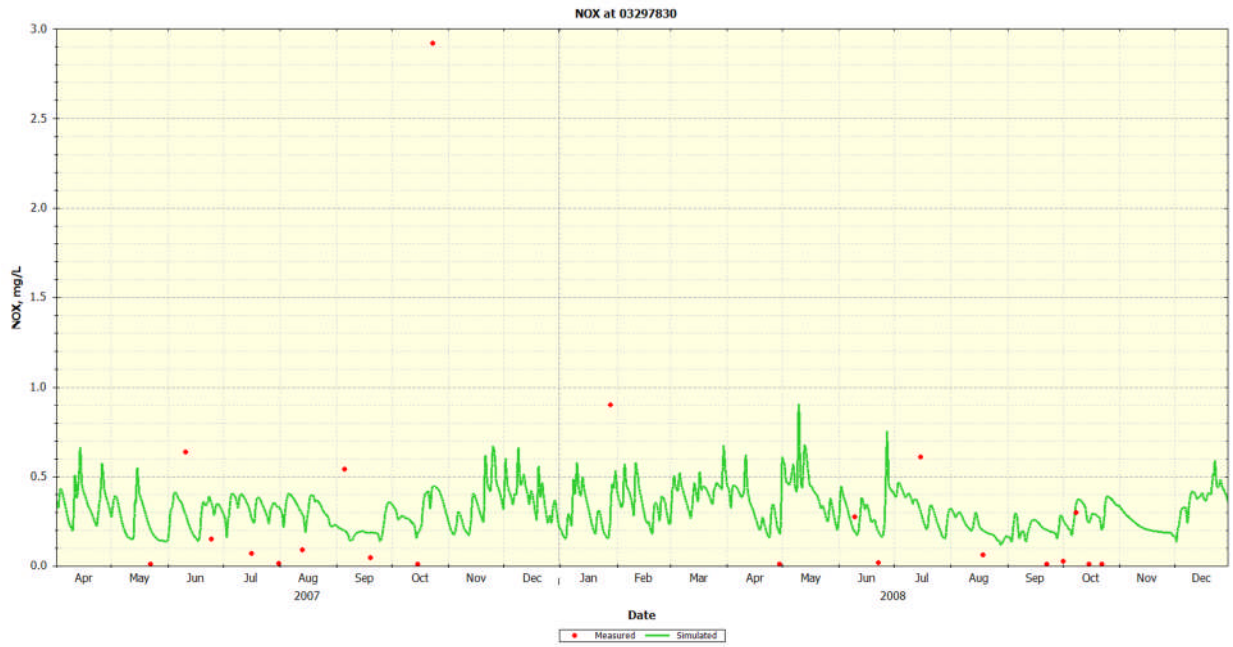


Figure A-132 Modeled vs. Observed NO_X (mg/L) at 03297830

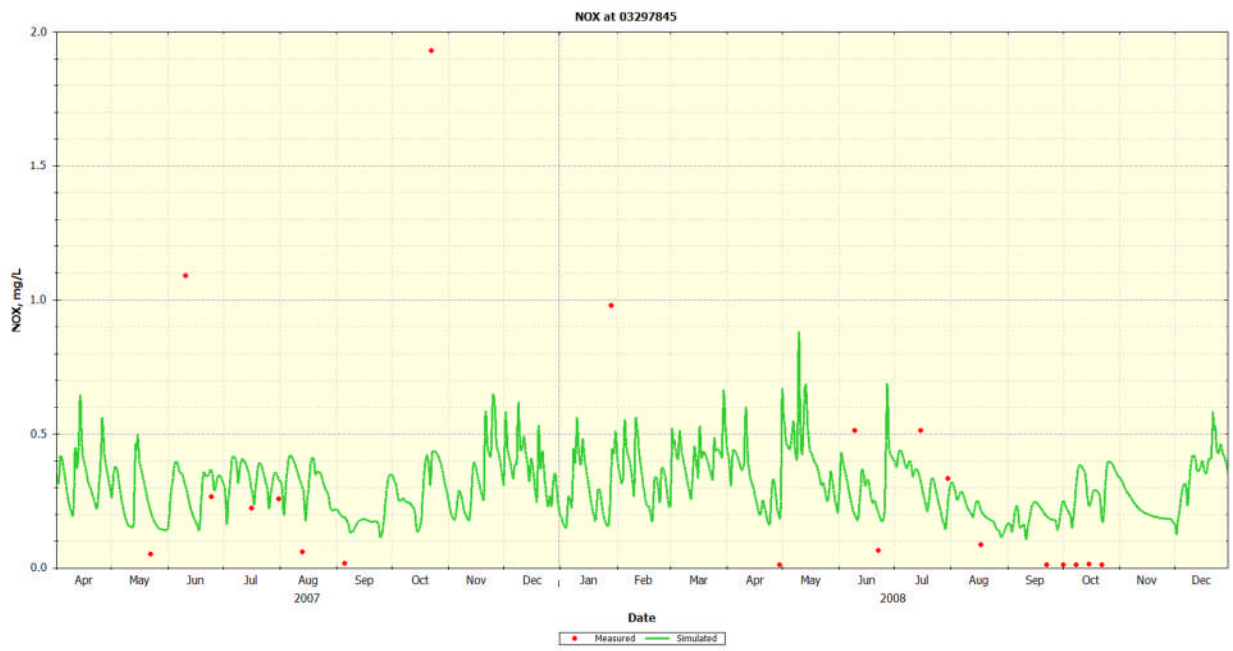


Figure A-133 Modeled vs. Observed NO_X (mg/L) at 03297845

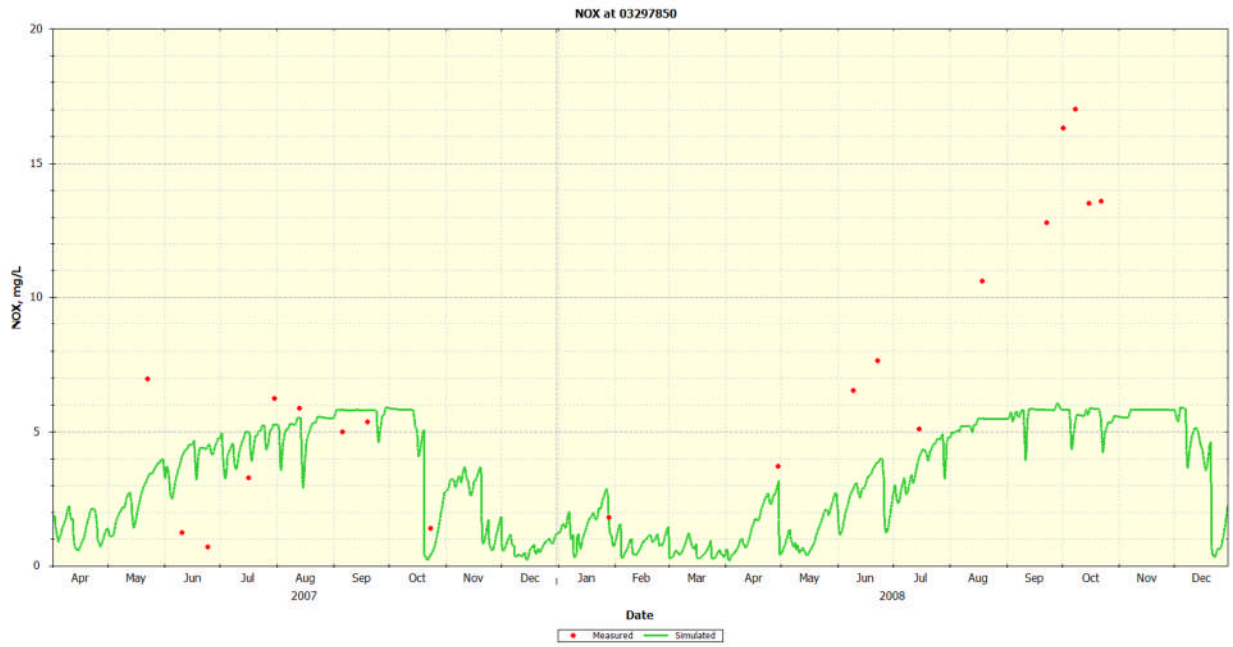


Figure A-134 Modeled vs. Observed NO_X (mg/L) at 03297850

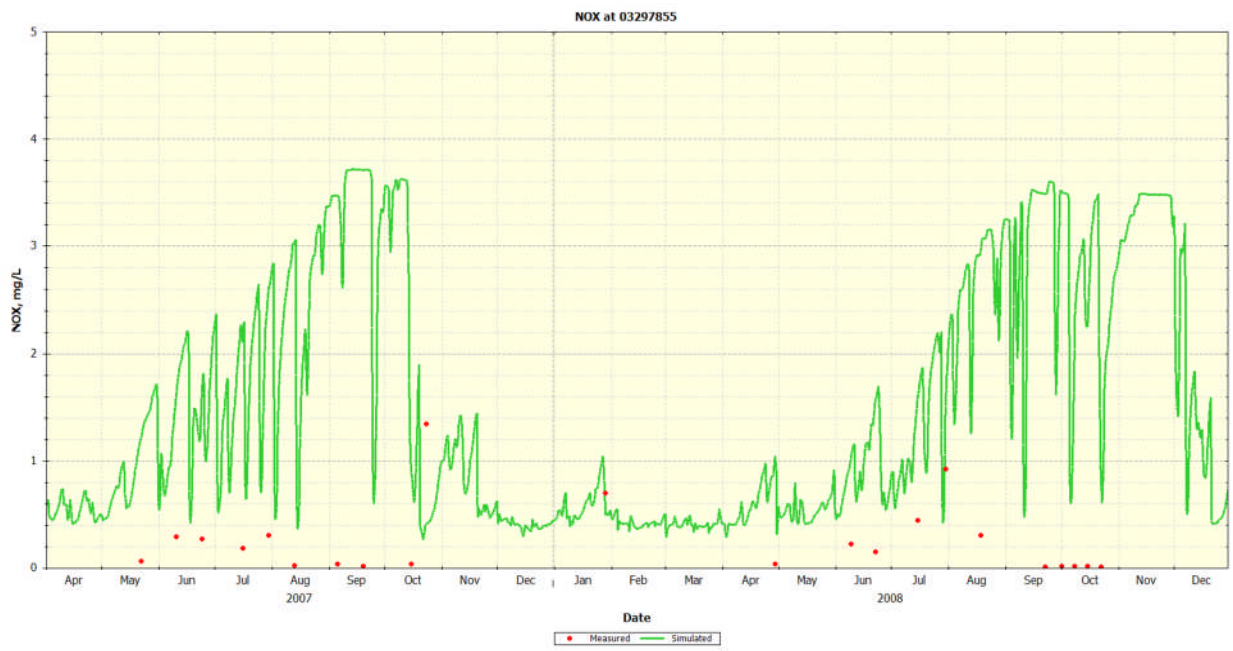


Figure A-135 Modeled vs. Observed NO_X (mg/L) at 03297855

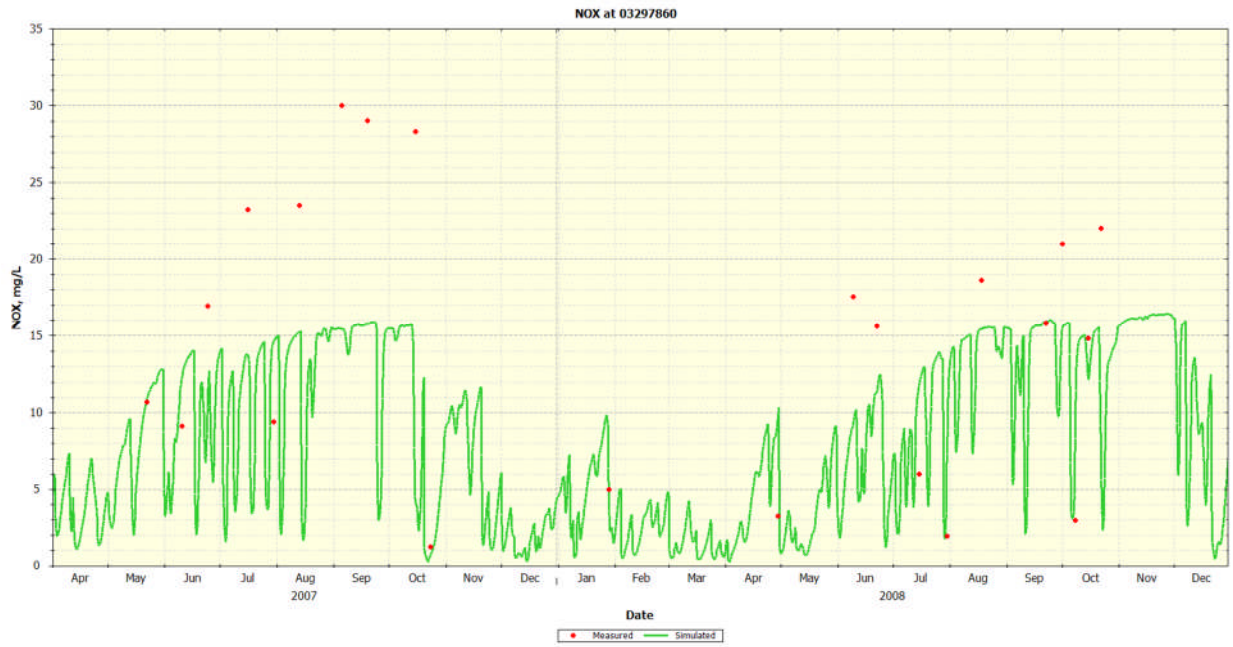


Figure A-136 Modeled vs. Observed NO_X (mg/L) at 03297860

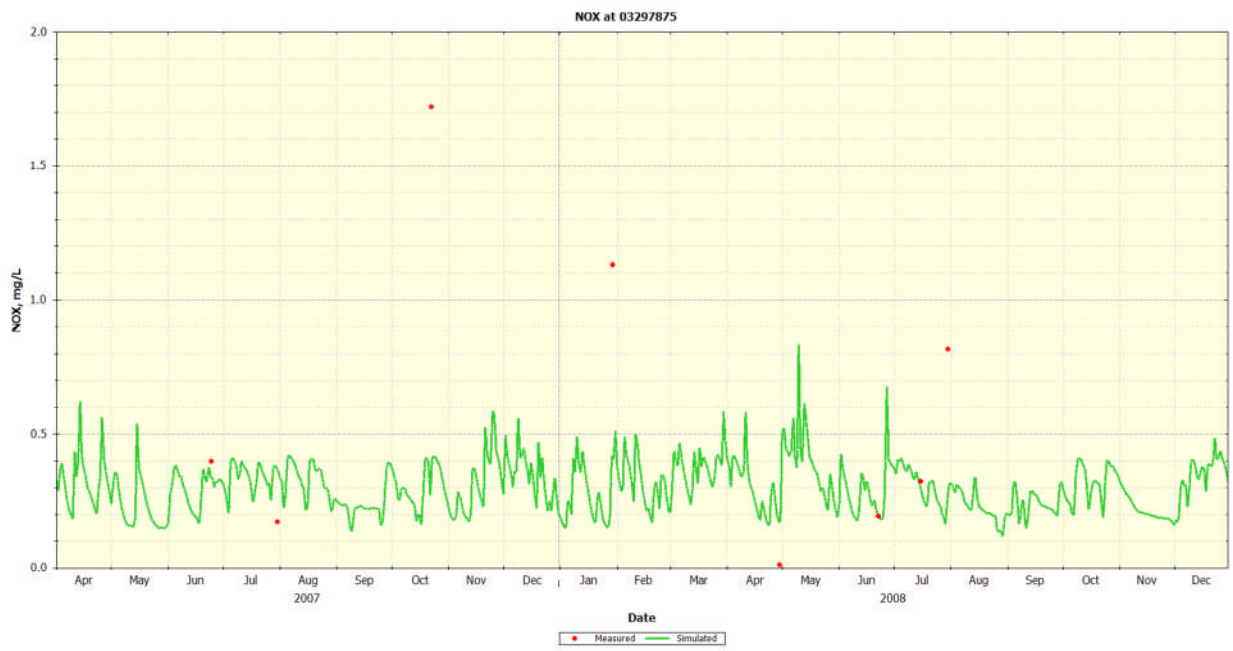


Figure A-137 Modeled vs. Observed NO_X (mg/L) at 03297875

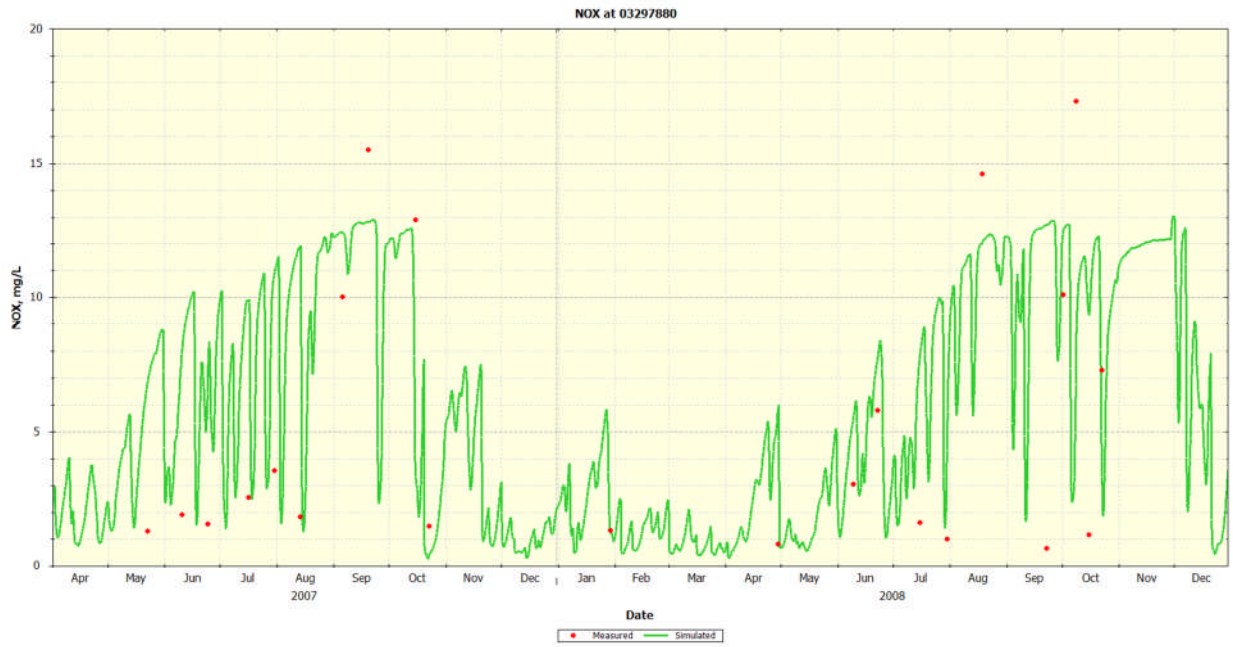


Figure A-138 Modeled vs. Observed NO_X (mg/L) at 03297880

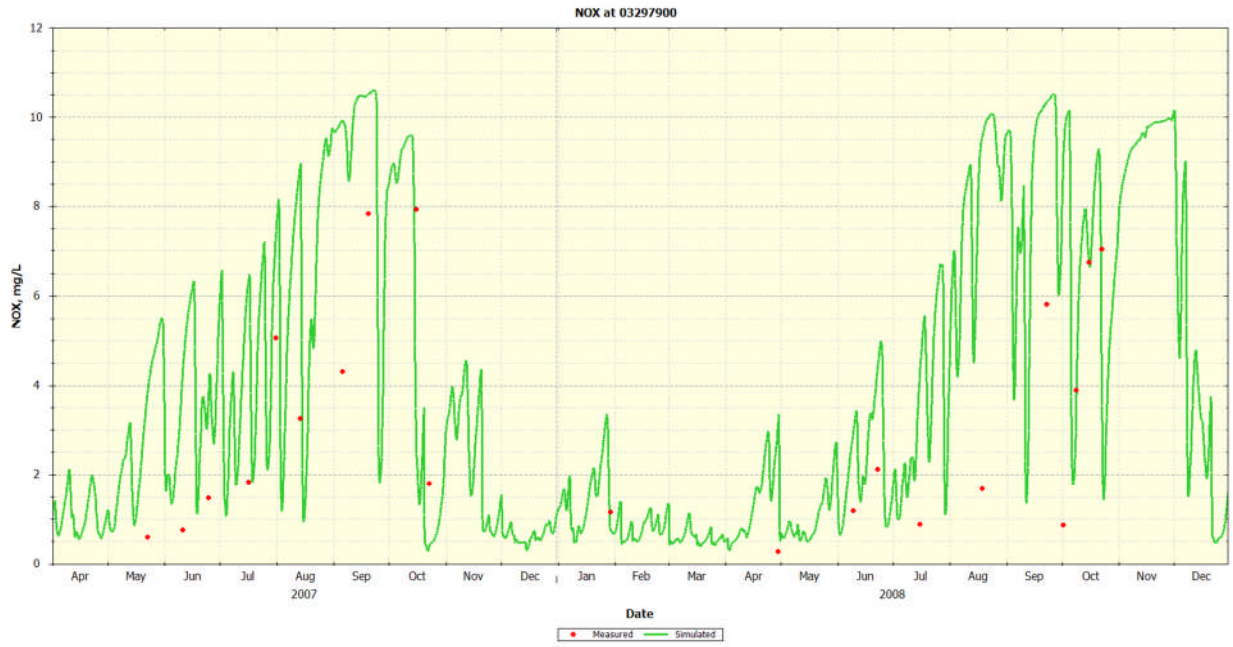


Figure A-139 Modeled vs. Observed NO_X (mg/L) at 03297900

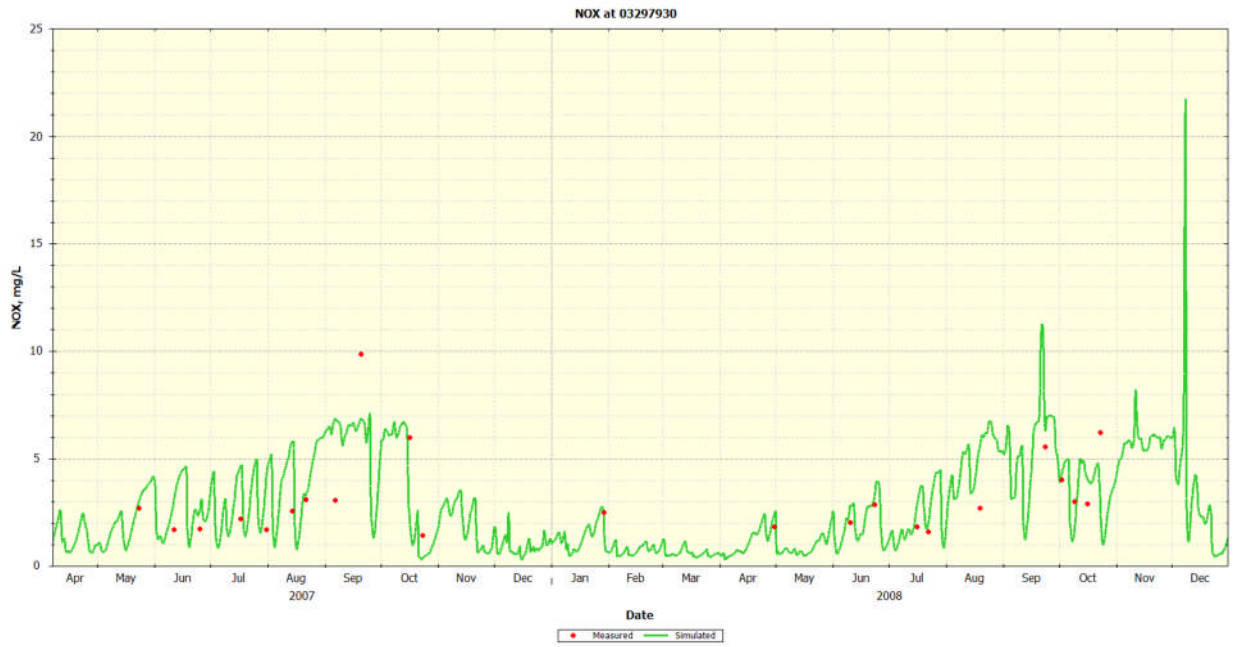


Figure A-140 Modeled vs. Observed NO_X (mg/L) at 03297930

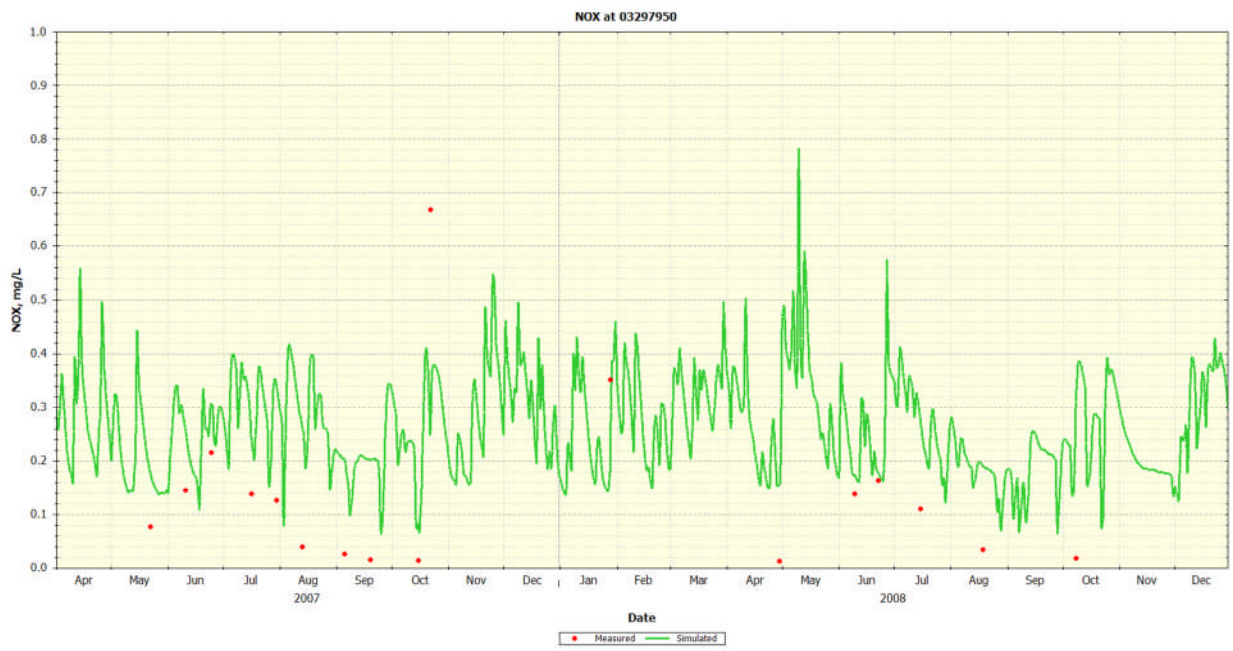


Figure A-141 Modeled vs. Observed NO_X (mg/L) at 03297950

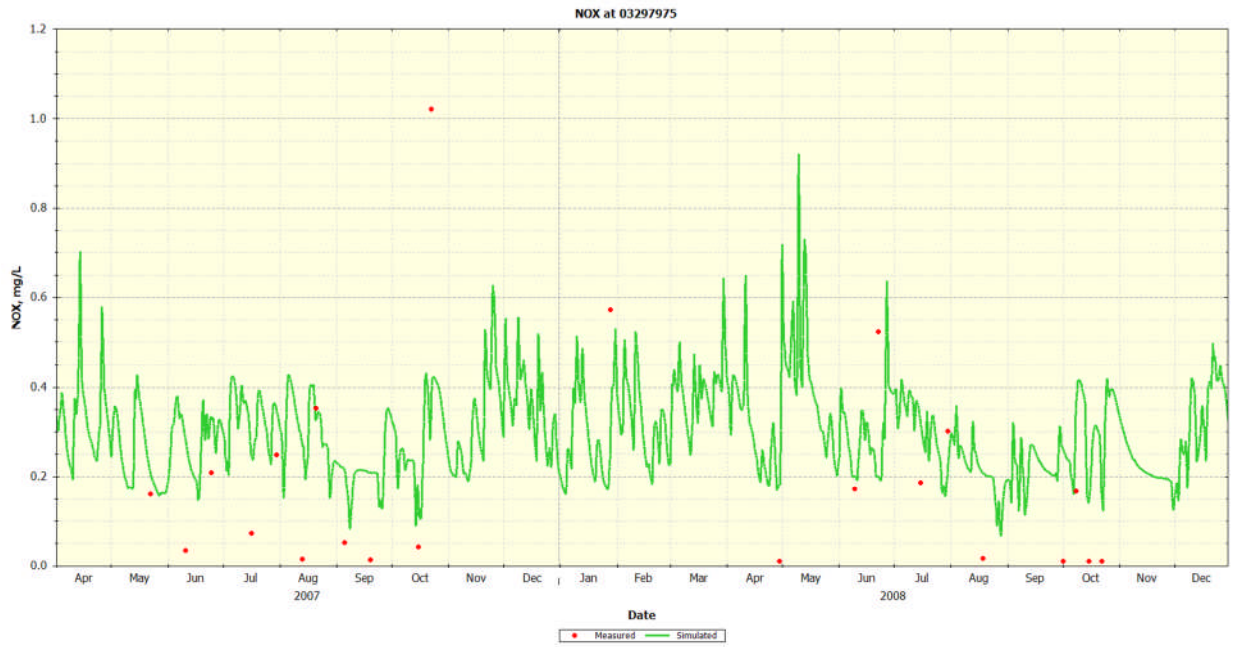


Figure A-142 Modeled vs. Observed NO_X (mg/L) at 03297975

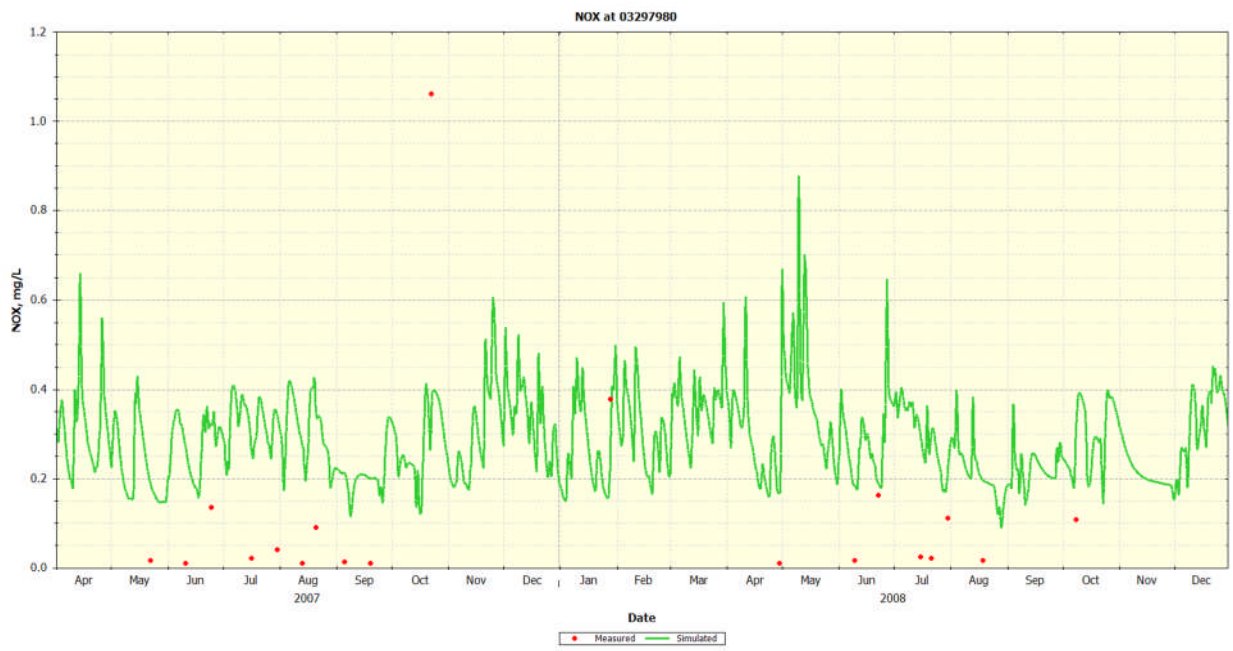


Figure A-143 Modeled vs. Observed NO_X (mg/L) at 03297980

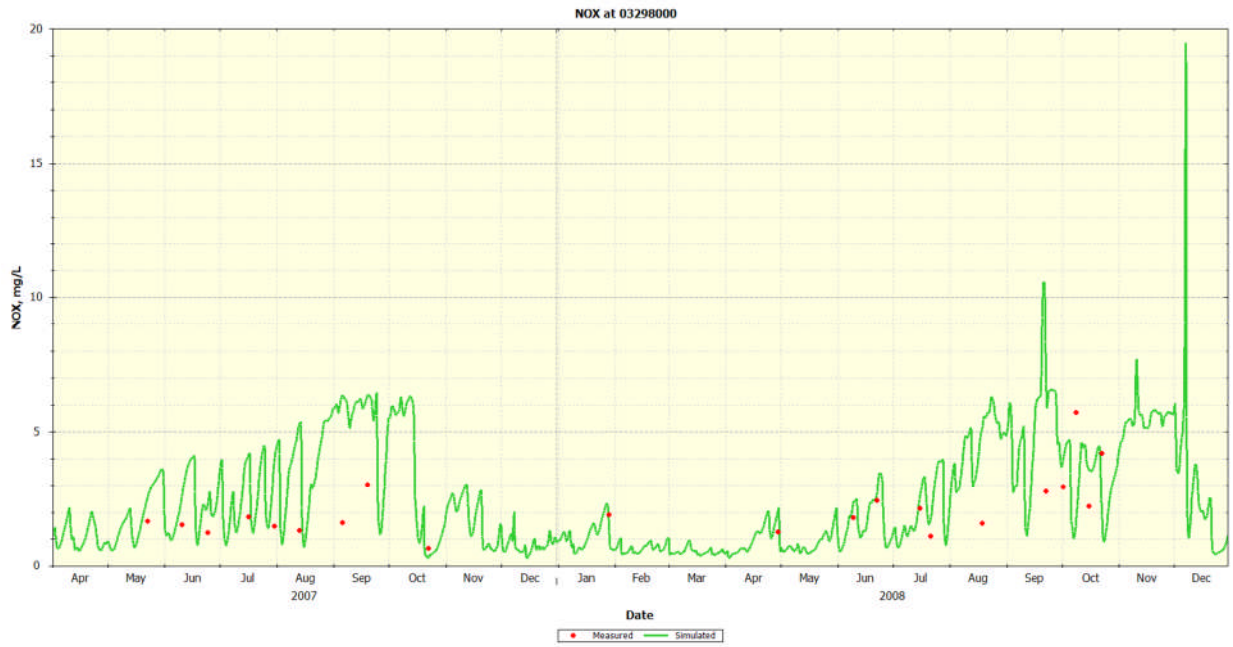


Figure A-144 Modeled vs. Observed NO_X (mg/L) at 03298000

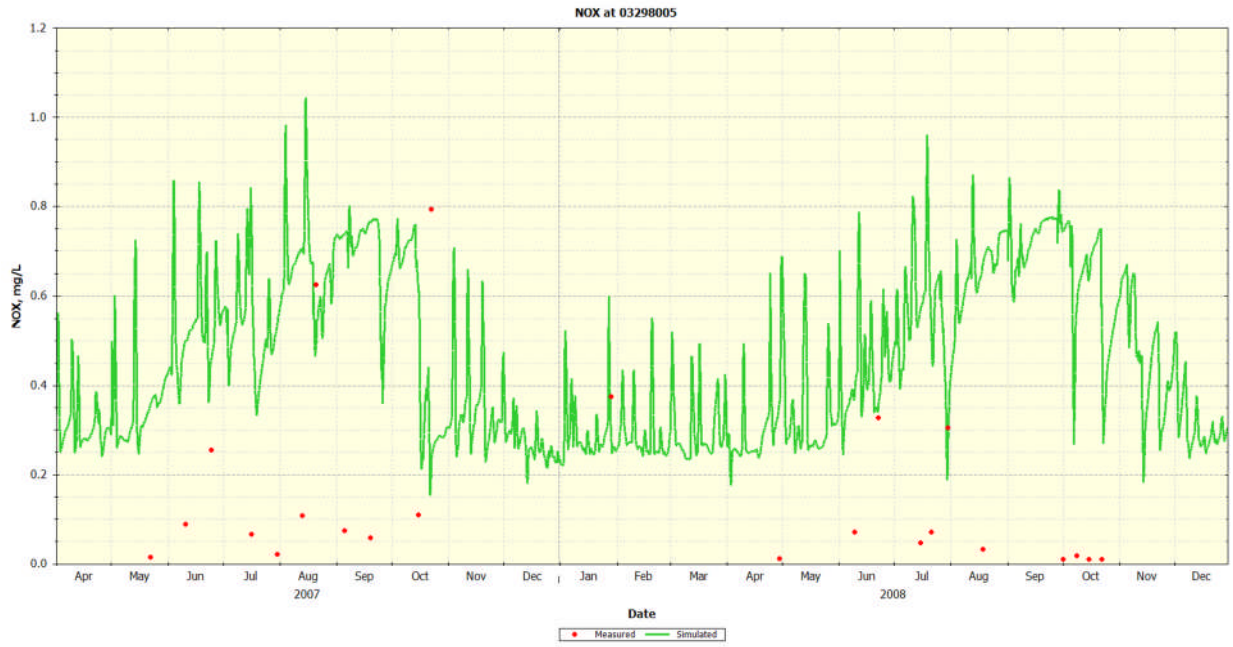


Figure A-145 Modeled vs. Observed NO_X (mg/L) at 03298005

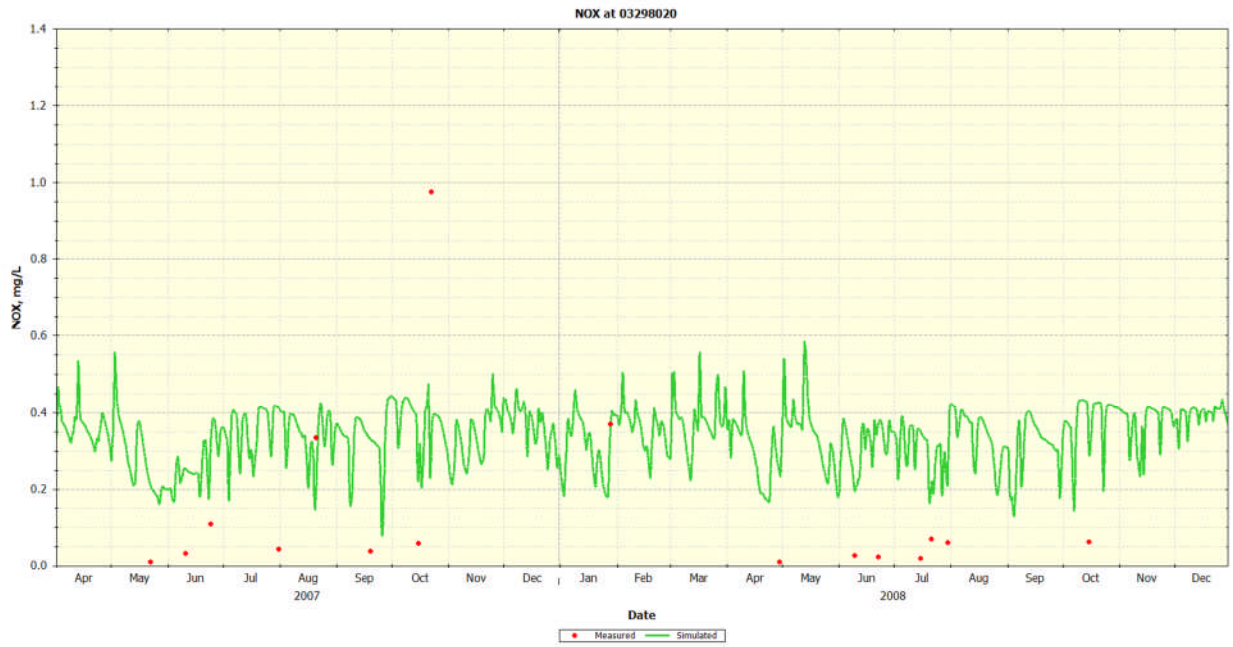


Figure A-146 Modeled vs. Observed NO_X (mg/L) at 03298020

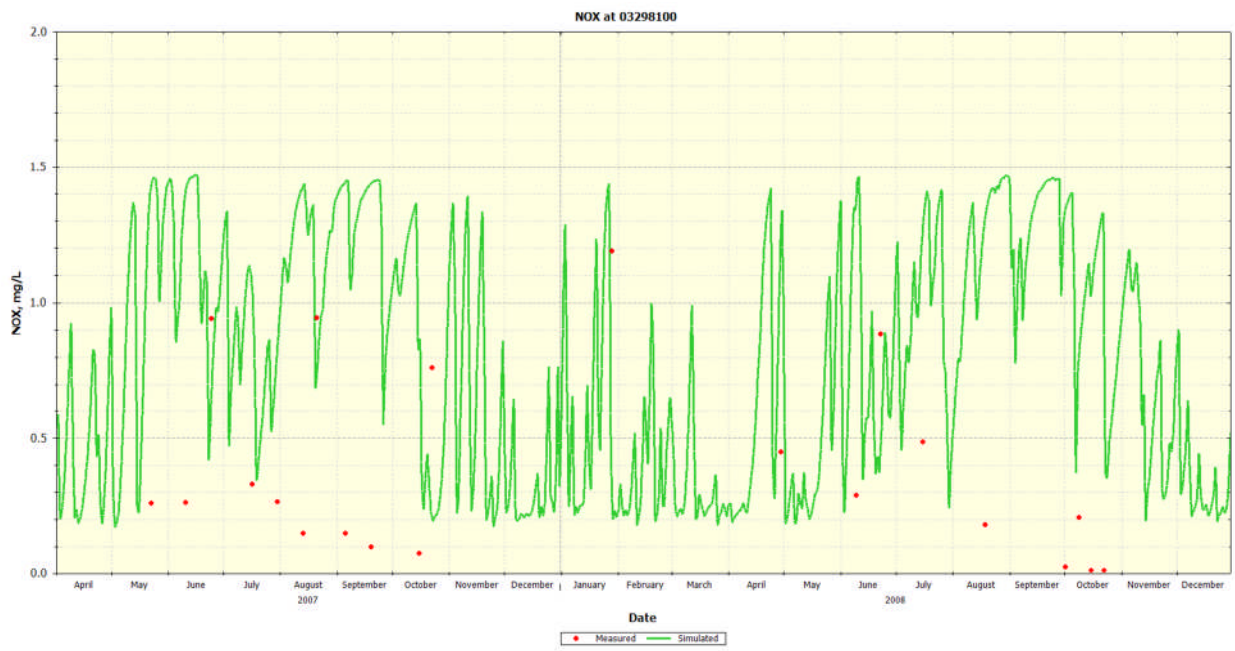


Figure A-147 Modeled vs. Observed NO_X (mg/L) at 03298100

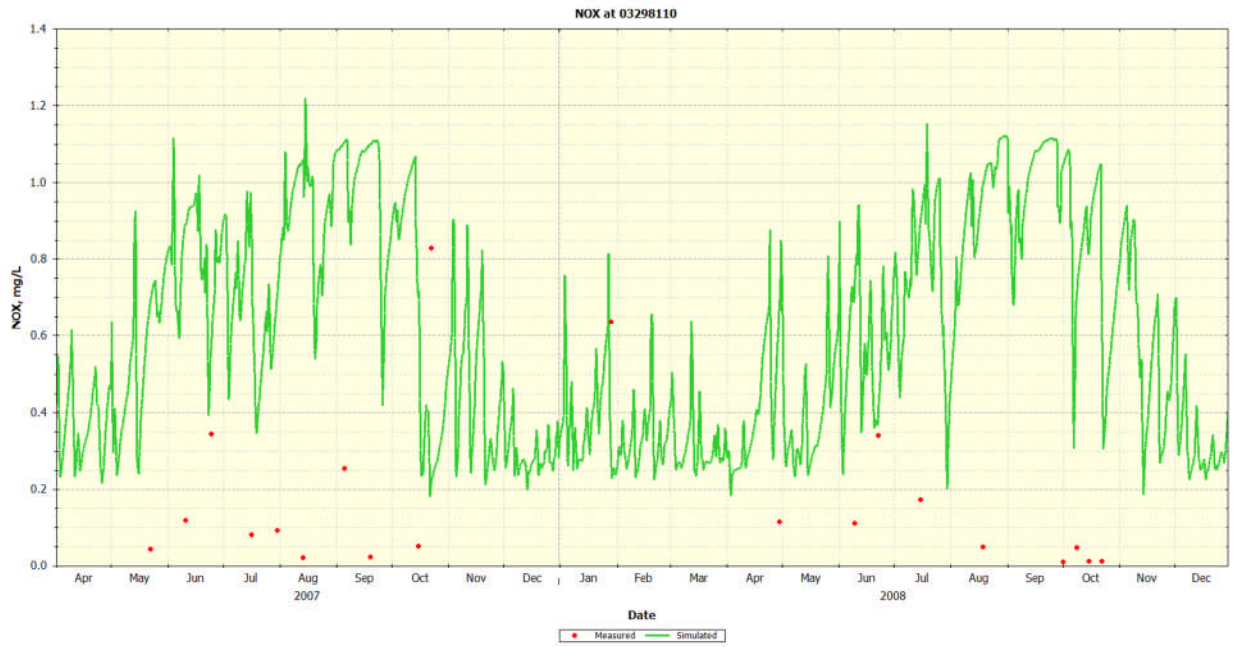


Figure A-148 Modeled vs. Observed NO_X (mg/L) at 03298110

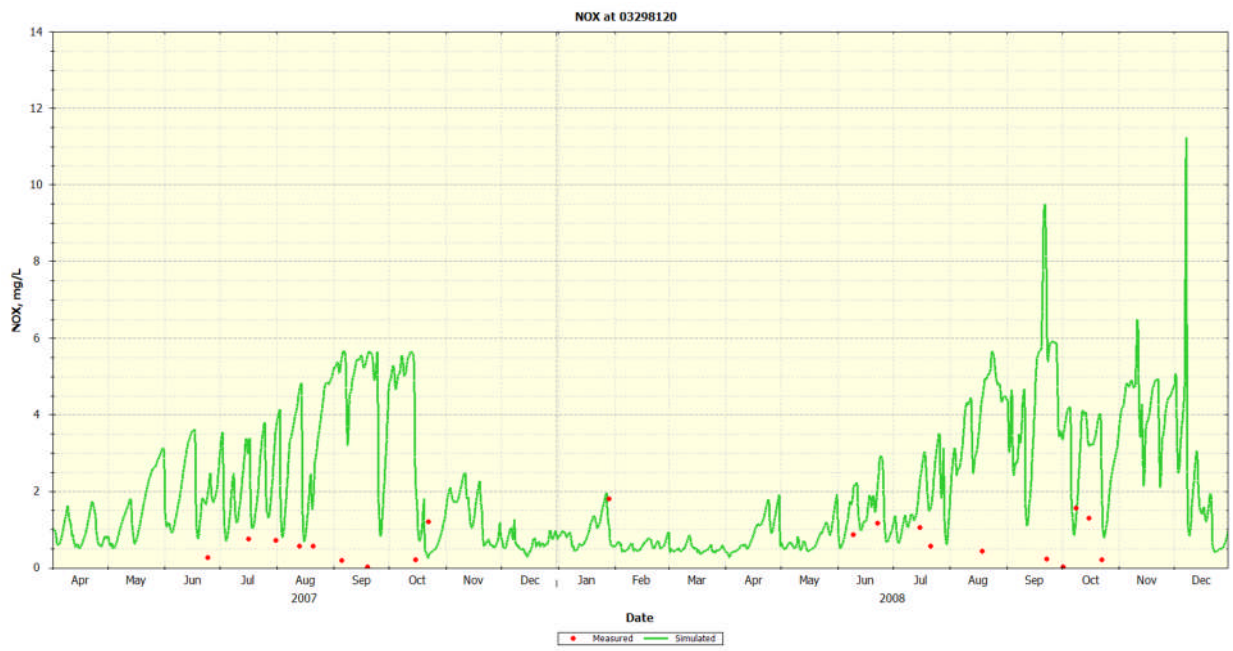


Figure A-149 Modeled vs. Observed NO_X (mg/L) at 03298120

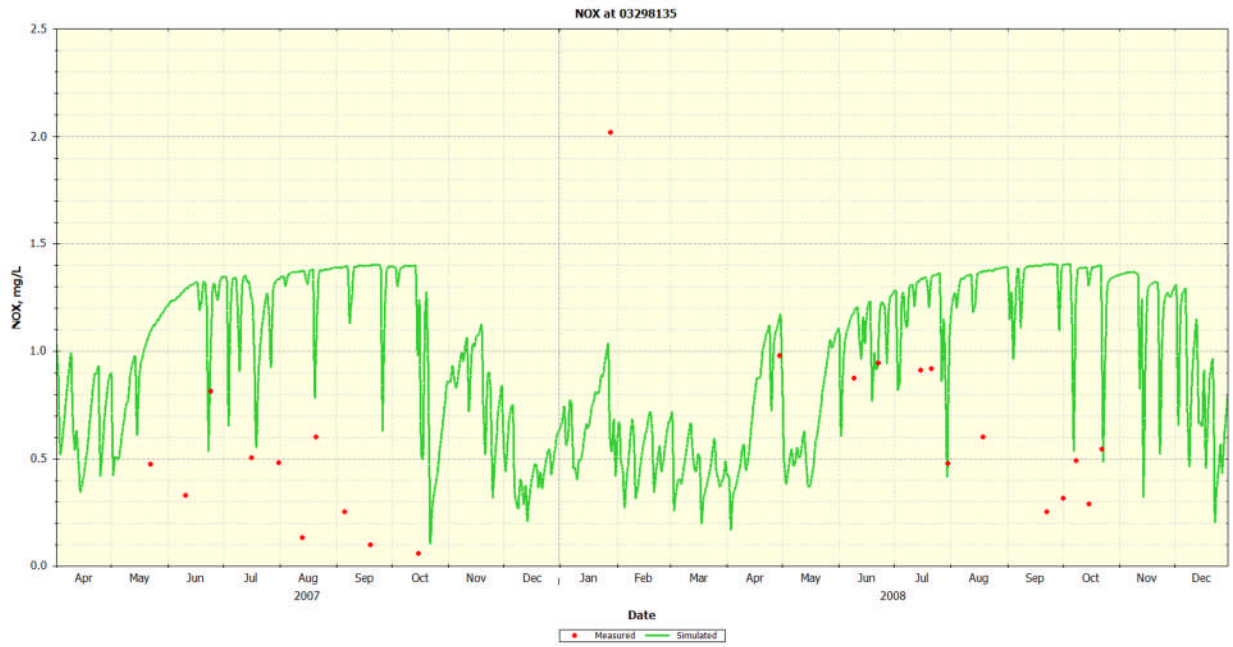


Figure A-150 Modeled vs. Observed NO_X (mg/L) at 03298135

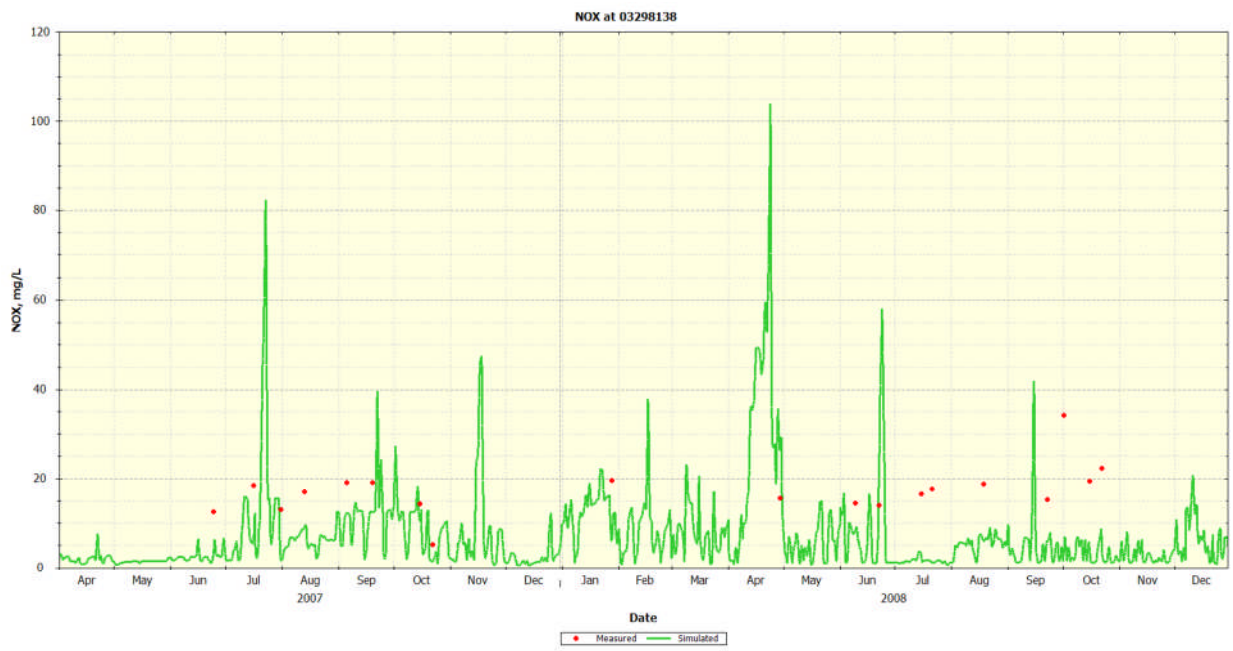


Figure A-151 Modeled vs. Observed NO_X (mg/L) at 03298138

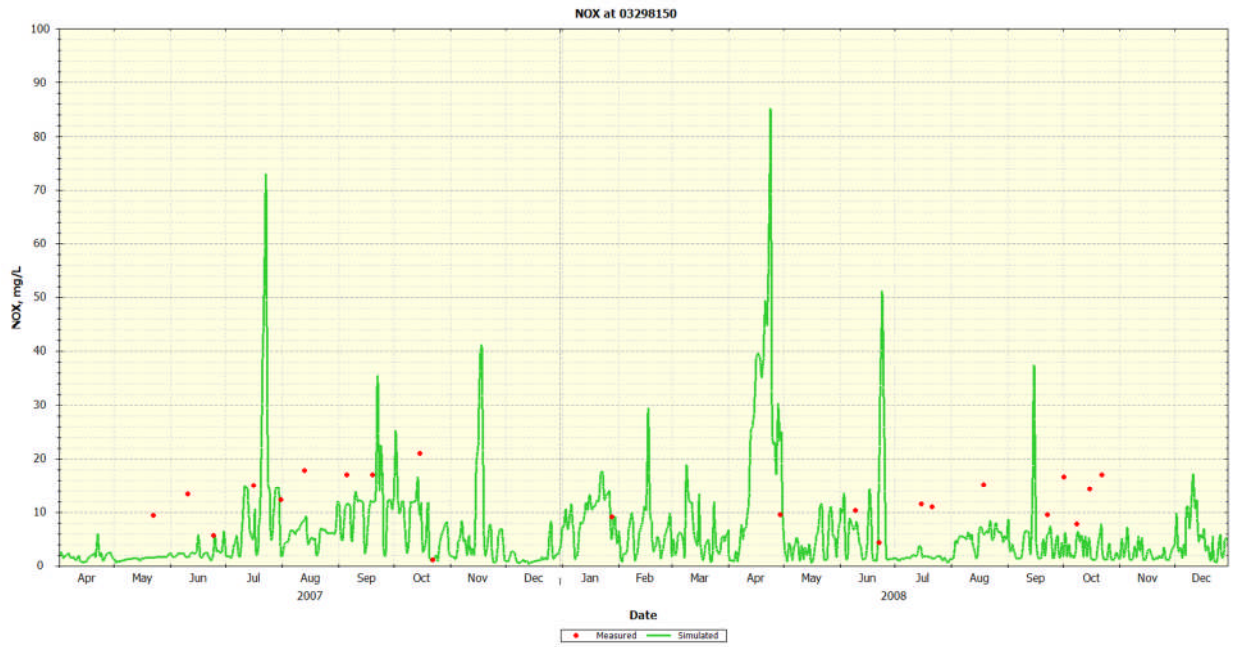


Figure A-152 Modeled vs. Observed NO_X (mg/L) at 03298150

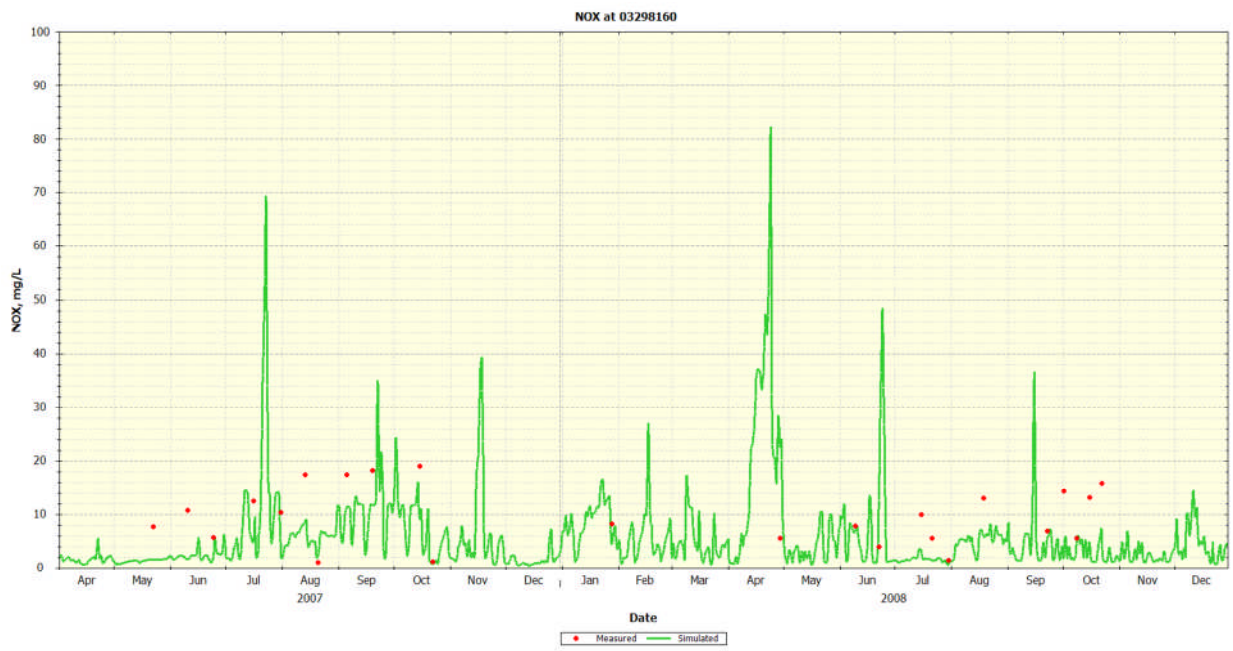


Figure A-153 Modeled vs. Observed NO_X (mg/L) at 03298160

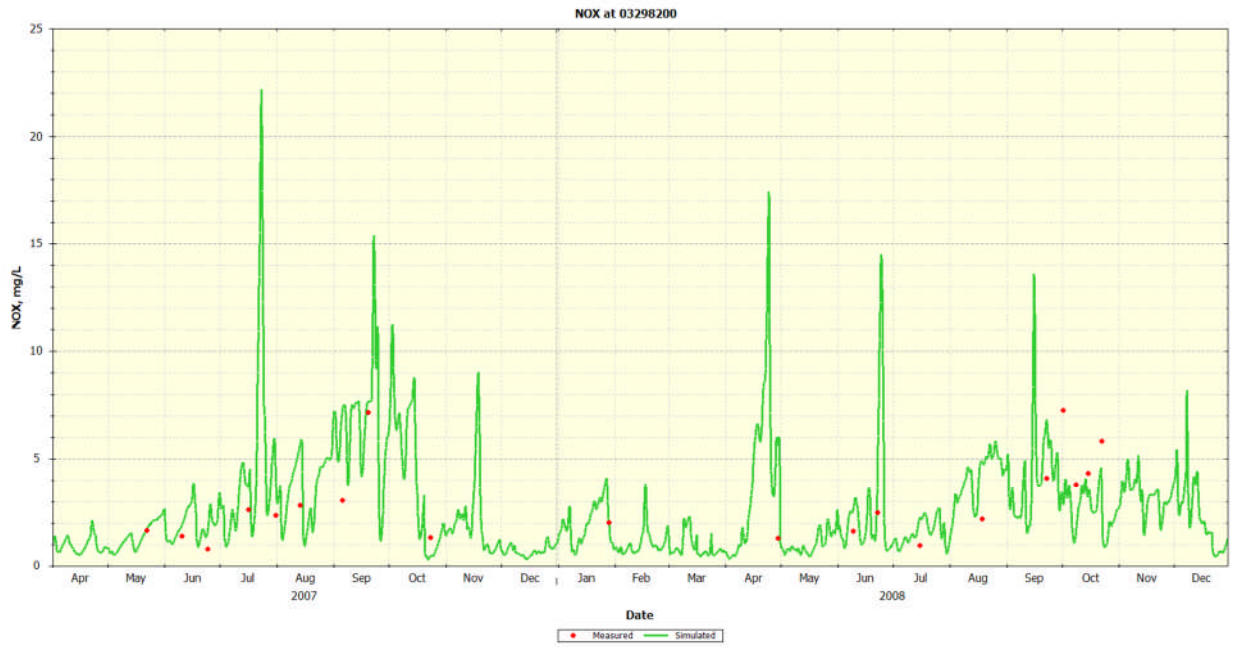


Figure A-154 Modeled vs. Observed NO_X (mg/L) at 03298200

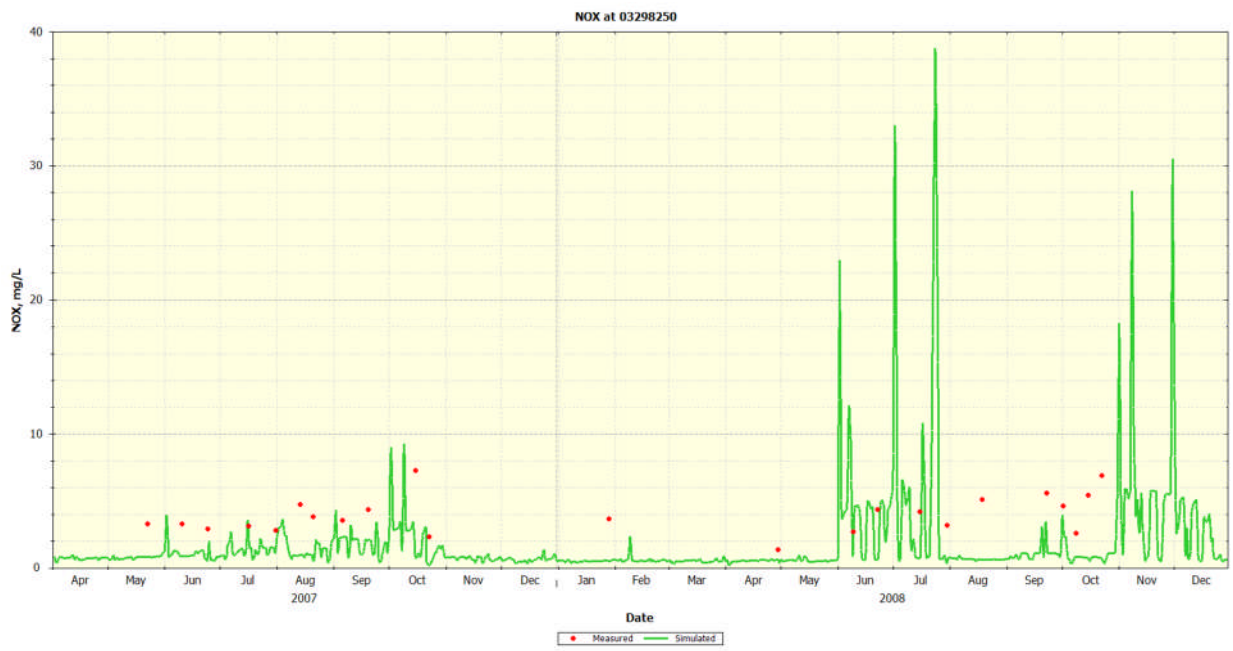


Figure A-155 Modeled vs. Observed NO_X (mg/L) at 03298250

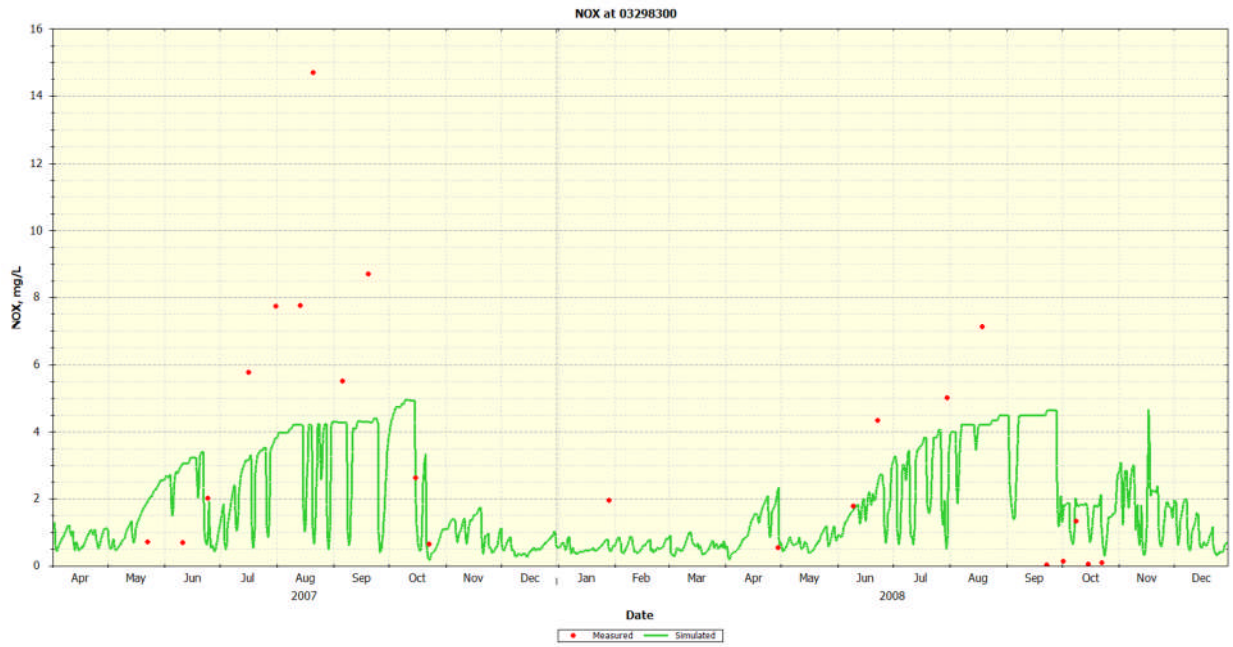


Figure A-156 Modeled vs. Observed NO_X (mg/L) at 03298300

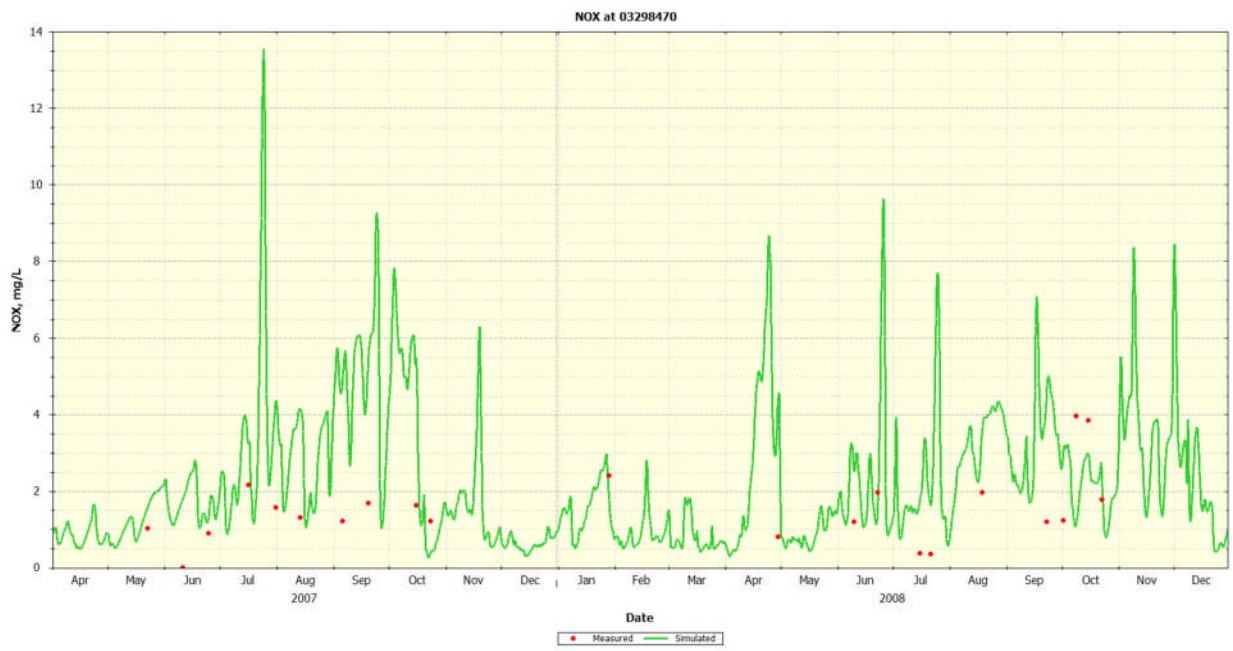


Figure A-157 Modeled vs. Observed NO_X (mg/L) at 03298470

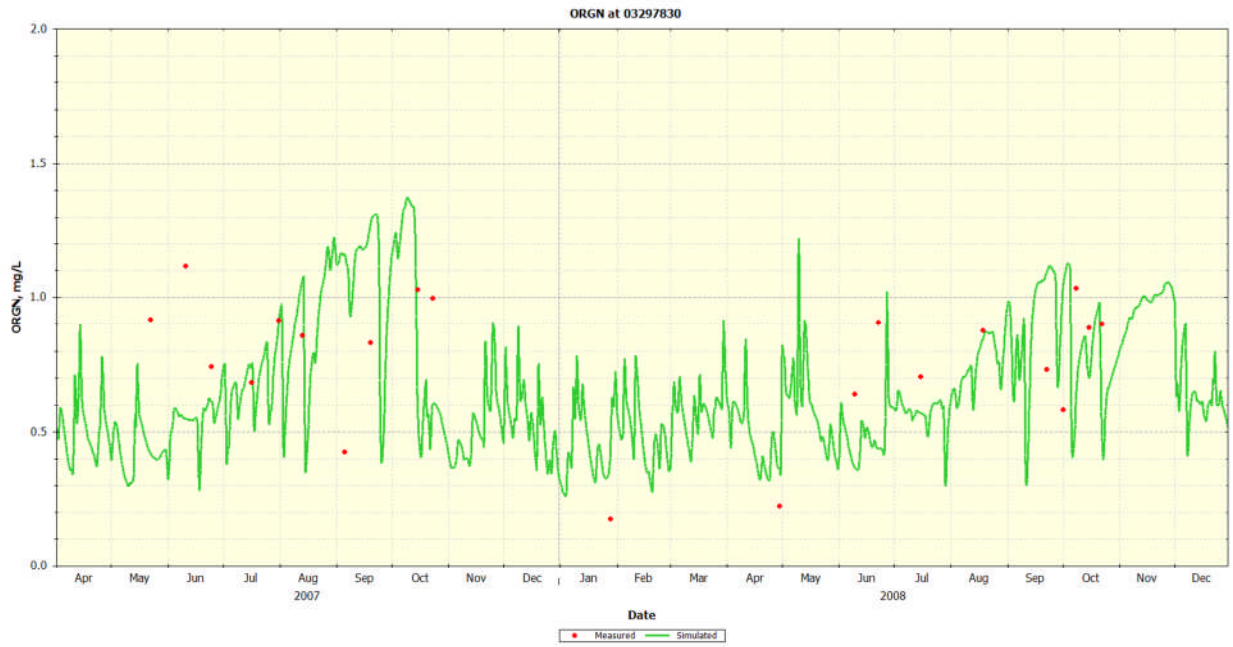


Figure A-158 Modeled vs. Observed ORGN (mg/L) at 03297830

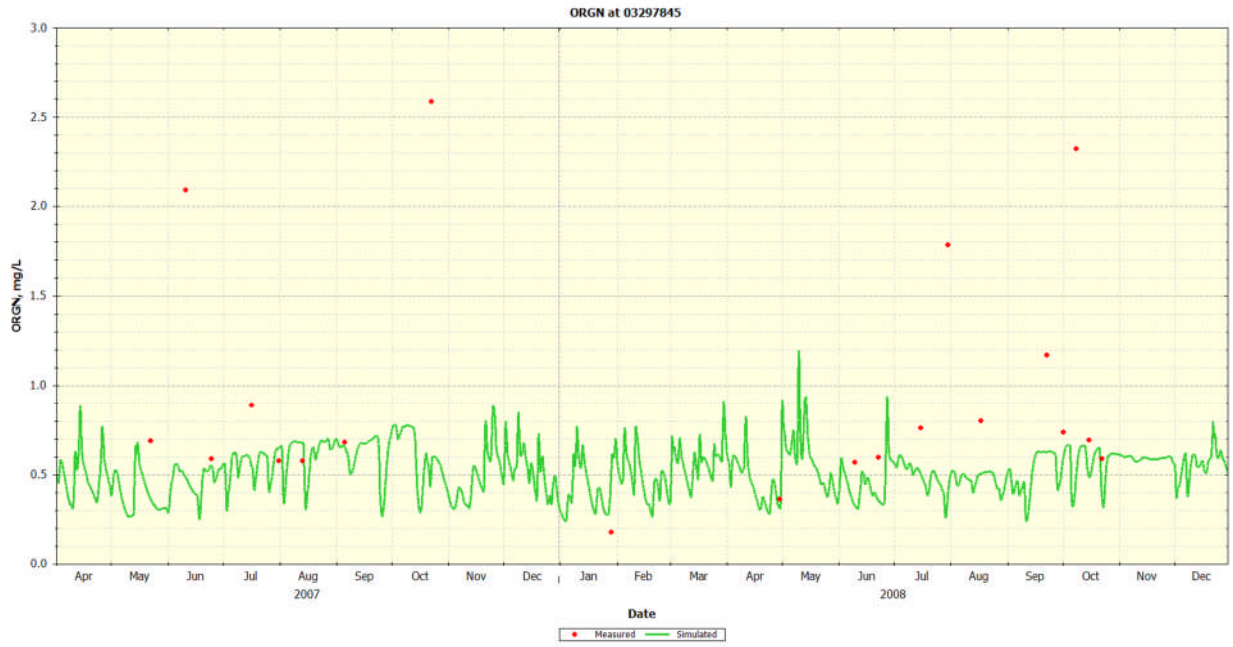


Figure A-159 Modeled vs. Observed ORGN (mg/L) at 03297845

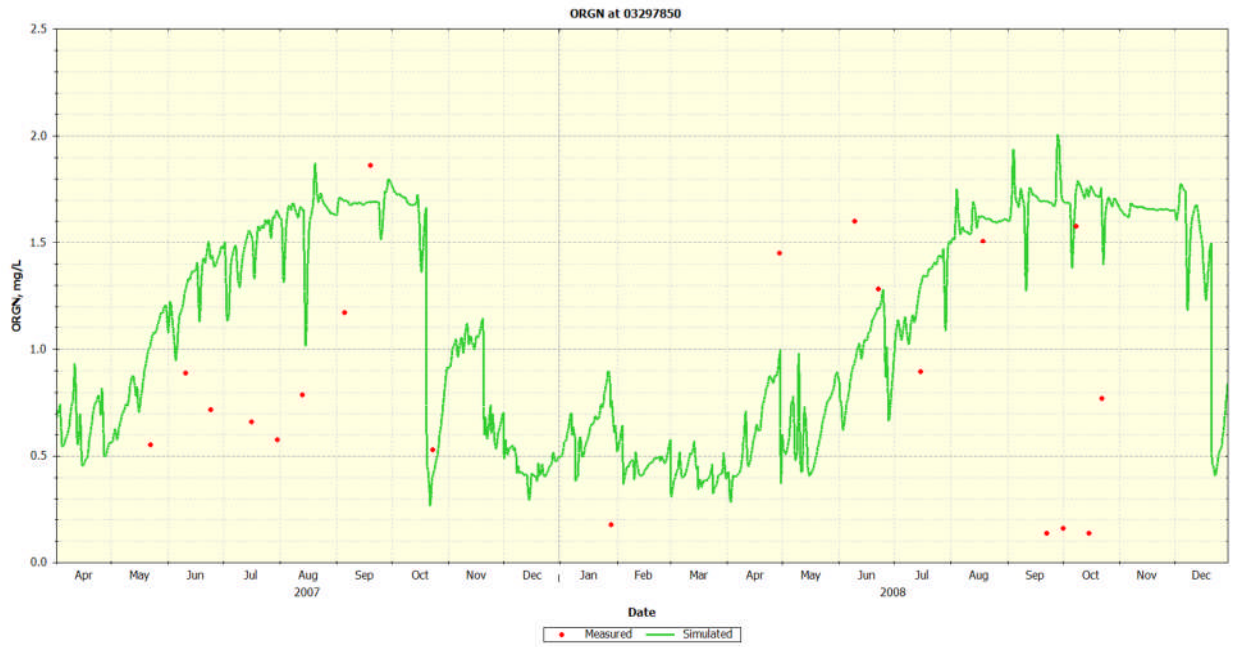


Figure A-160 Modeled vs. Observed ORGN (mg/L) at 03297850

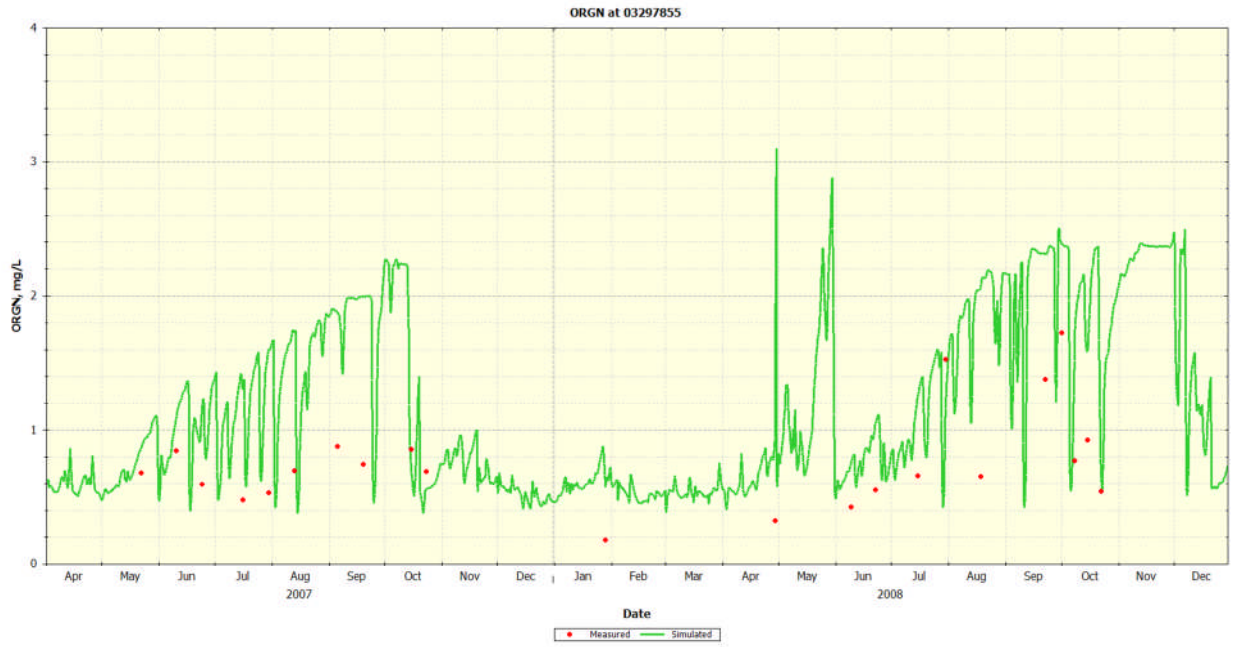


Figure A-161 Modeled vs. Observed ORGN (mg/L) at 03297855

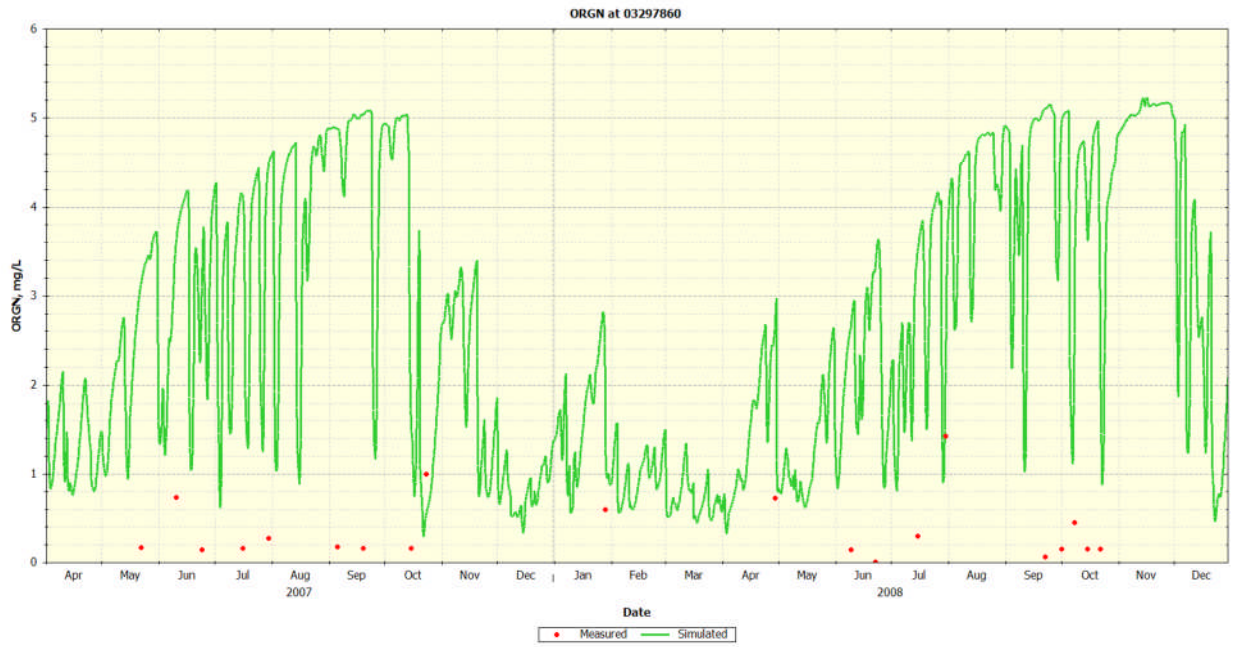


Figure A-162 Modeled vs. Observed ORGN (mg/L) at 03297860

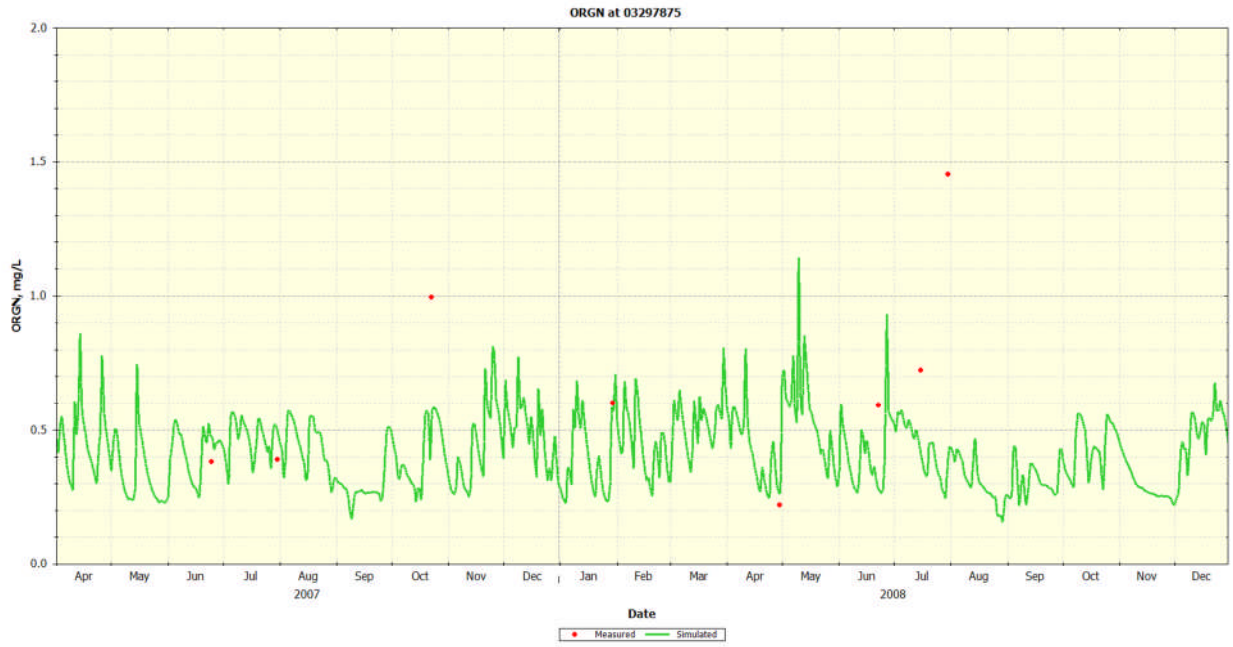


Figure A-163 Modeled vs. Observed ORGN (mg/L) at 03297875

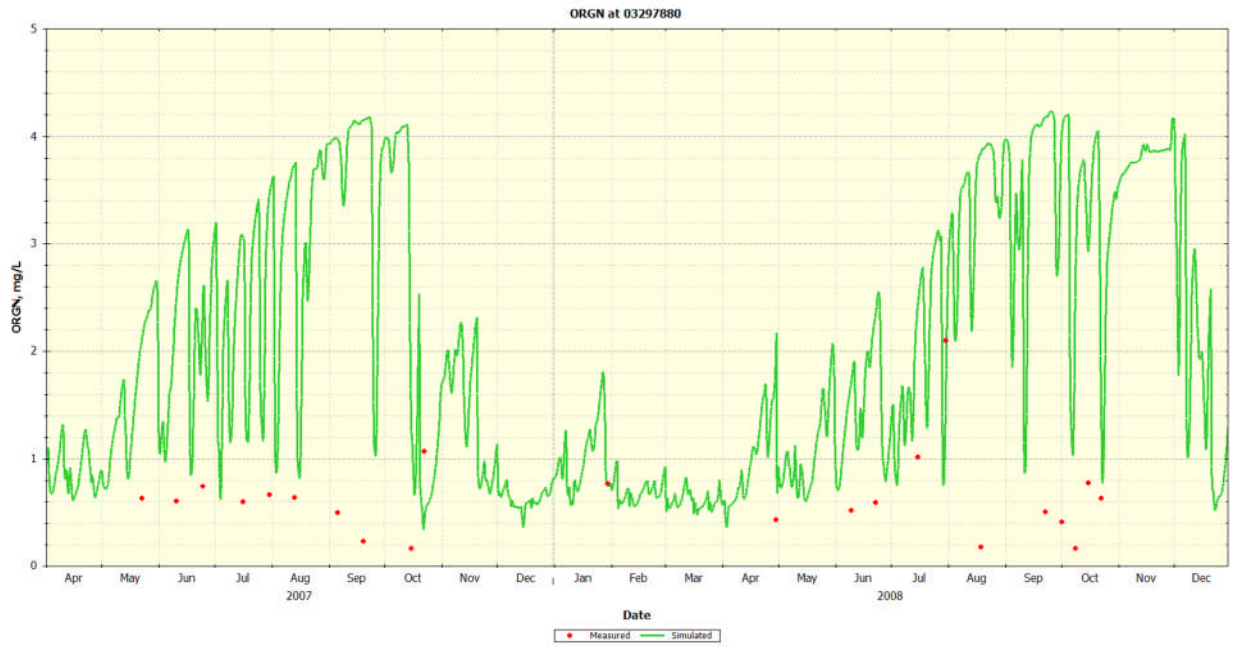


Figure A-164 Modeled vs. Observed ORGN (mg/L) at 03297880

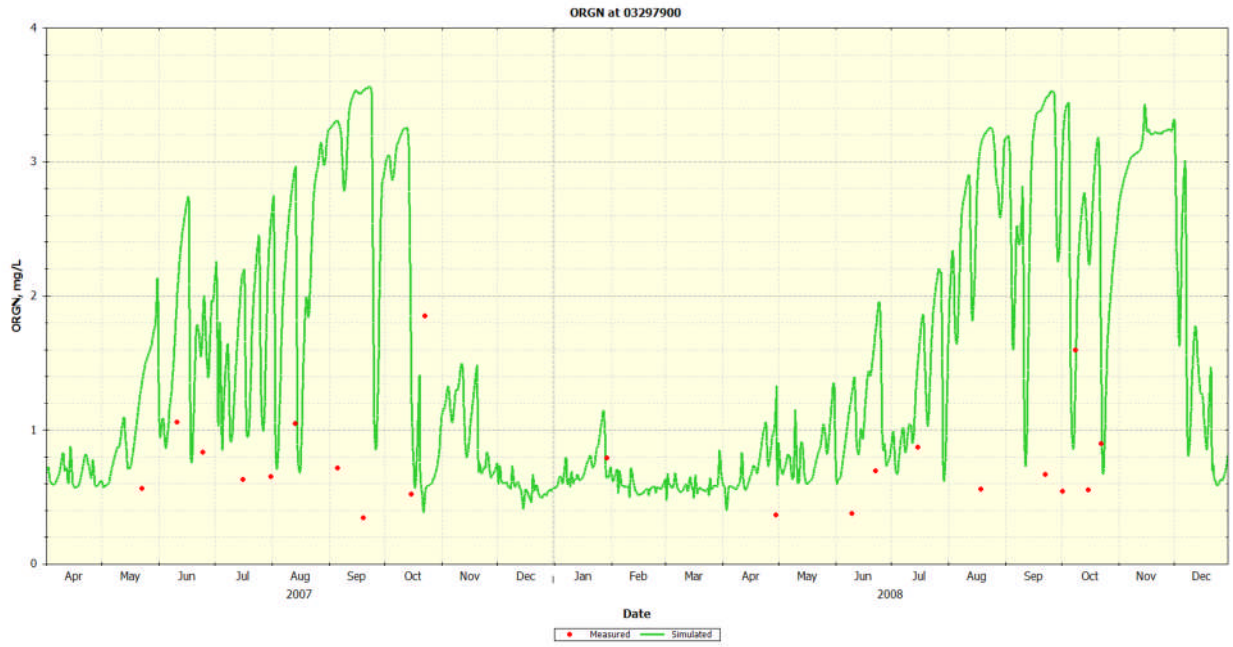


Figure A-165 Modeled vs. Observed ORGN (mg/L) at 03297900

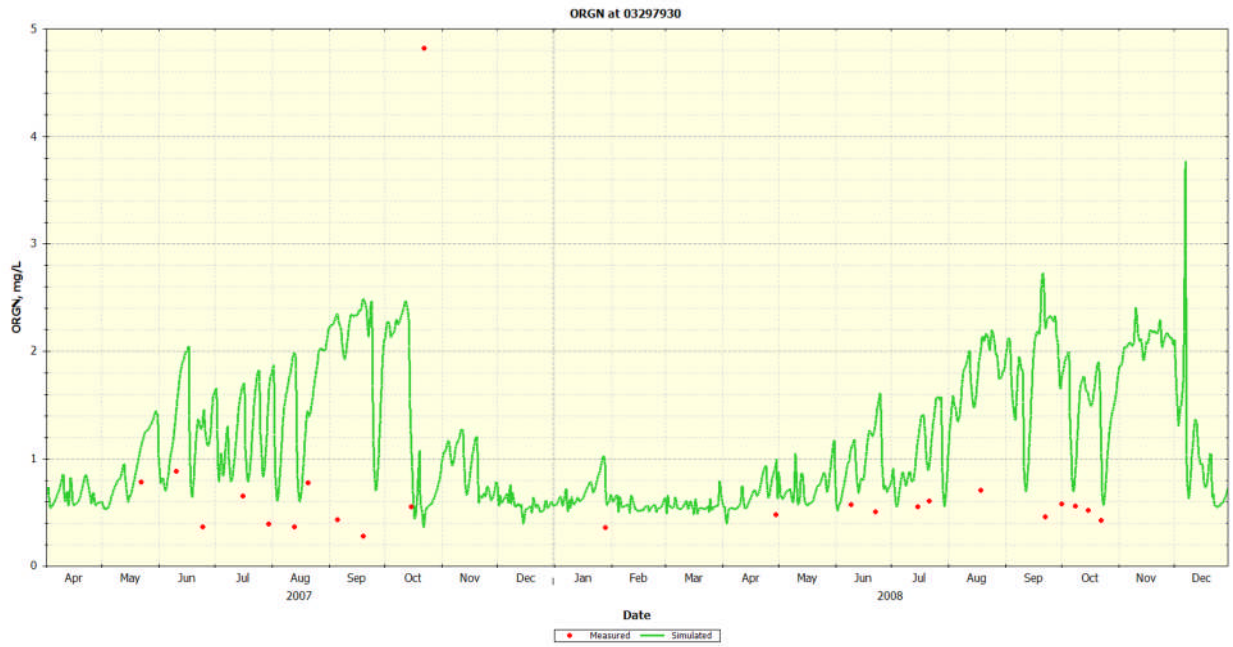


Figure A-166 Modeled vs. Observed ORGN (mg/L) at 03297930

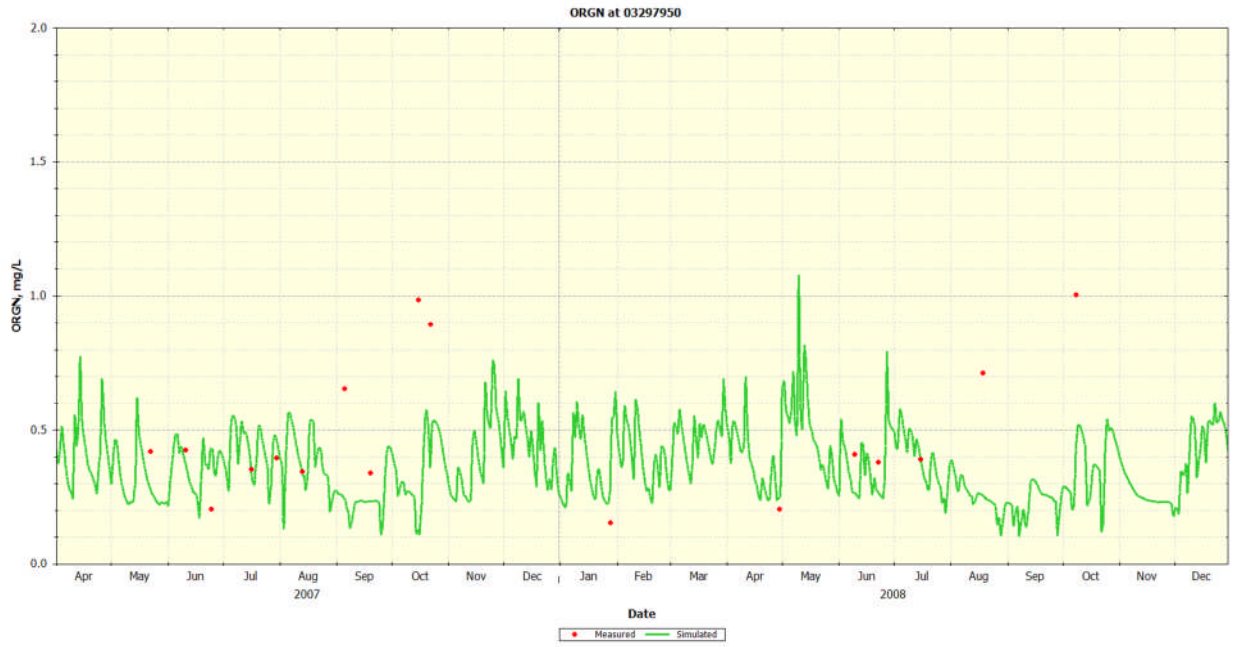


Figure A-167 Modeled vs. Observed ORGN (mg/L) at 03297950

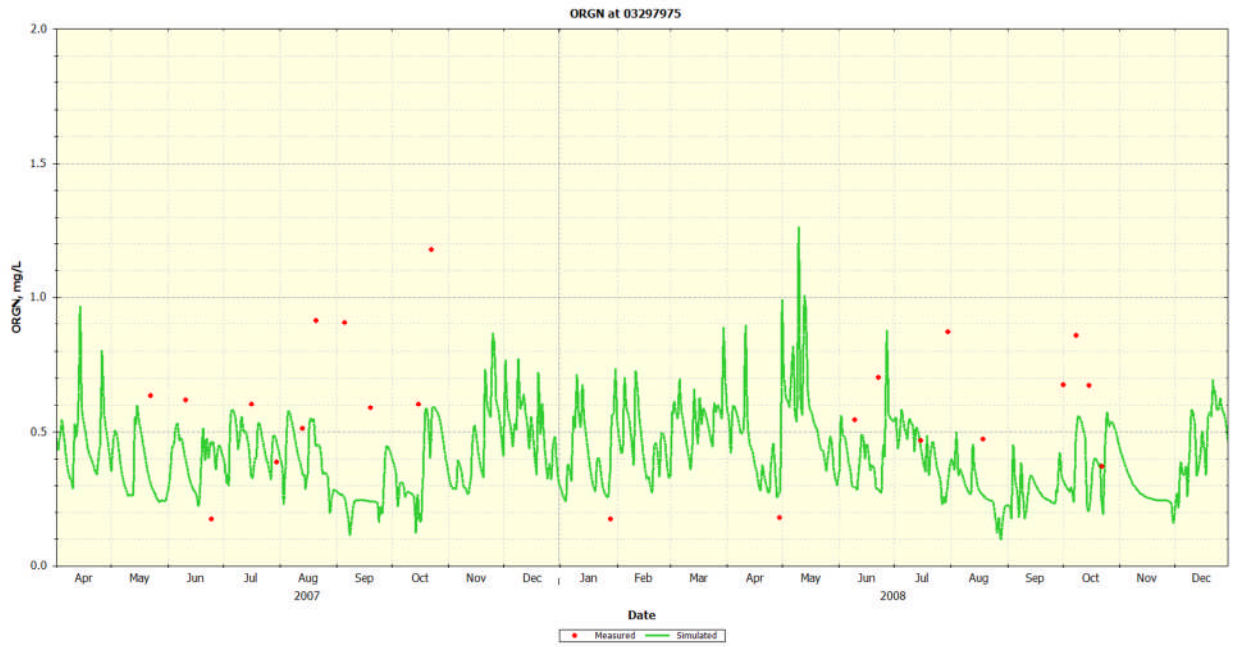


Figure A-168 Modeled vs. Observed ORGN (mg/L) at 03297975

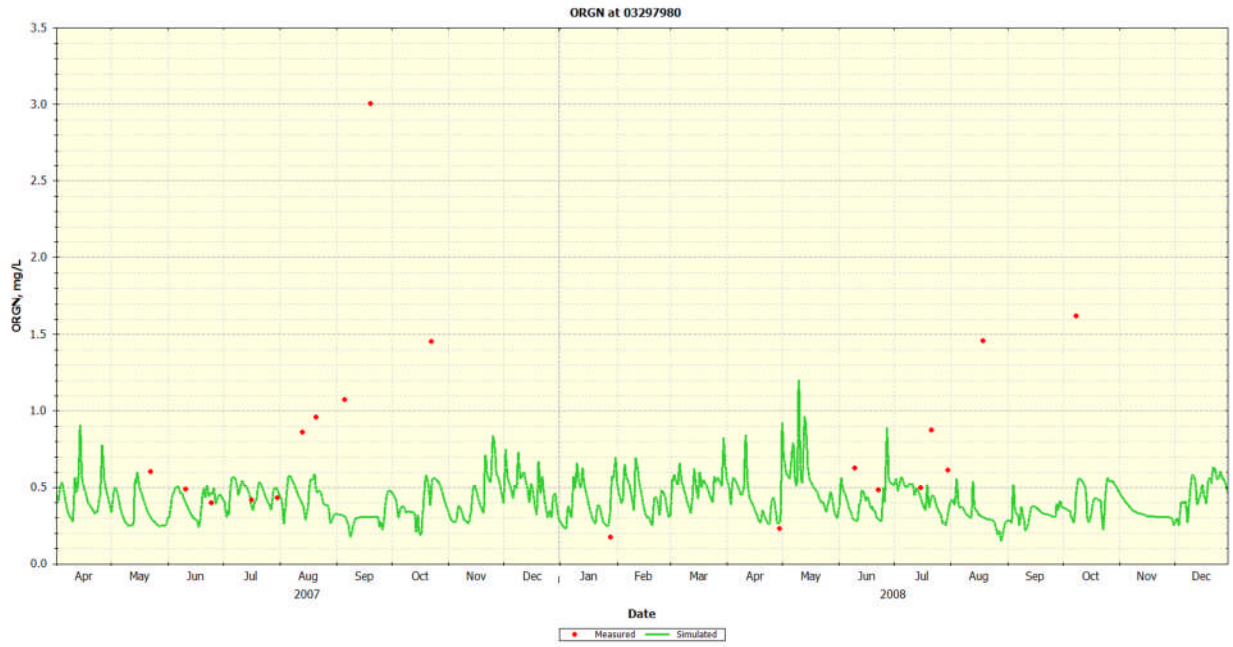


Figure A-169 Modeled vs. Observed ORGN (mg/L) at 03297980

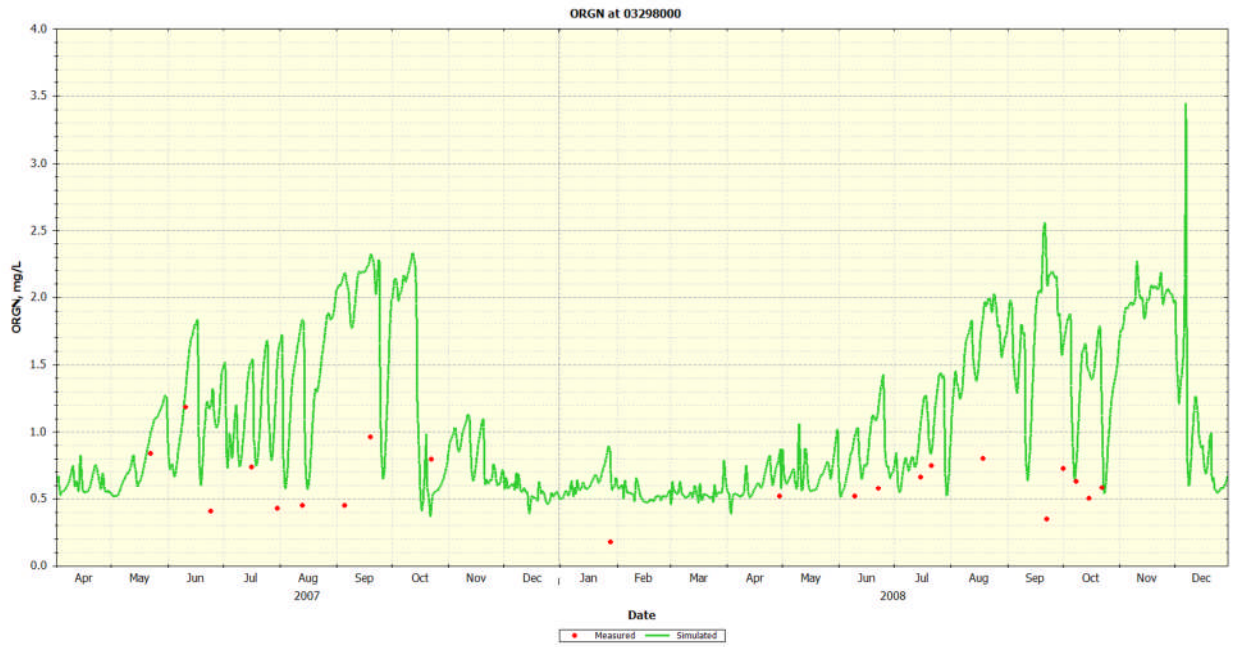


Figure A-170 Modeled vs. Observed ORGN (mg/L) at 03298000

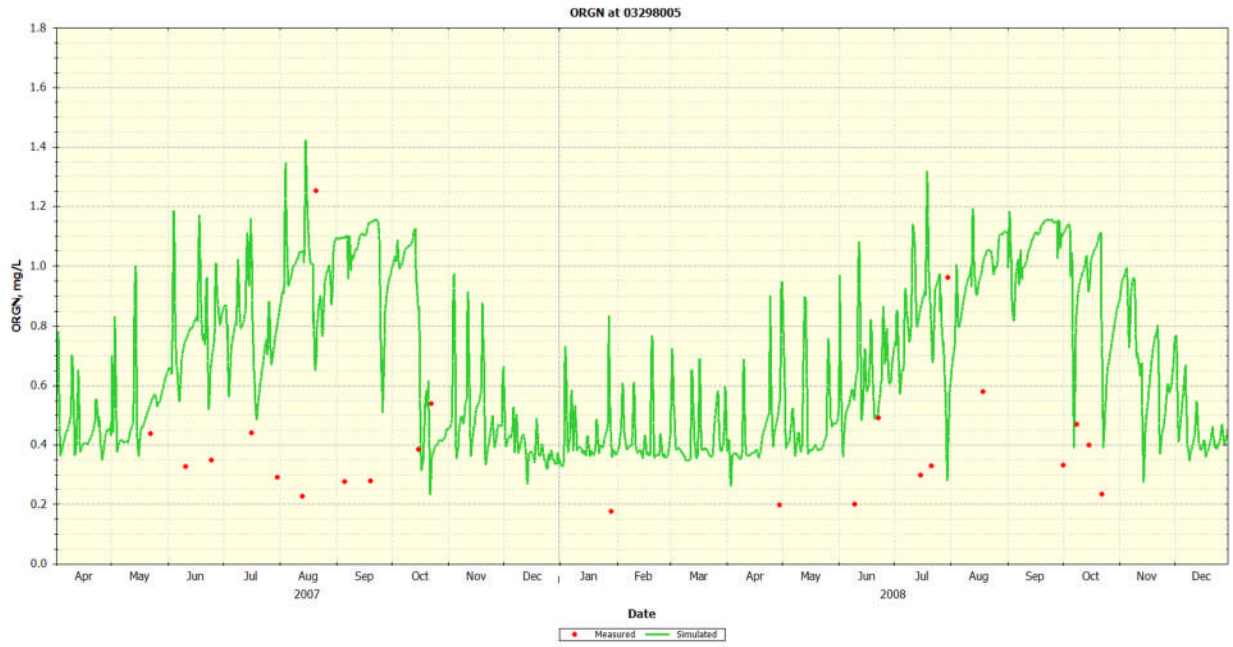


Figure A-171 Modeled vs. Observed ORGN (mg/L) at 03298005

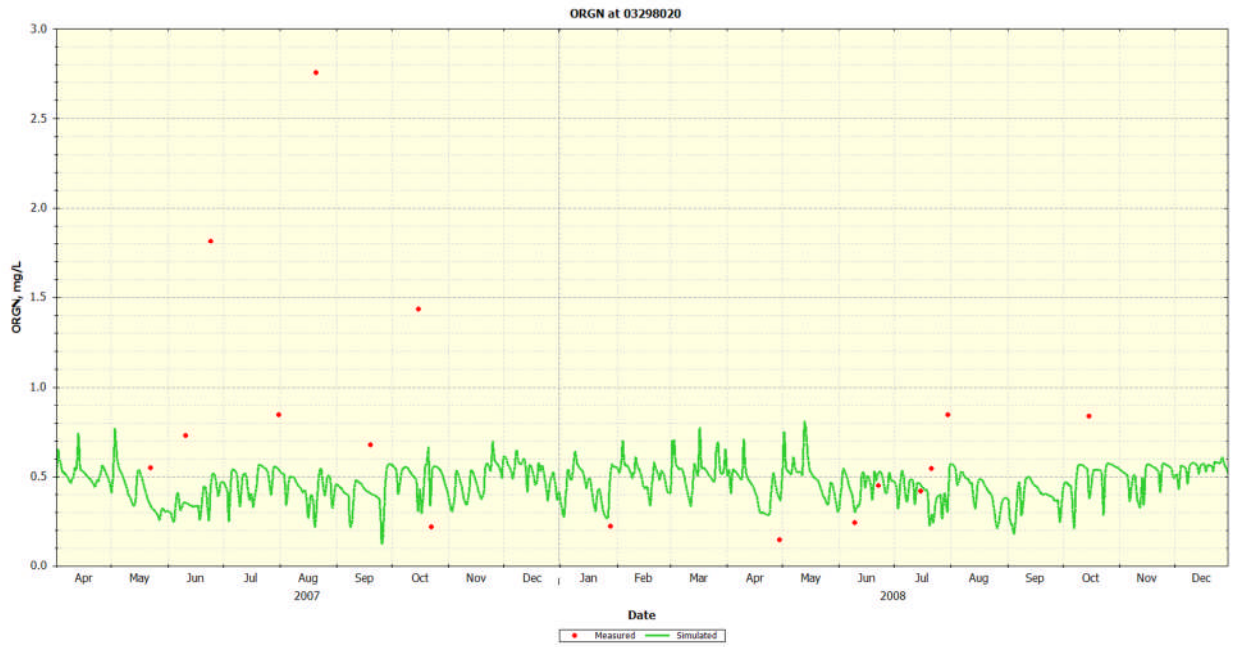


Figure A-172 Modeled vs. Observed ORGN (mg/L) at 03298020

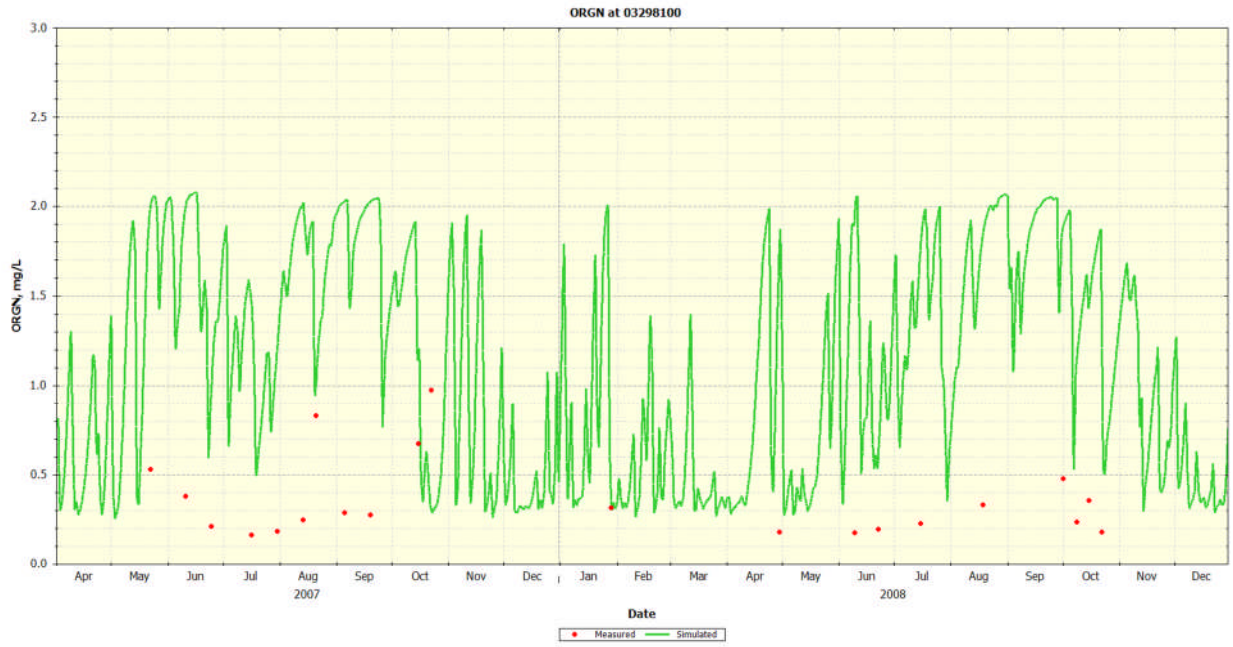


Figure A-173 Modeled vs. Observed ORGN (mg/L) at 03298100

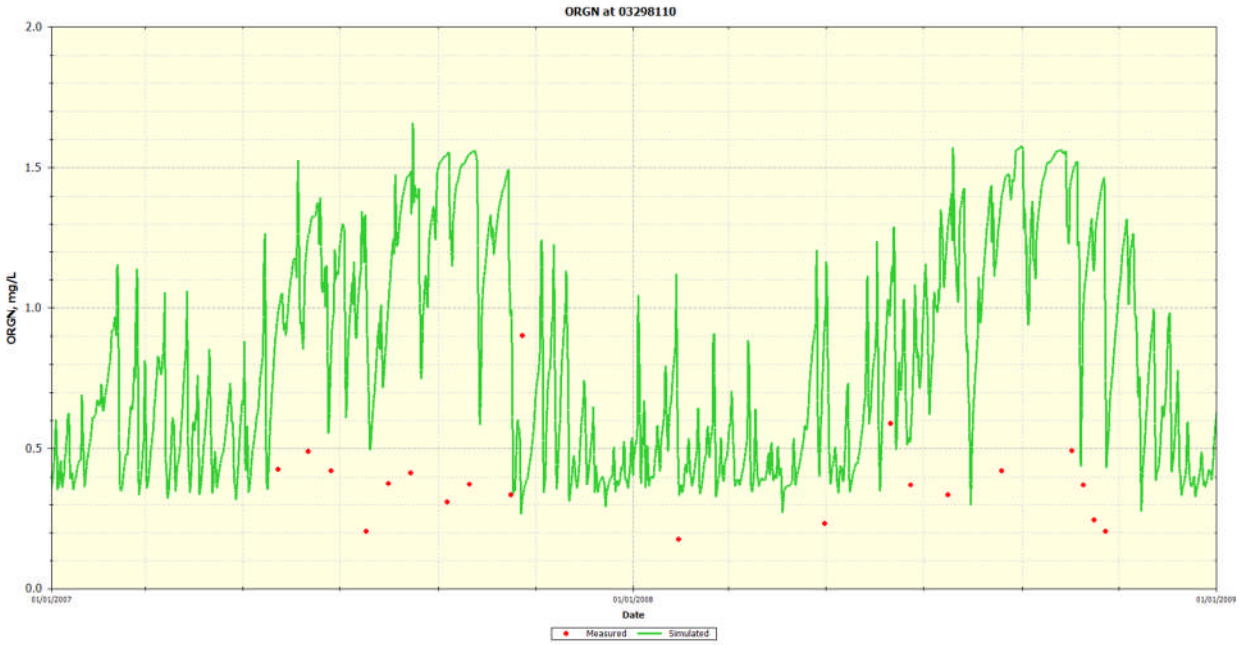


Figure A-174 Modeled vs. Observed ORGN (mg/L) at 03298110

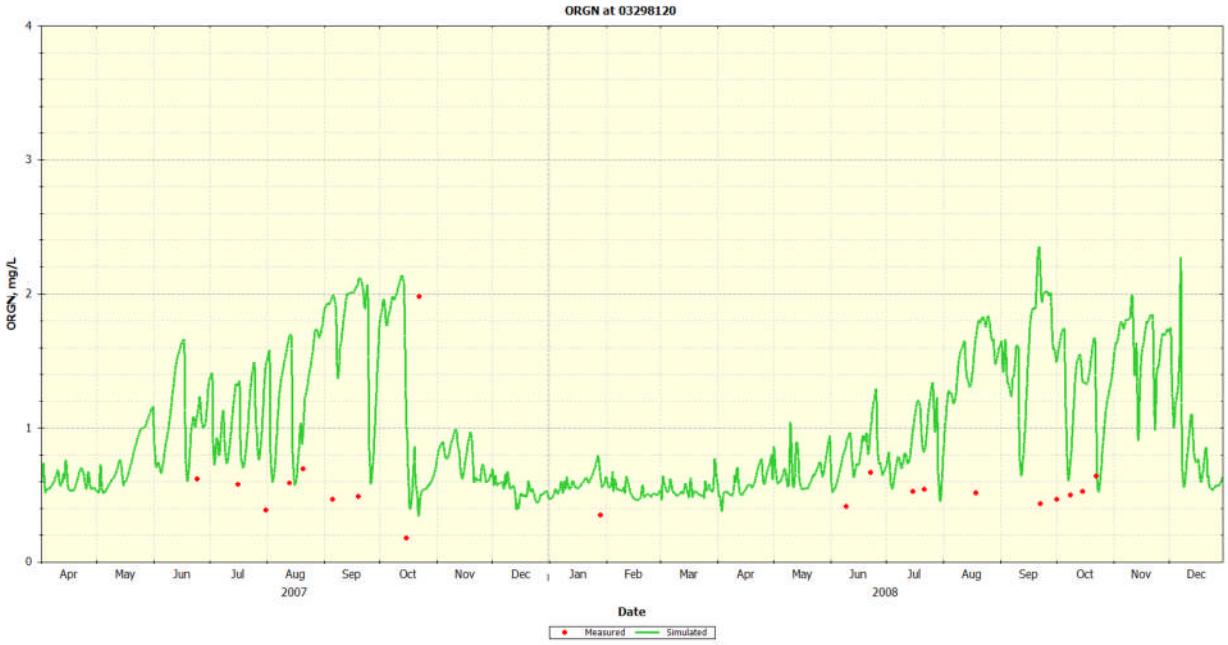


Figure A-175 Modeled vs. Observed ORGN (mg/L) at 03298120

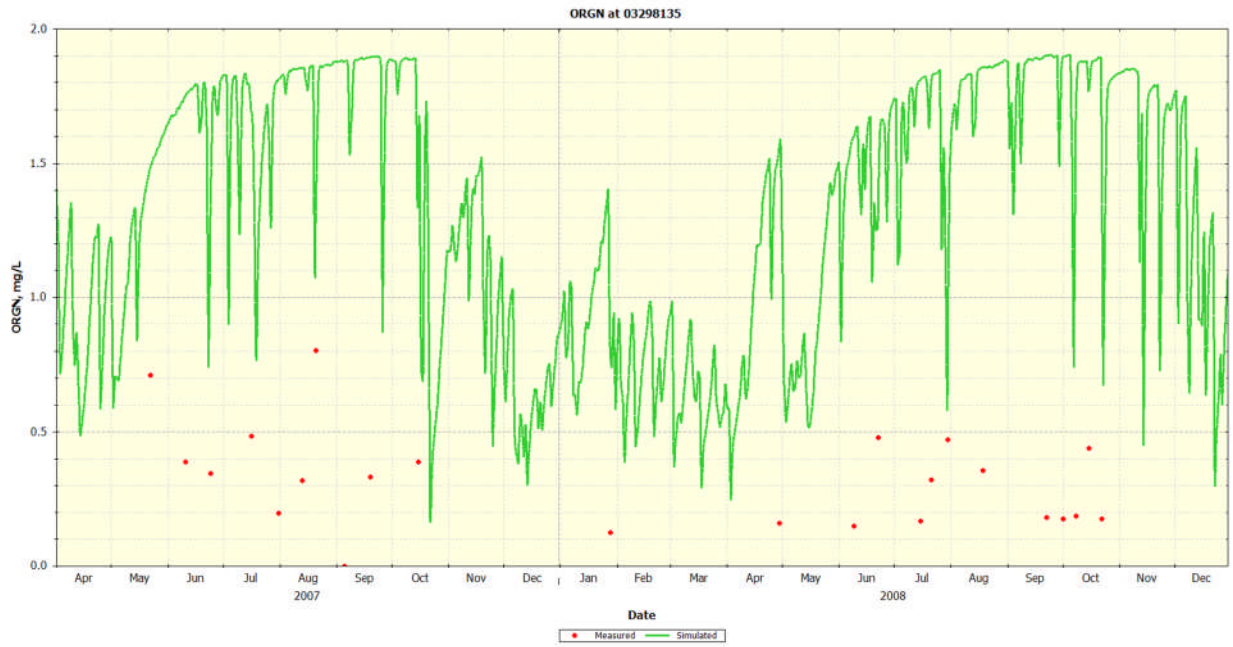


Figure A-176 Modeled vs. Observed ORGN (mg/L) at 03298135

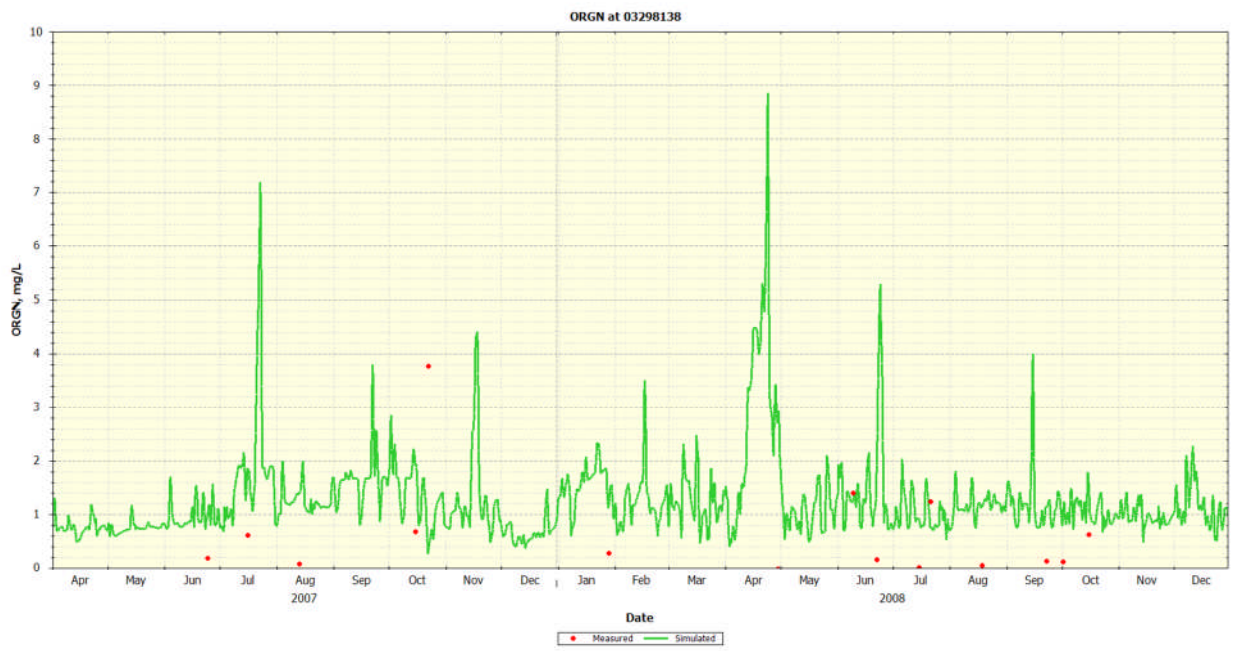


Figure A-177 Modeled vs. Observed ORGN (mg/L) at 03298138

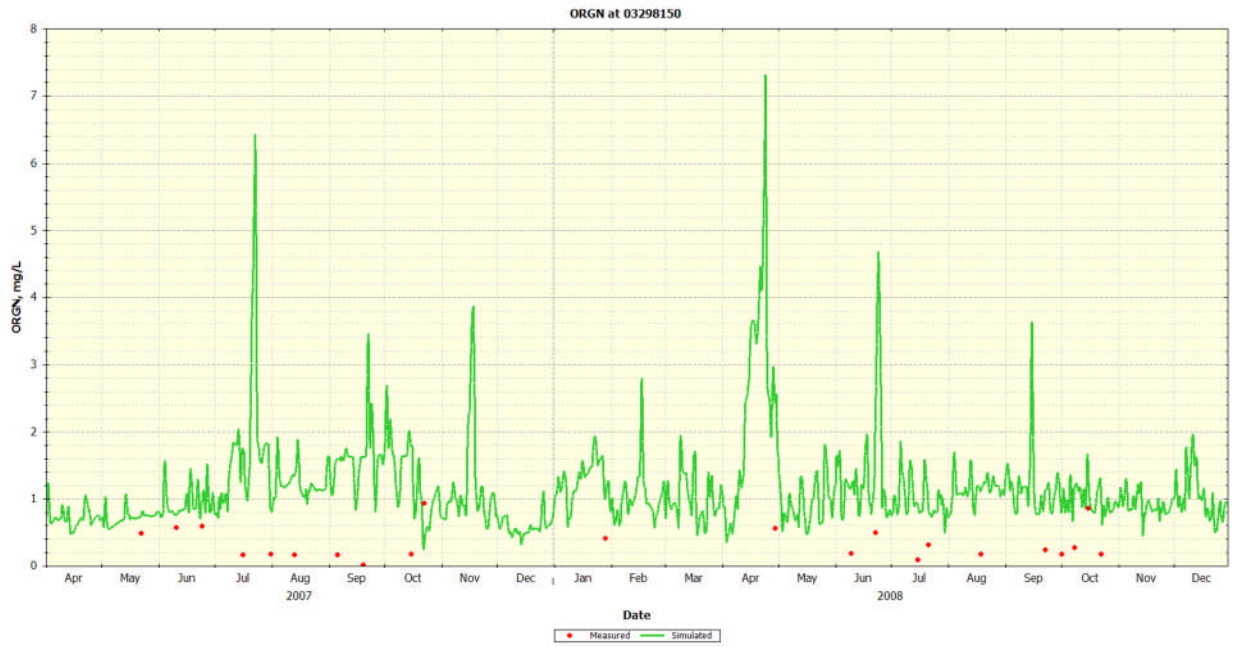


Figure A-178 Modeled vs. Observed ORGN (mg/L) at 03298150

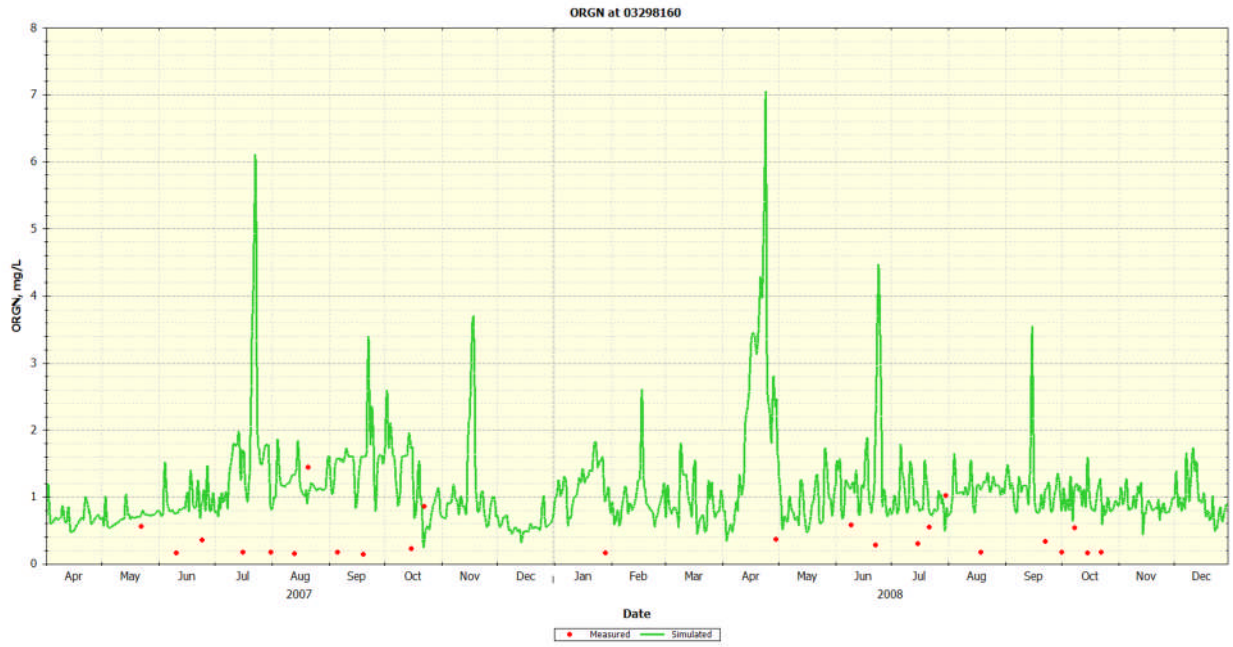


Figure A-179 Modeled vs. Observed ORGN (mg/L) at 03298160

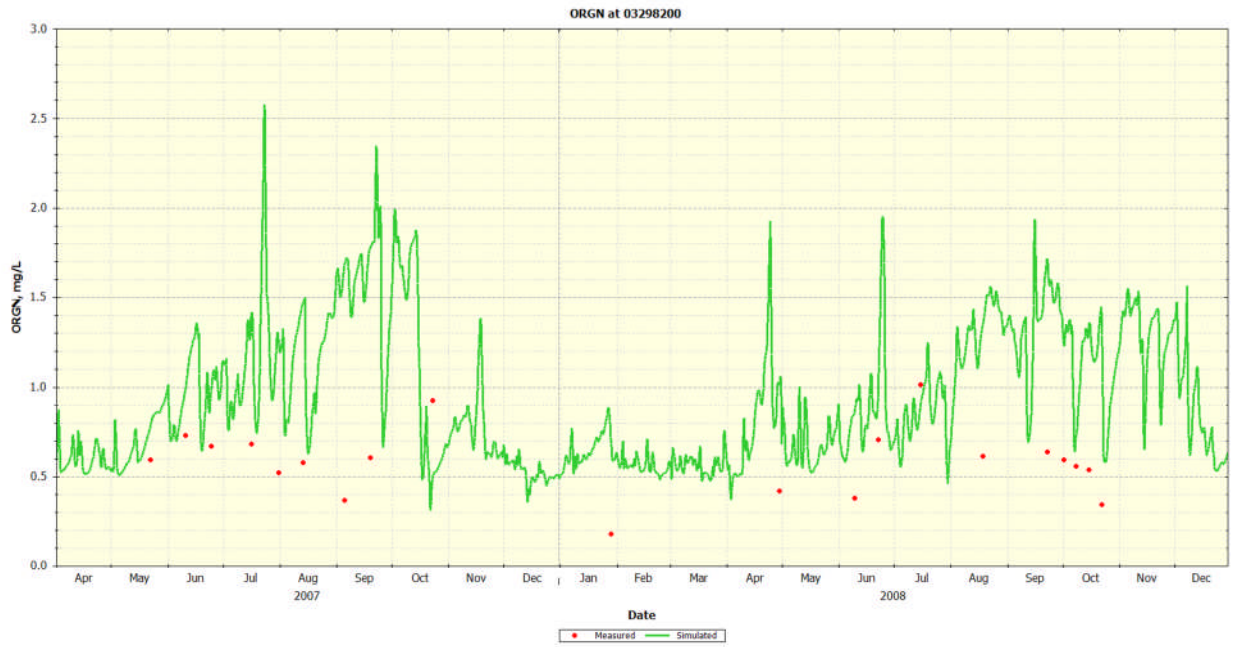


Figure A-180 Modeled vs. Observed ORGN (mg/L) at 03298200

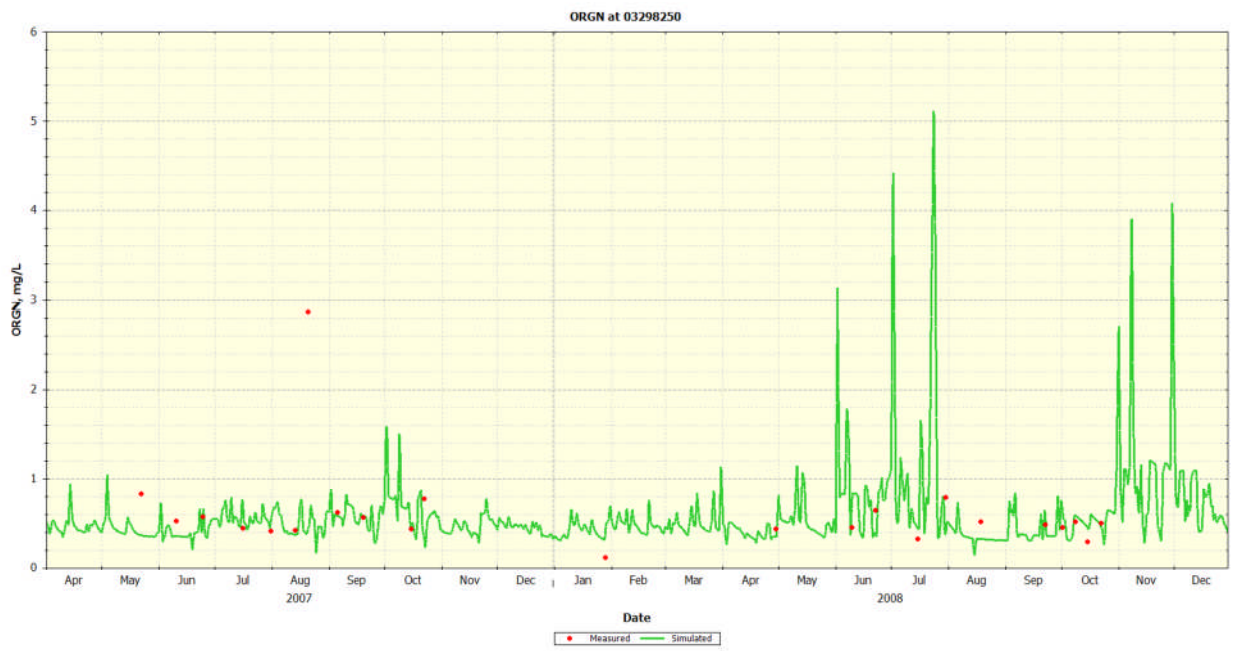


Figure A-181 Modeled vs. Observed ORGN (mg/L) at 03298250

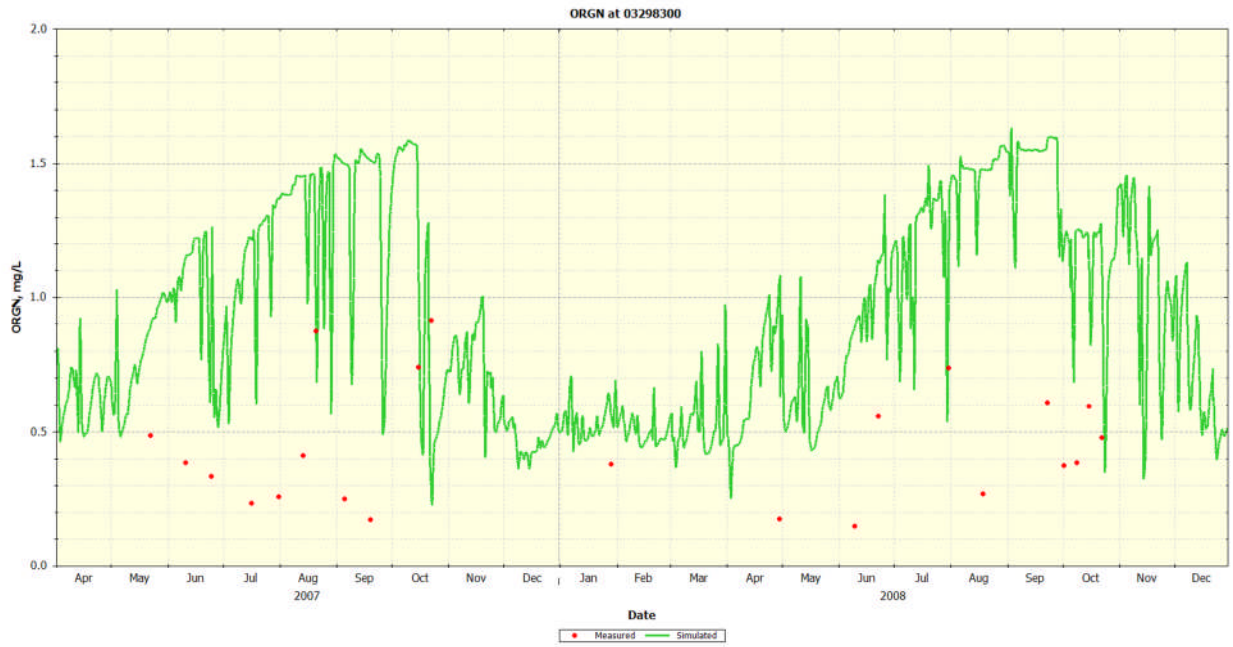


Figure A-182 Modeled vs. Observed ORGN (mg/L) at 03298300

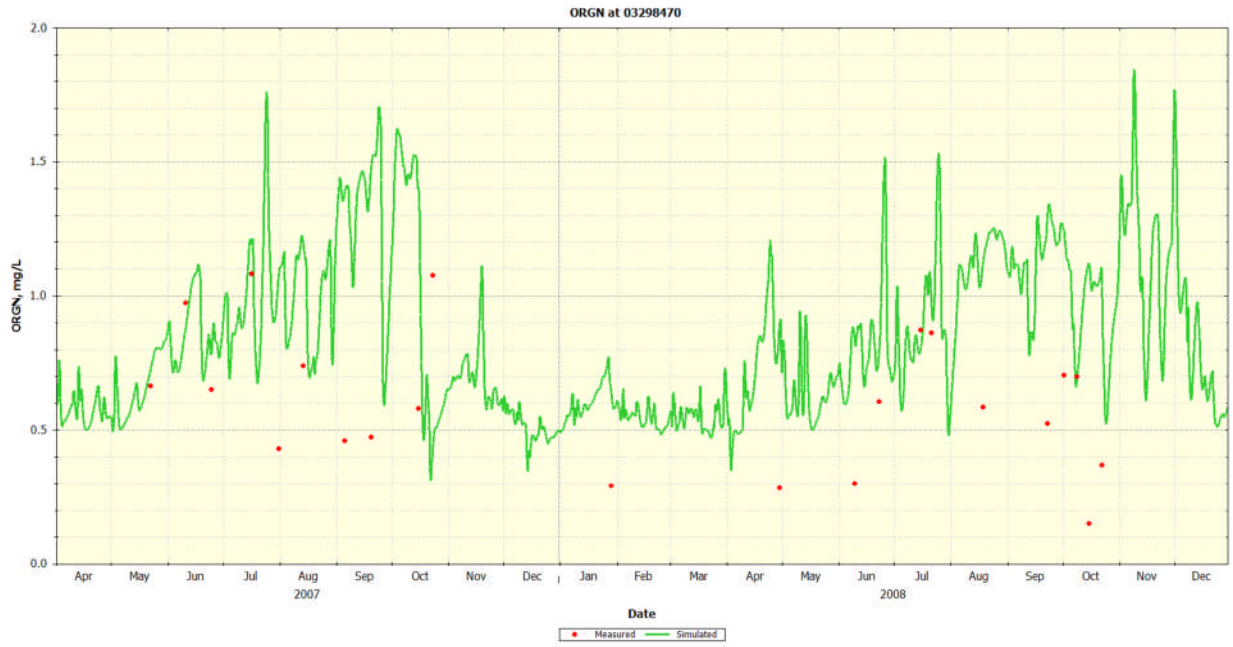


Figure A-183 Modeled vs. Observed ORGN (mg/L) at 03298470

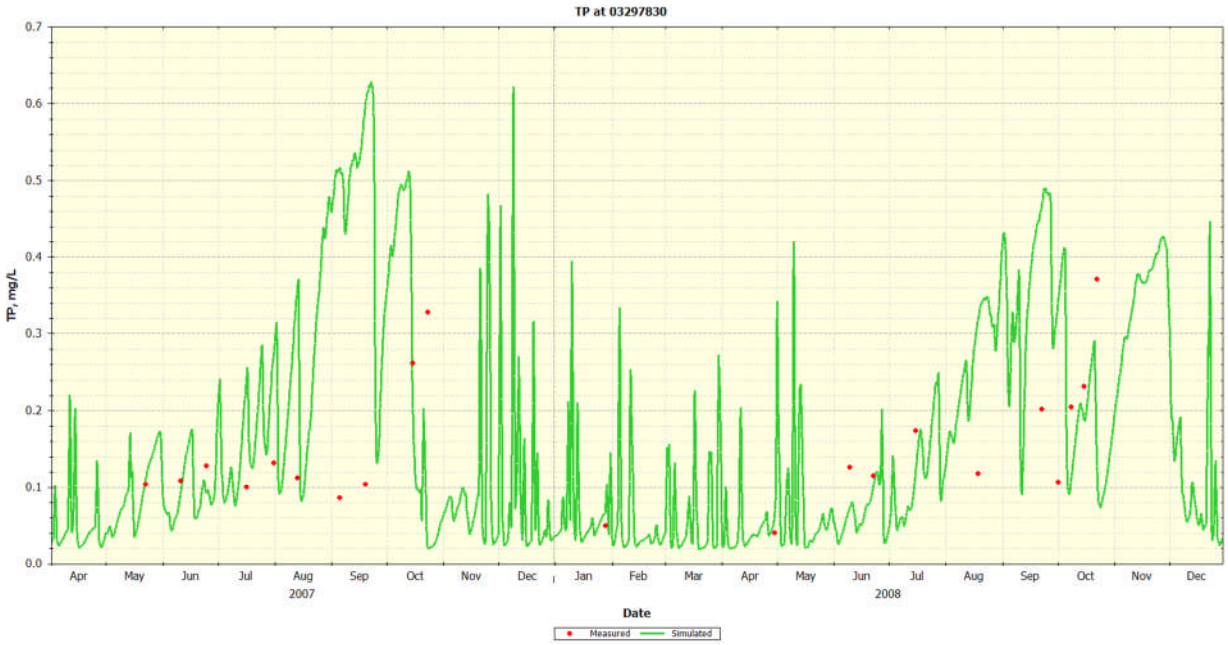


Figure A-184 Modeled vs. Observed TP (mg/L) at 03297830

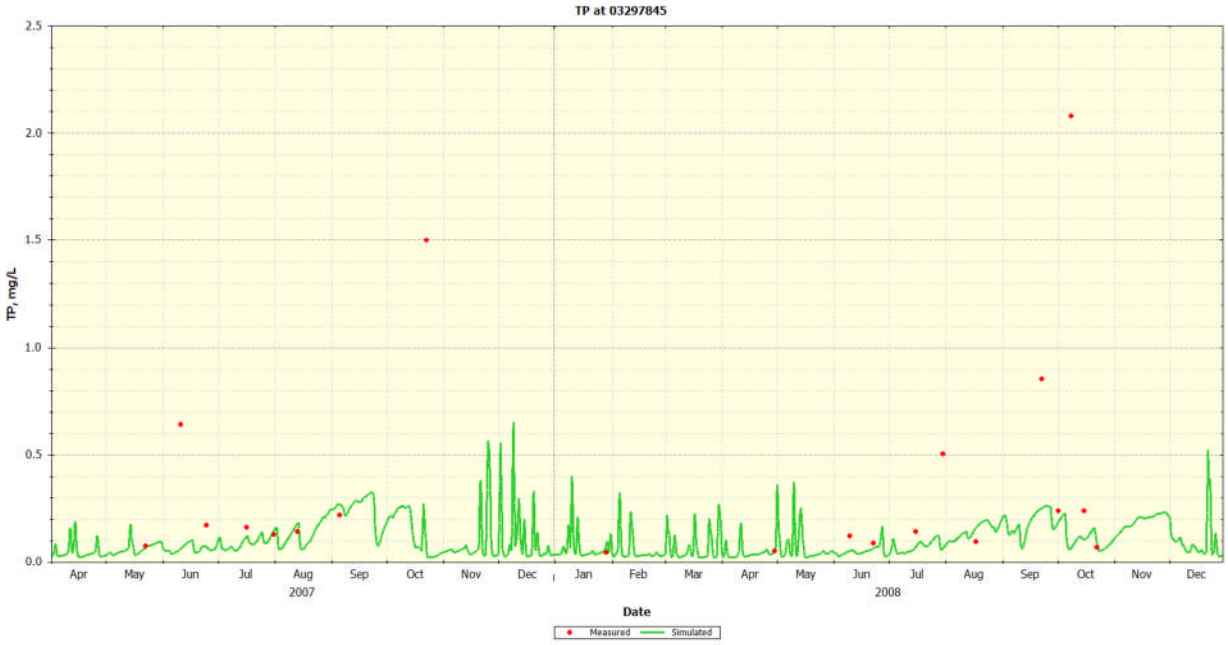


Figure A-185 Modeled vs. Observed TP (mg/L) at 03297845

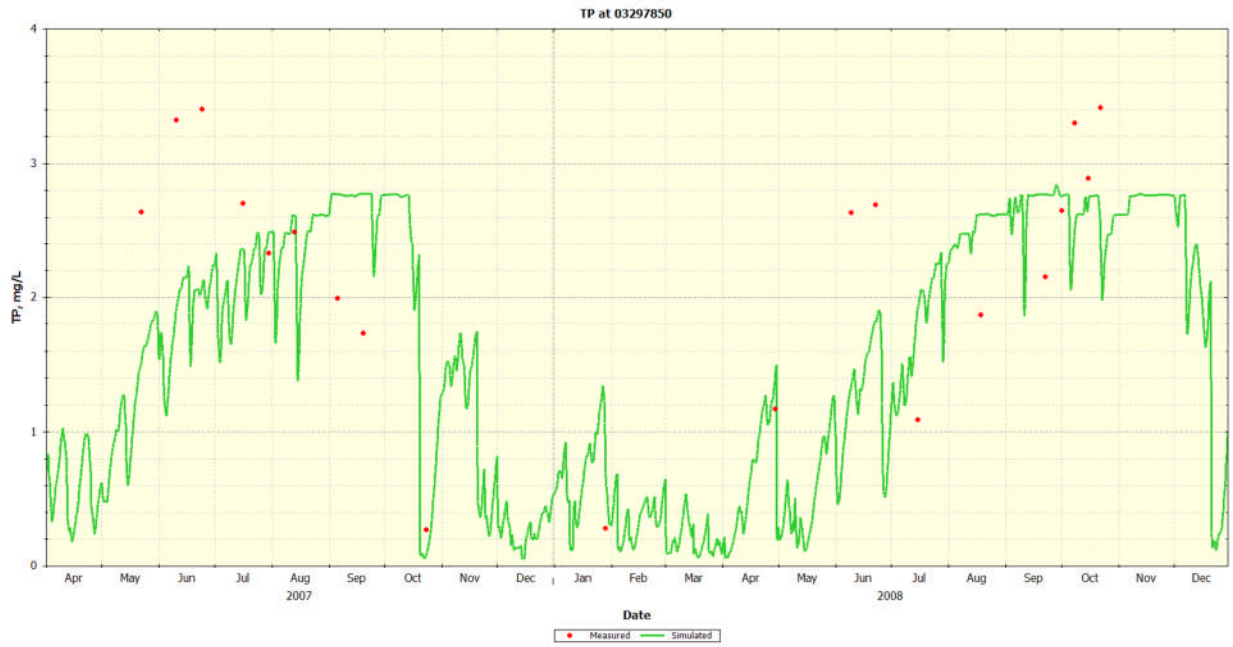


Figure A-186 Modeled vs. Observed TP (mg/L) at 03297850

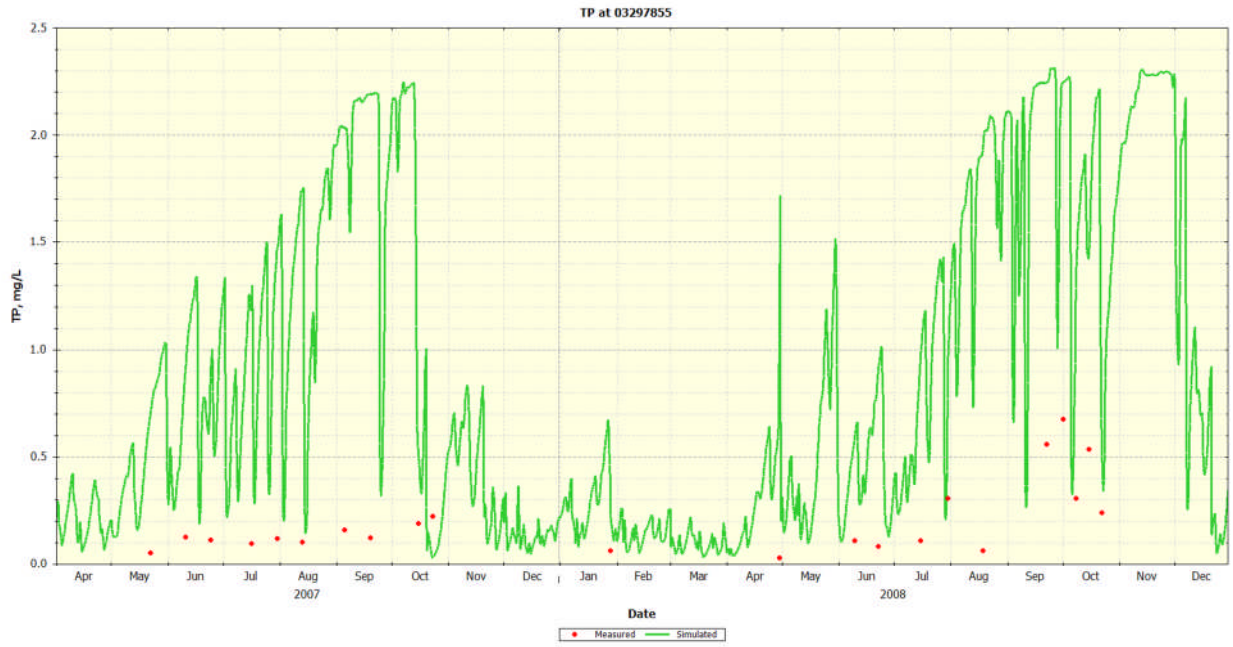


Figure A-187 Modeled vs. Observed TP (mg/L) at 03297855

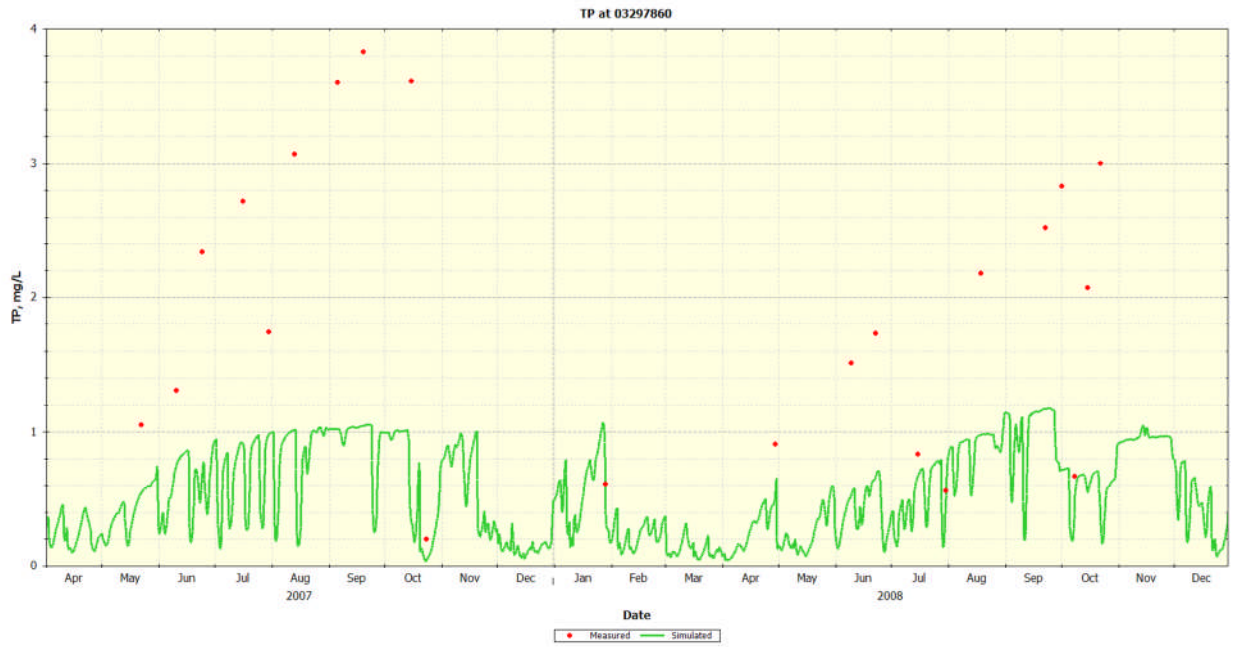


Figure A-188 Modeled vs. Observed TP (mg/L) at 03297860

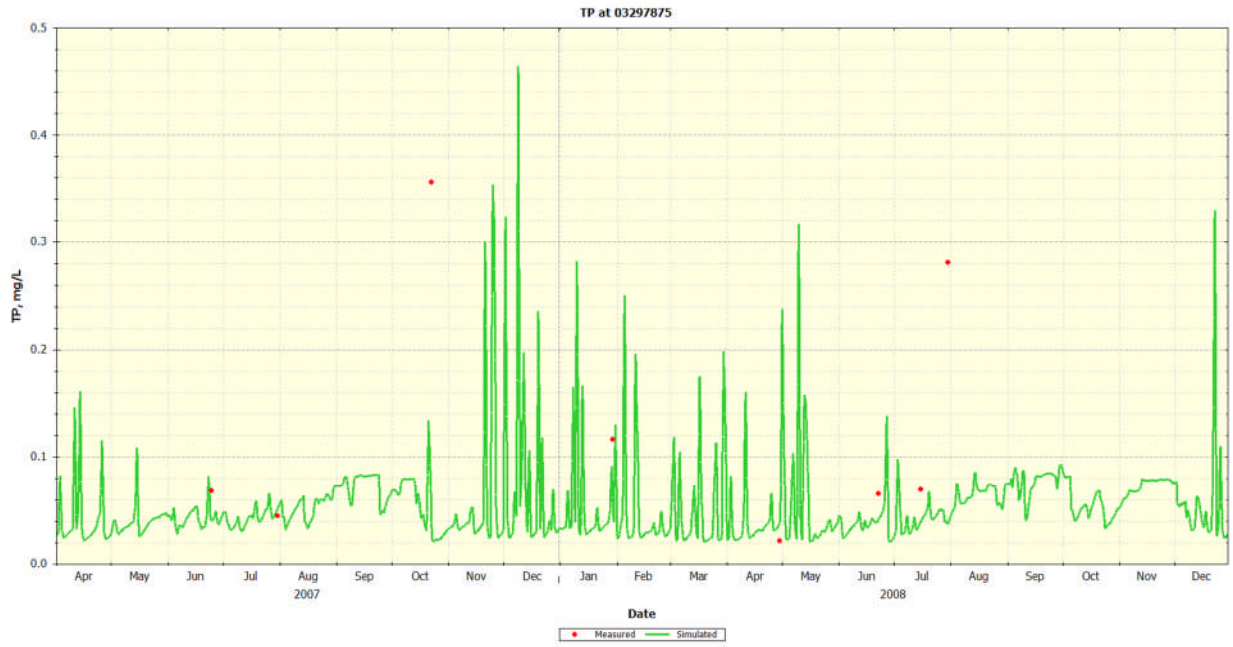


Figure A-189 Modeled vs. Observed TP (mg/L) at 03297875

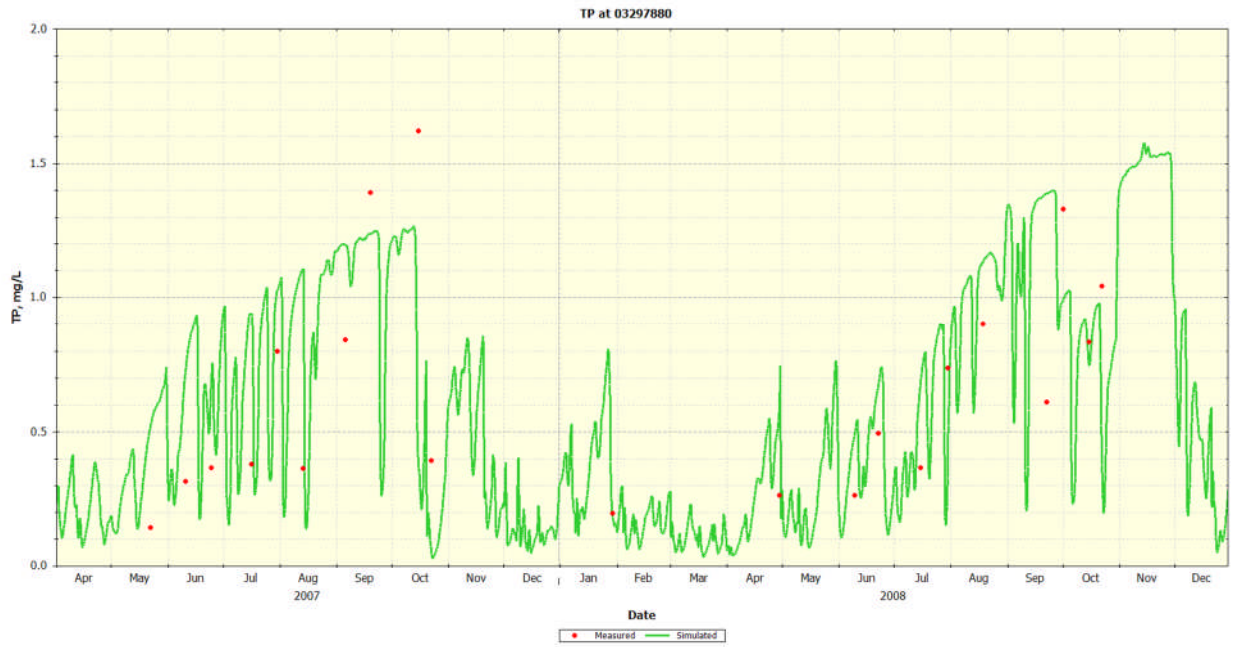


Figure A-190 Modeled vs. Observed TP (mg/L) at 03297880

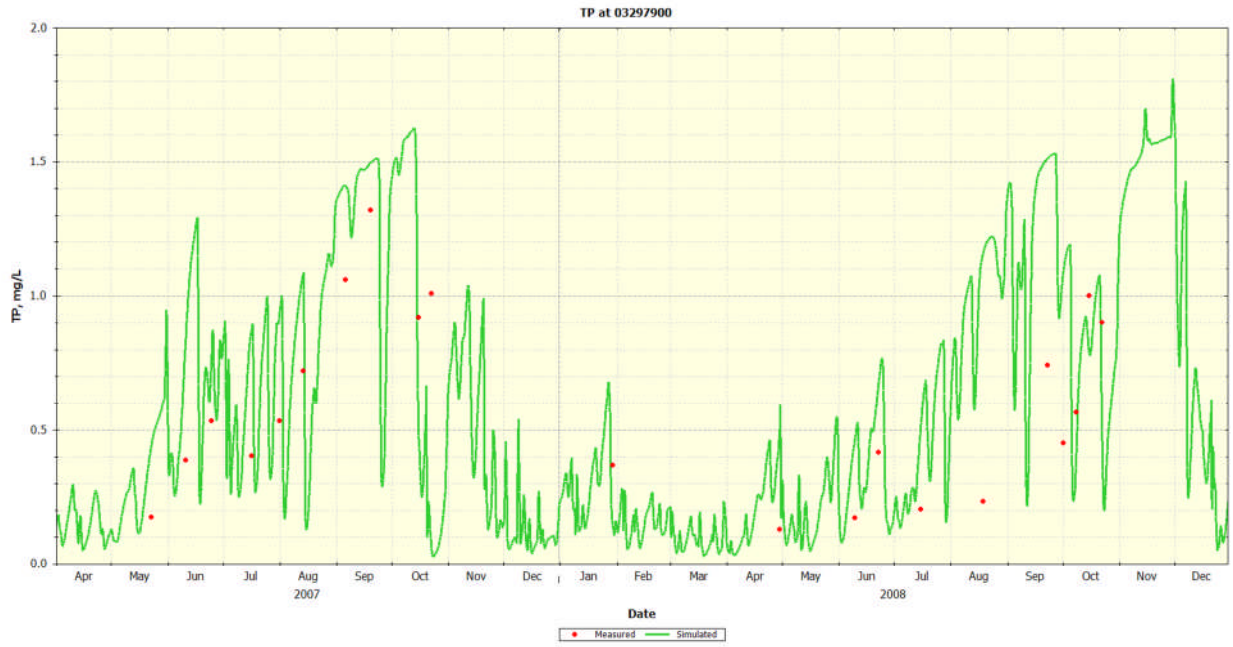


Figure A-191 Modeled vs. Observed TP (mg/L) at 03297900

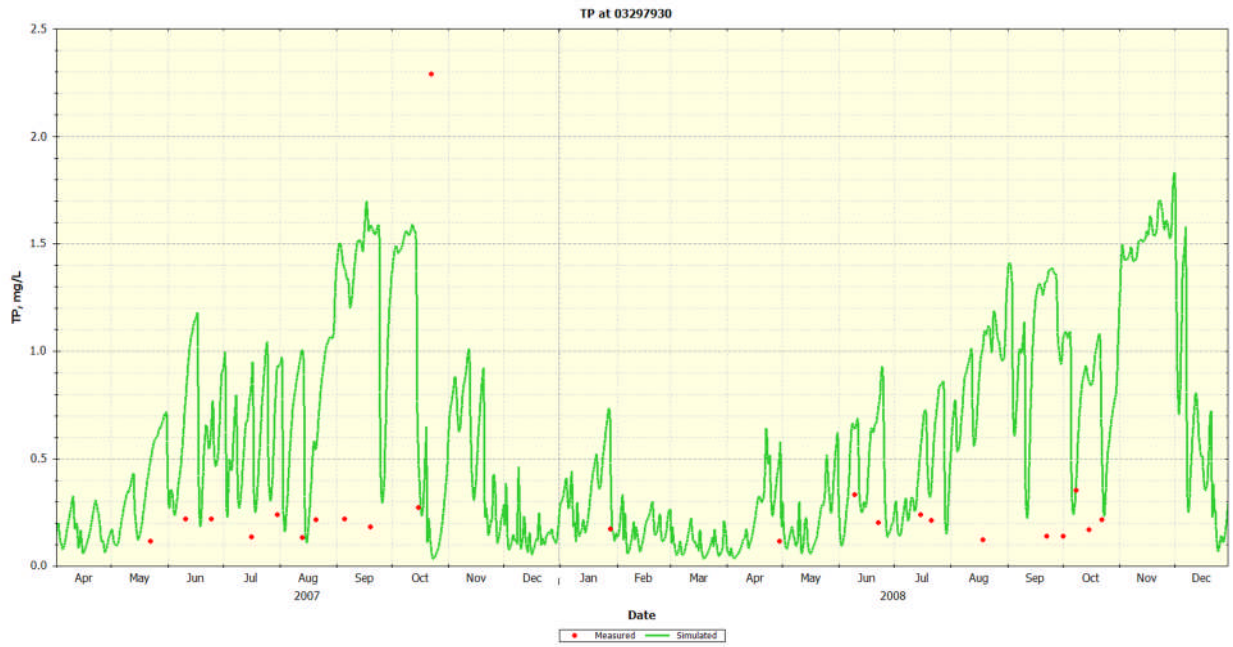


Figure A-192 Modeled vs. Observed TP (mg/L) at 03297930

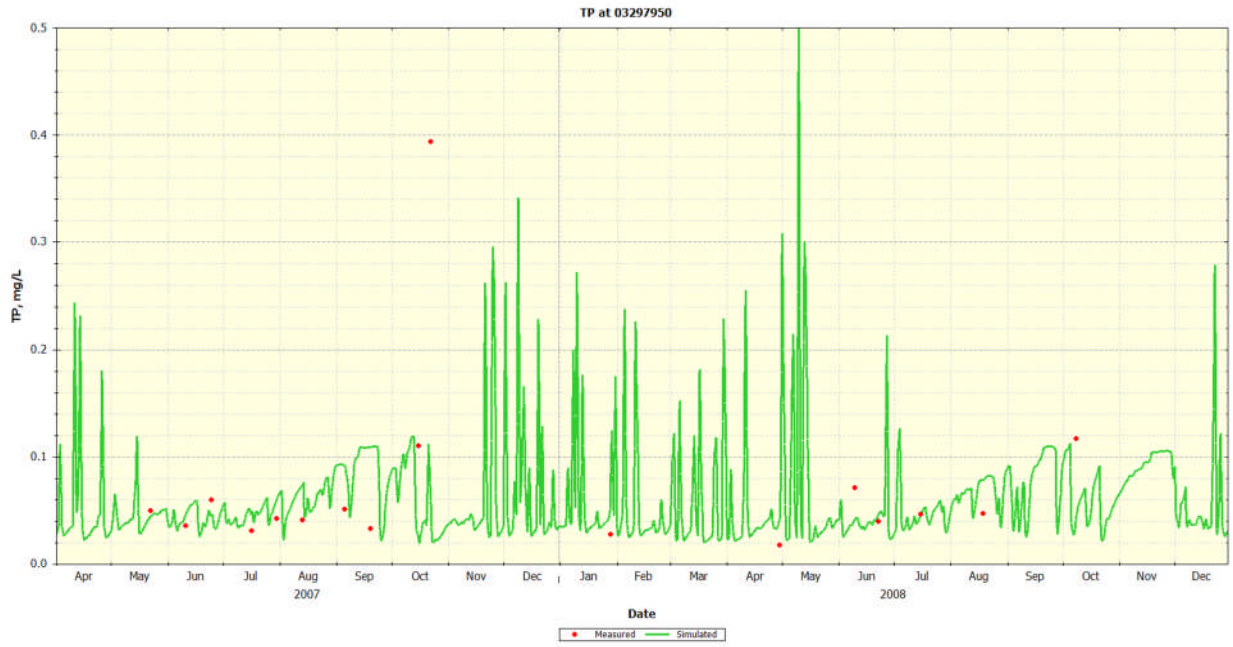


Figure A-193 Modeled vs. Observed TP (mg/L) at 03297950

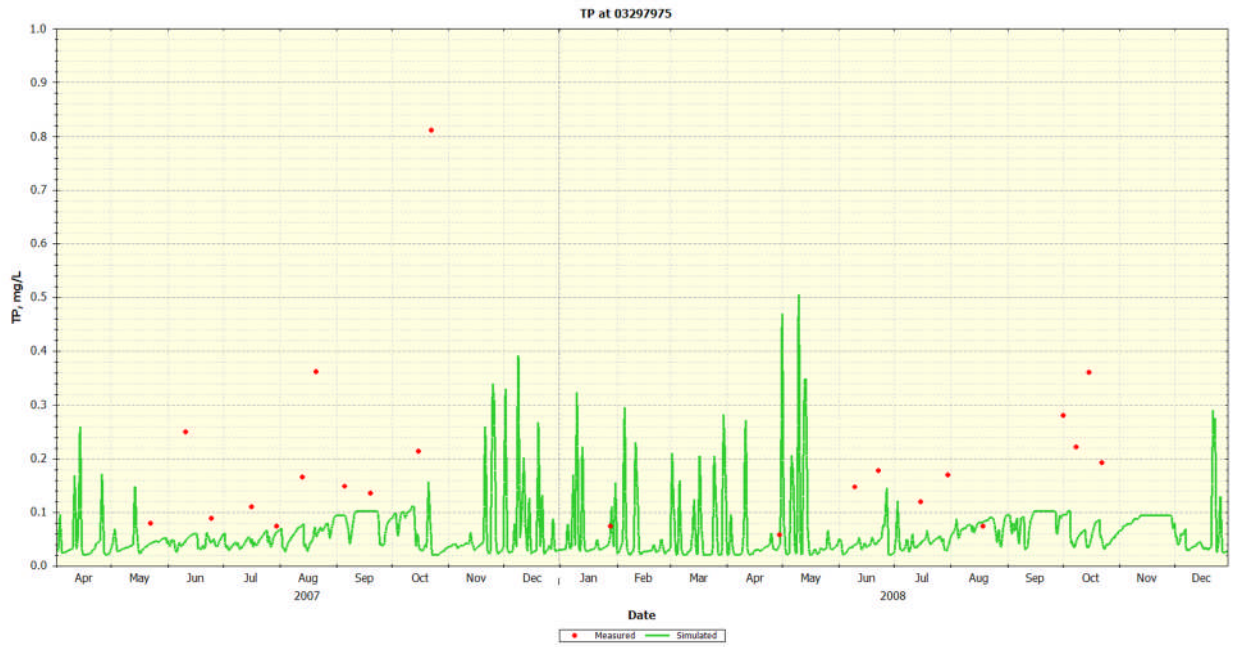


Figure A-194 Modeled vs. Observed TP (mg/L) at 03297975

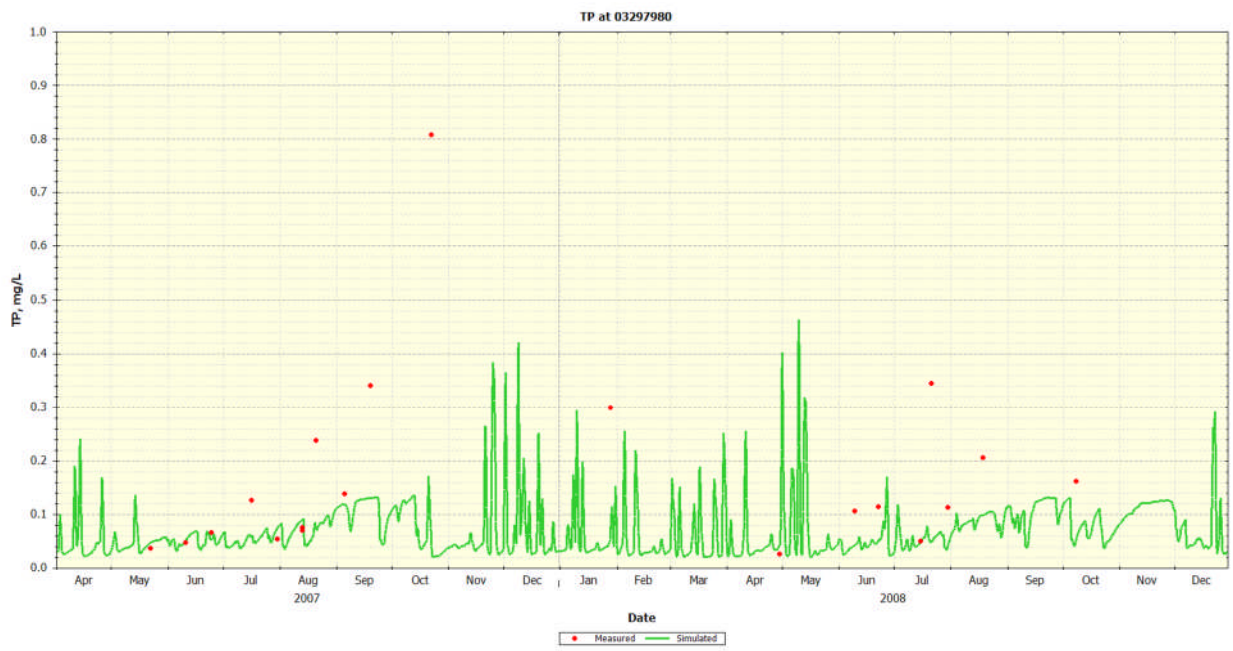


Figure A-195 Modeled vs. Observed TP (mg/L) at 03297980

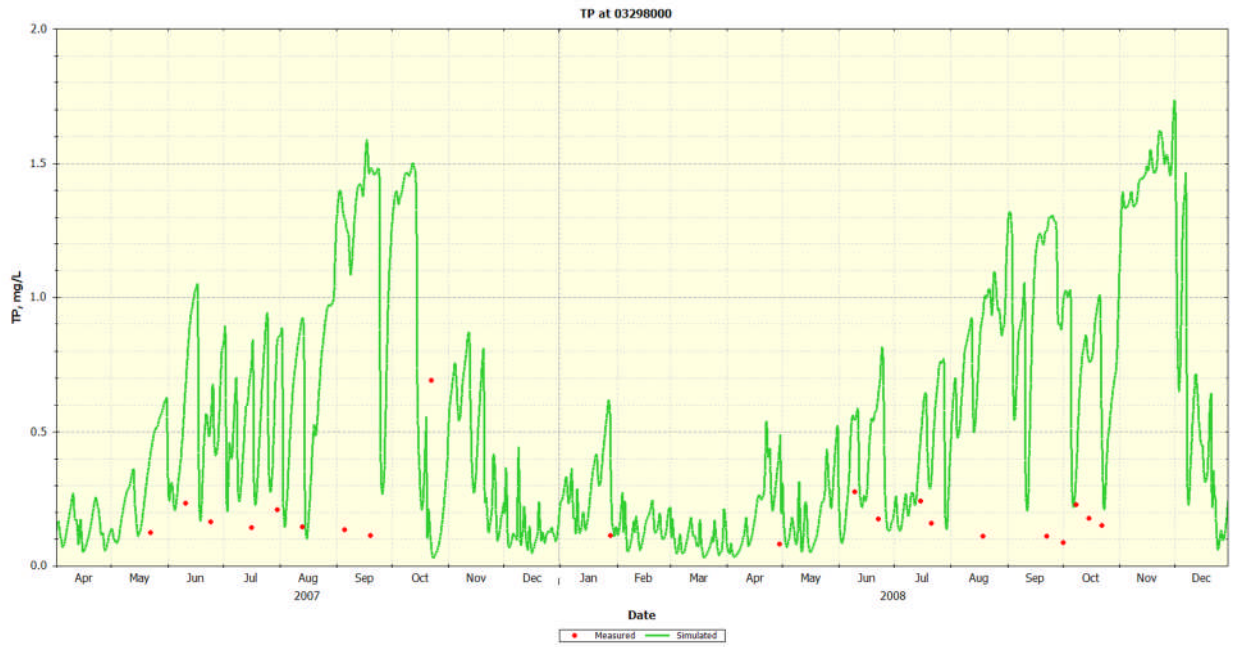


Figure A-196 Modeled vs. Observed TP (mg/L) at 03298000

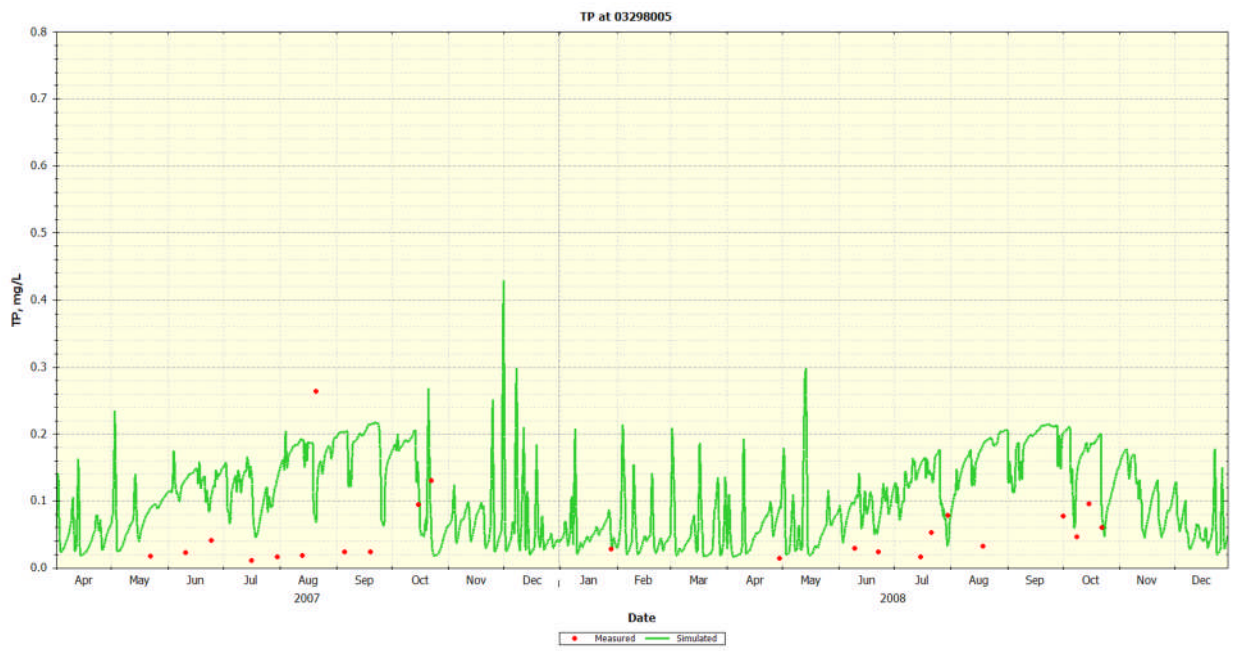


Figure A-197 Modeled vs. Observed TP (mg/L) at 03298005

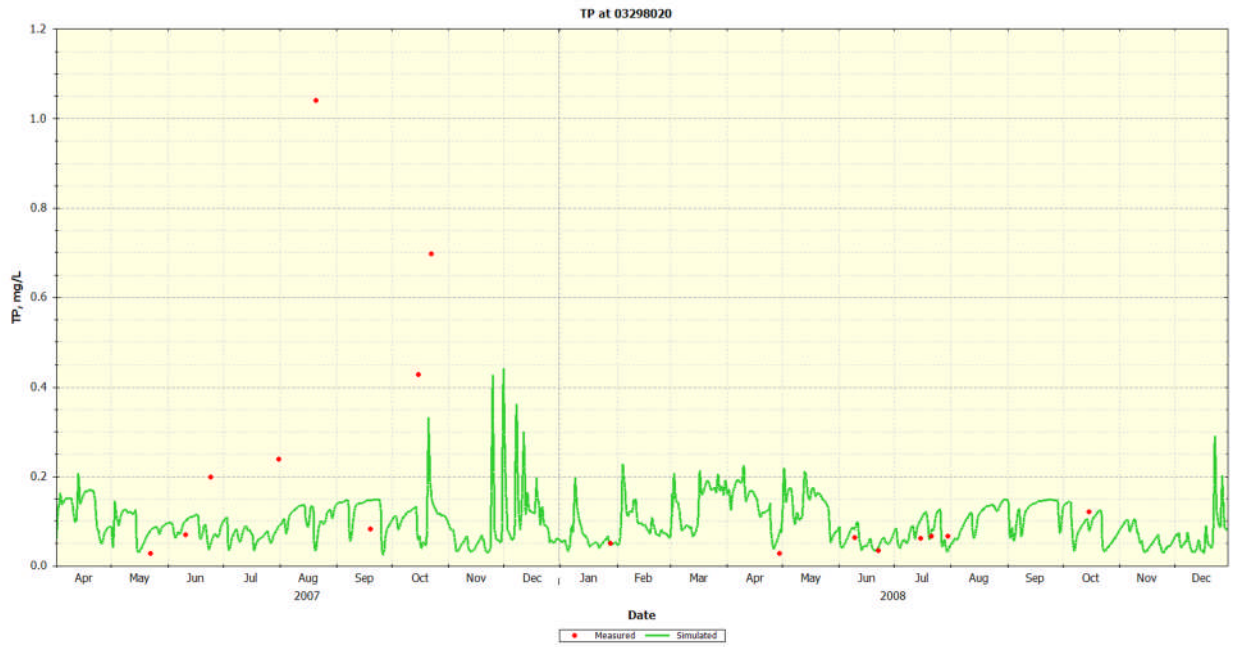


Figure A-198 Modeled vs. Observed TP (mg/L) at 03298020

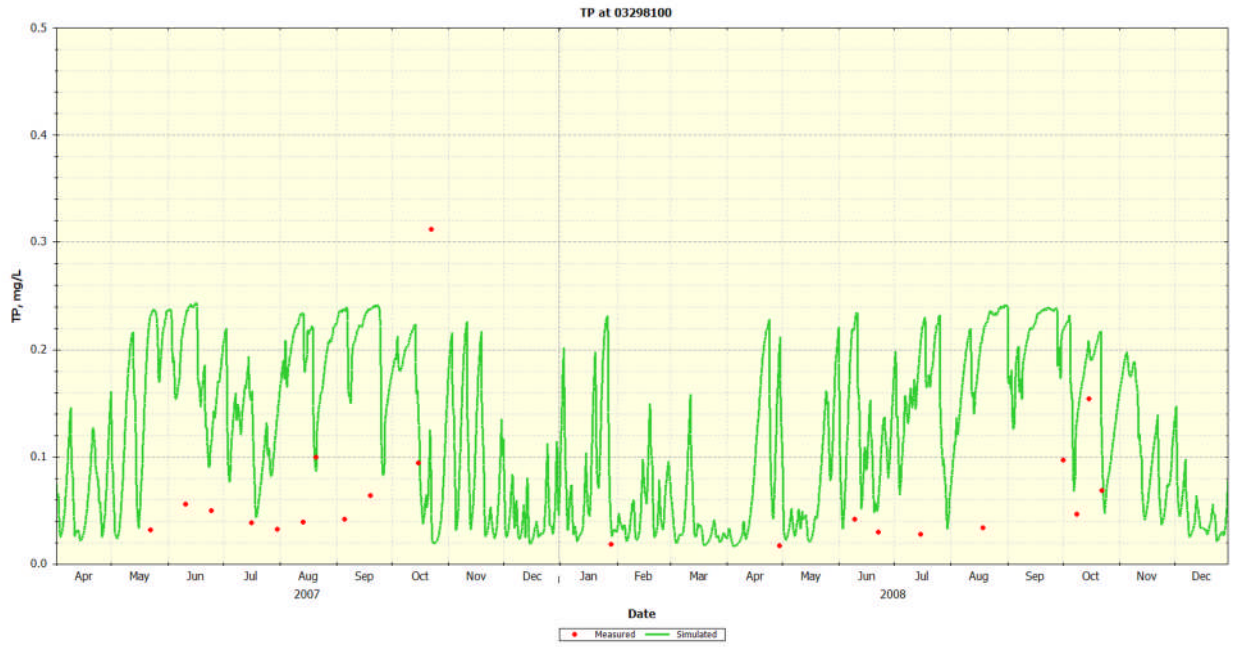


Figure A-199 Modeled vs. Observed TP (mg/L) at 03298100

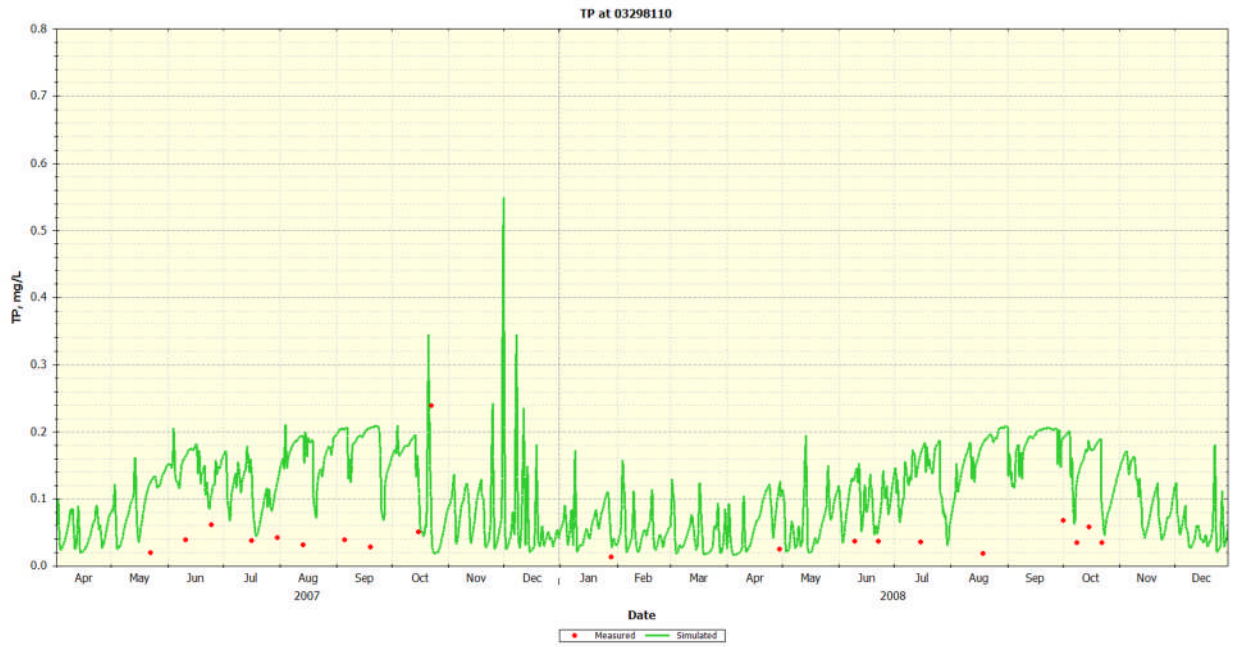


Figure A-200 Modeled vs. Observed TP (mg/L) at 03298110

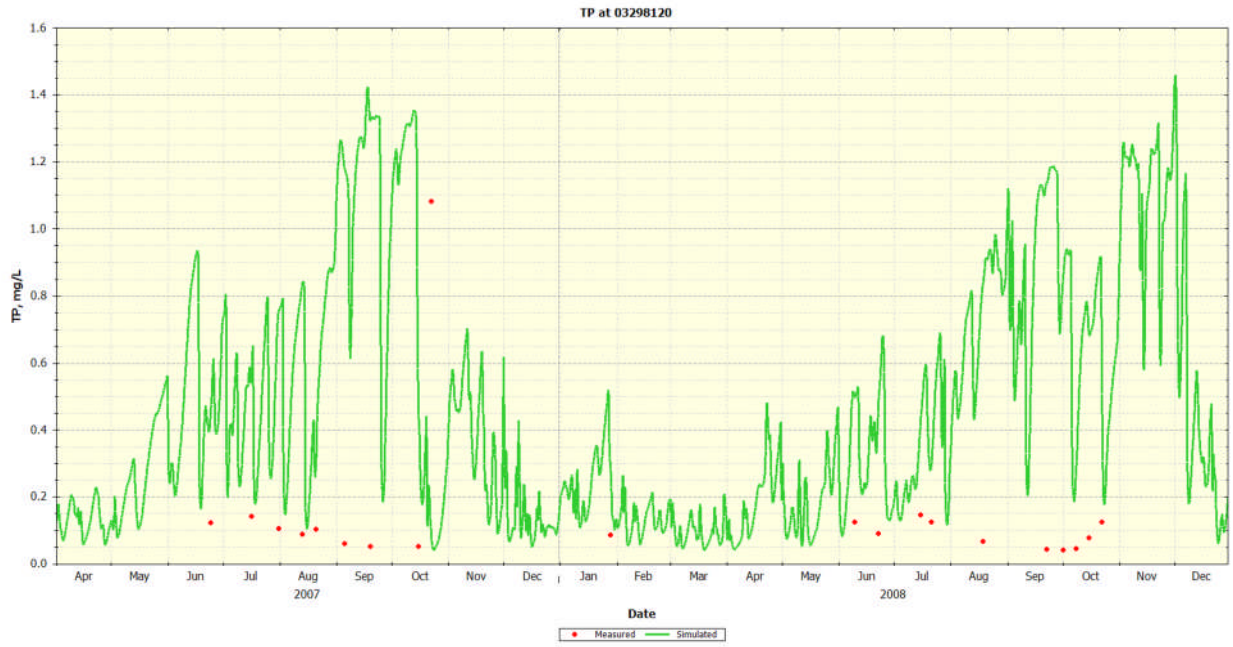


Figure A-201 Modeled vs. Observed TP (mg/L) at 03298120

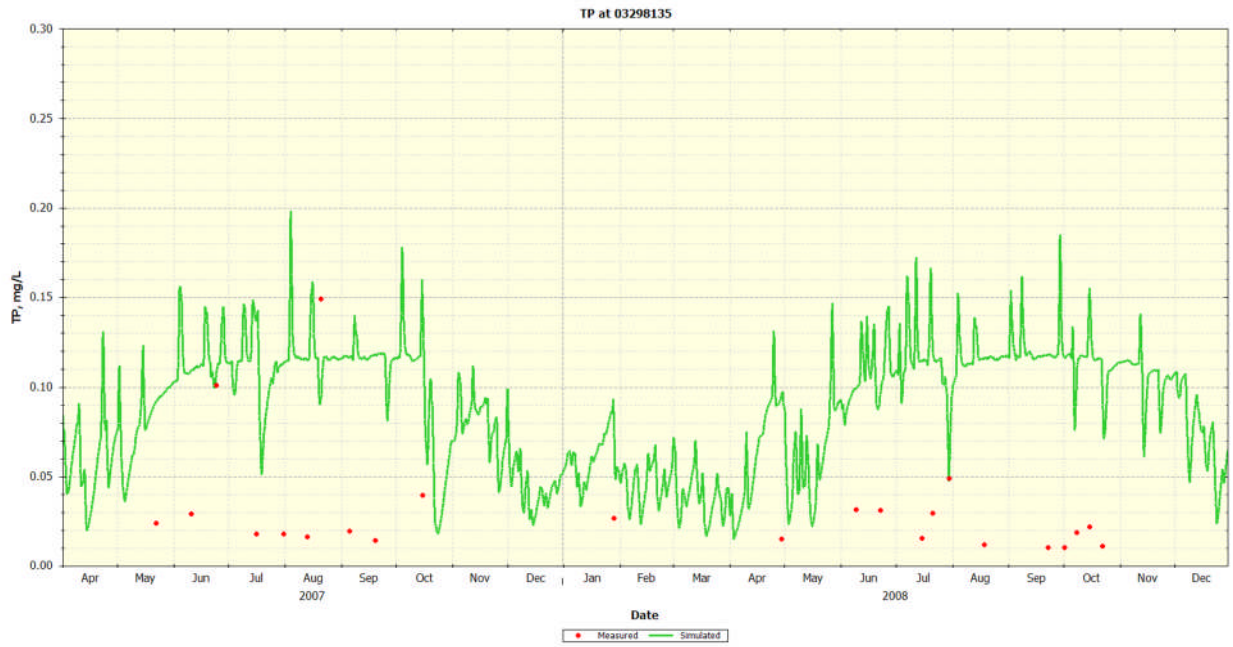


Figure A-202 Modeled vs. Observed TP (mg/L) at 03298135

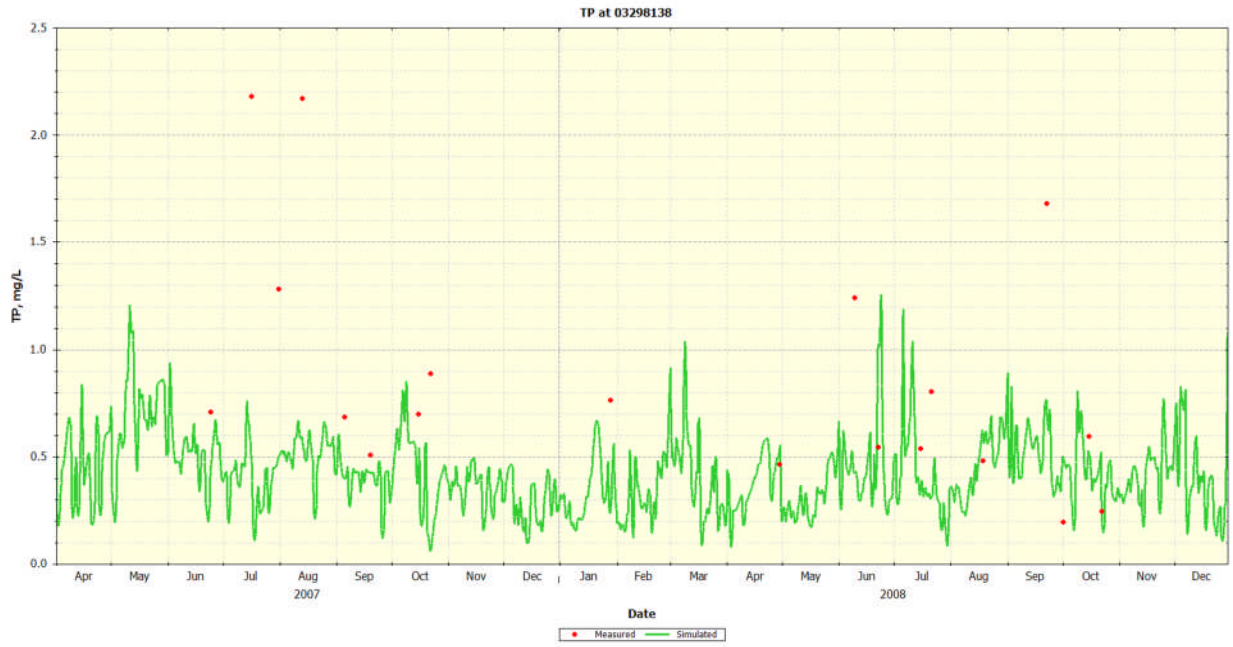


Figure A-203 Modeled vs. Observed TP (mg/L) at 03298138

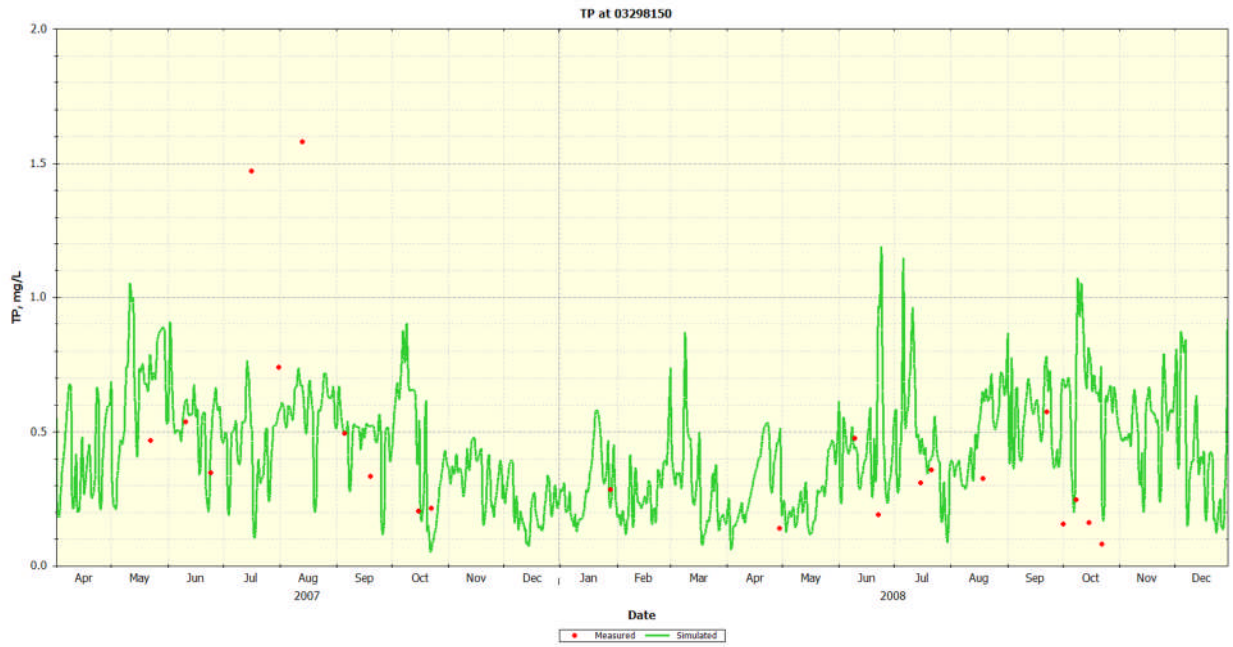


Figure A-204 Modeled vs. Observed TP (mg/L) at 03298150

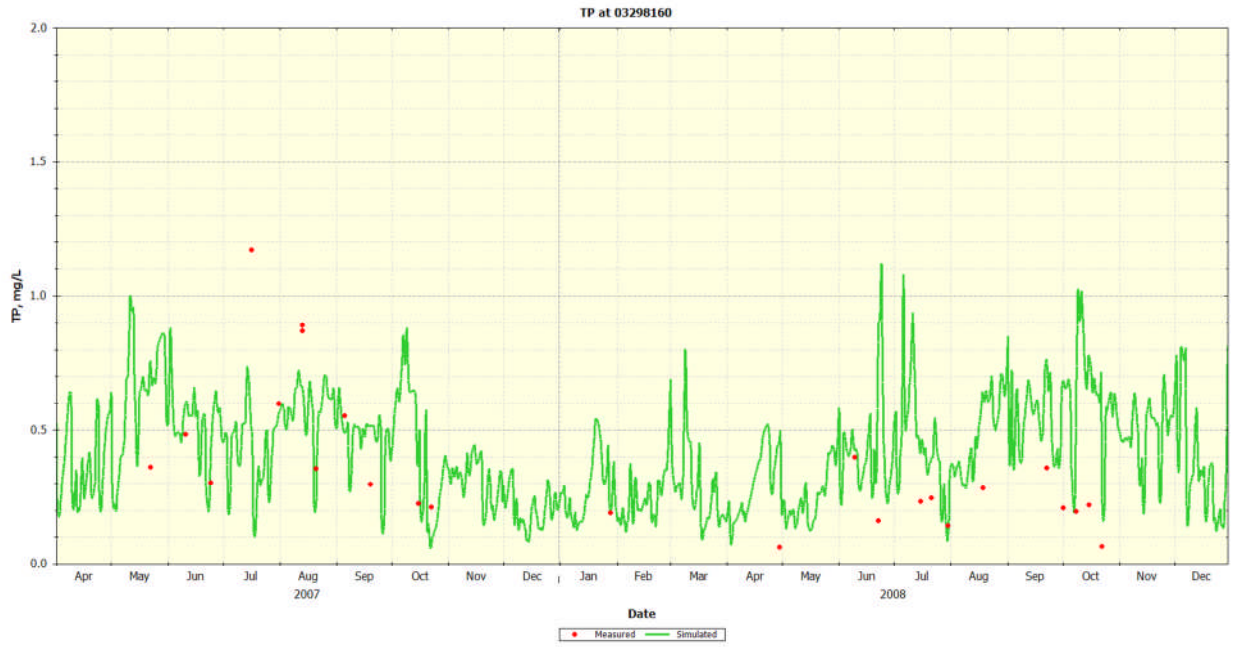


Figure A-205 Modeled vs. Observed TP (mg/L) at 03298160

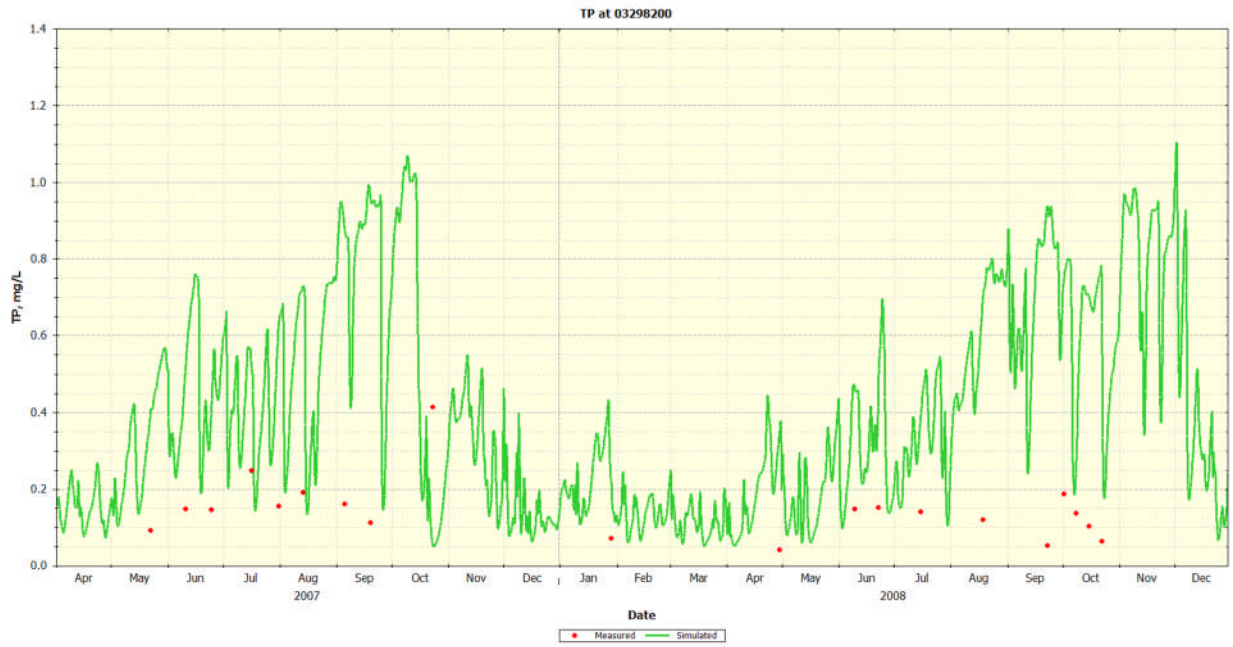


Figure A-206 Modeled vs. Observed TP (mg/L) at 03298200

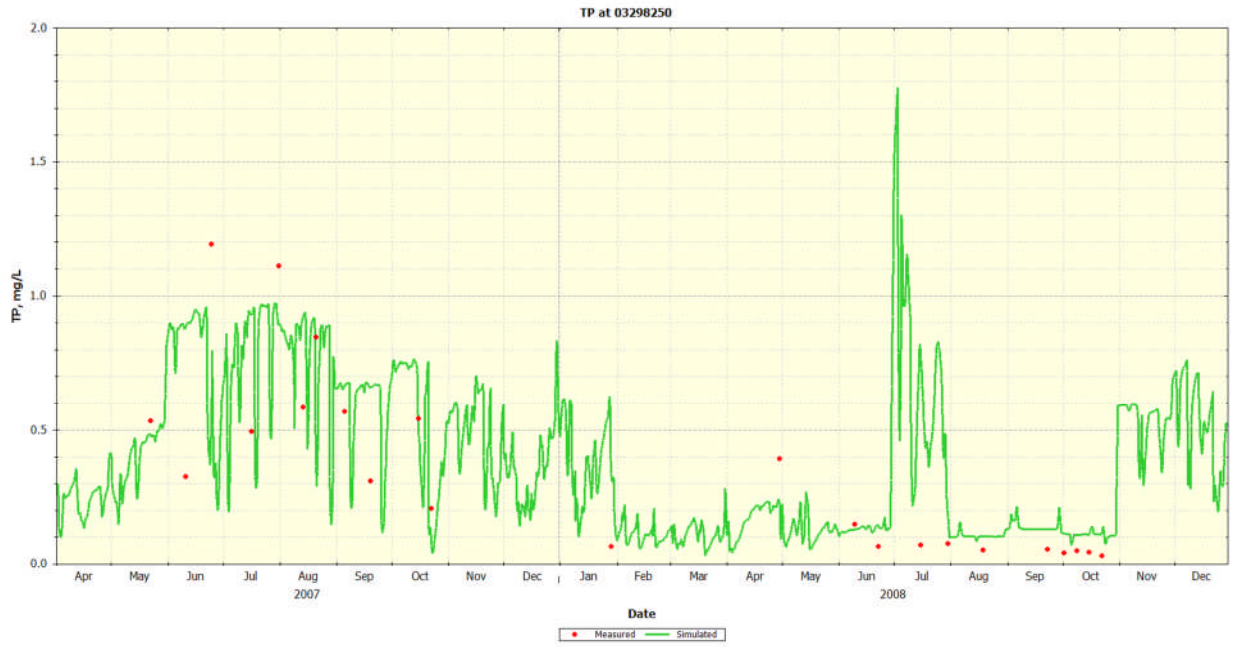


Figure A-207 Modeled vs. Observed TP (mg/L) at 03298250

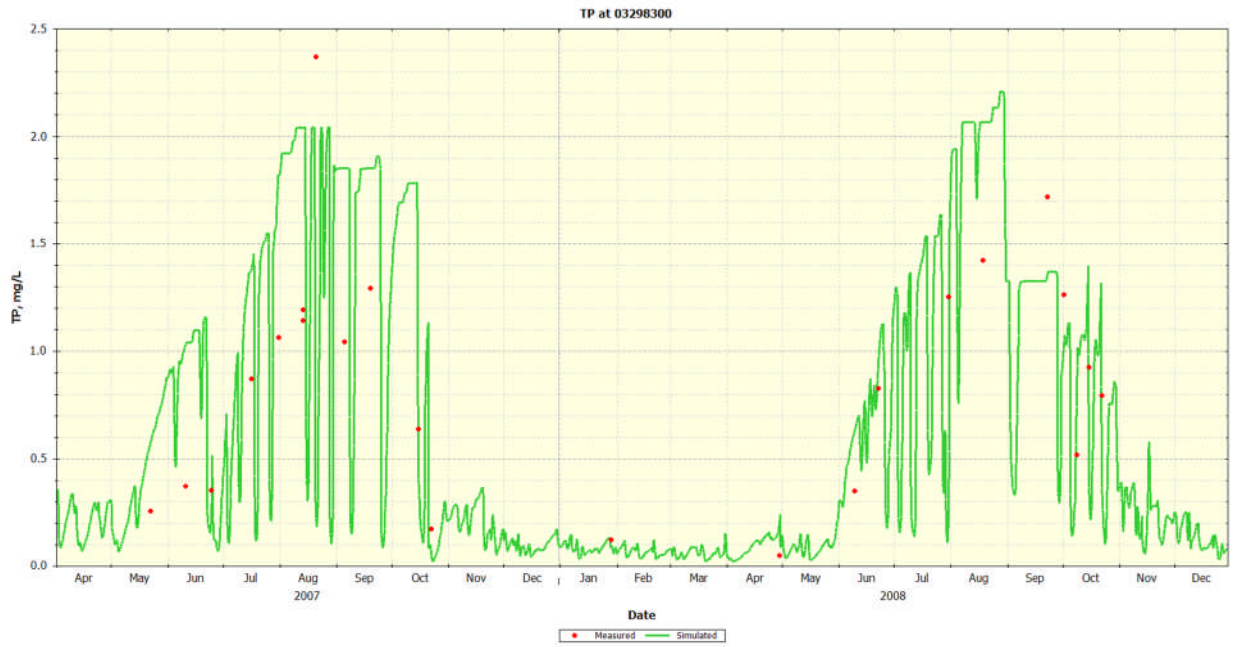


Figure A-208 Modeled vs. Observed TP (mg/L) at 03298300

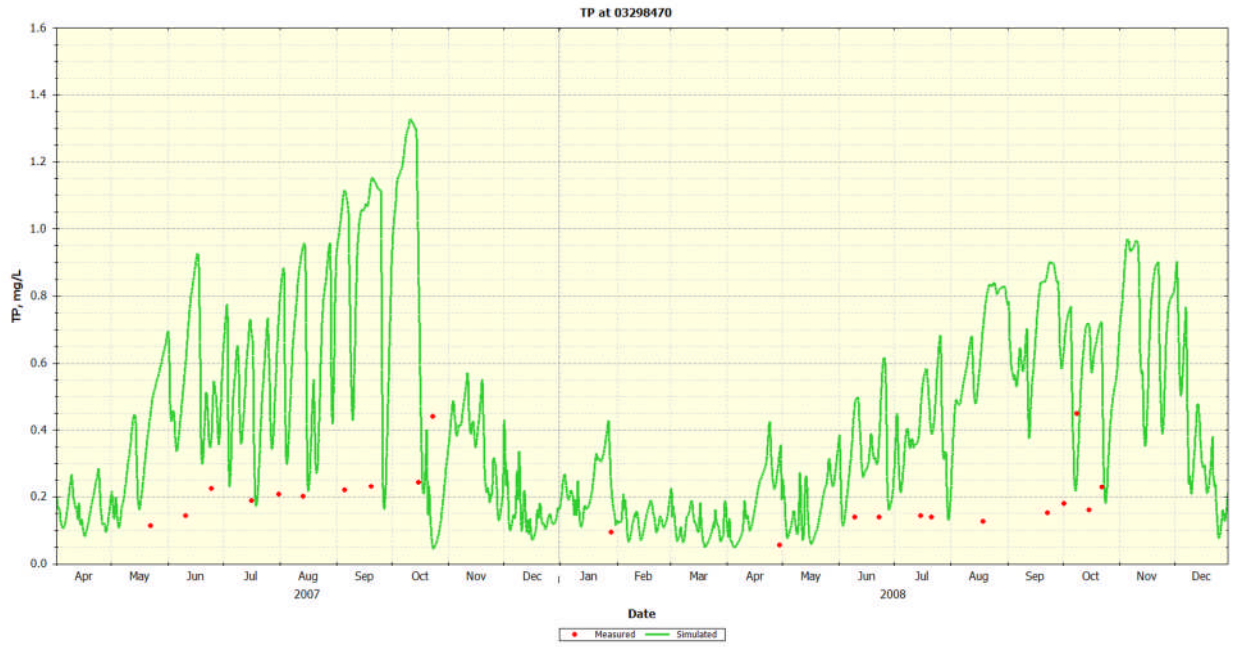


Figure A-209 Modeled vs. Observed TP (mg/L) at 03298470

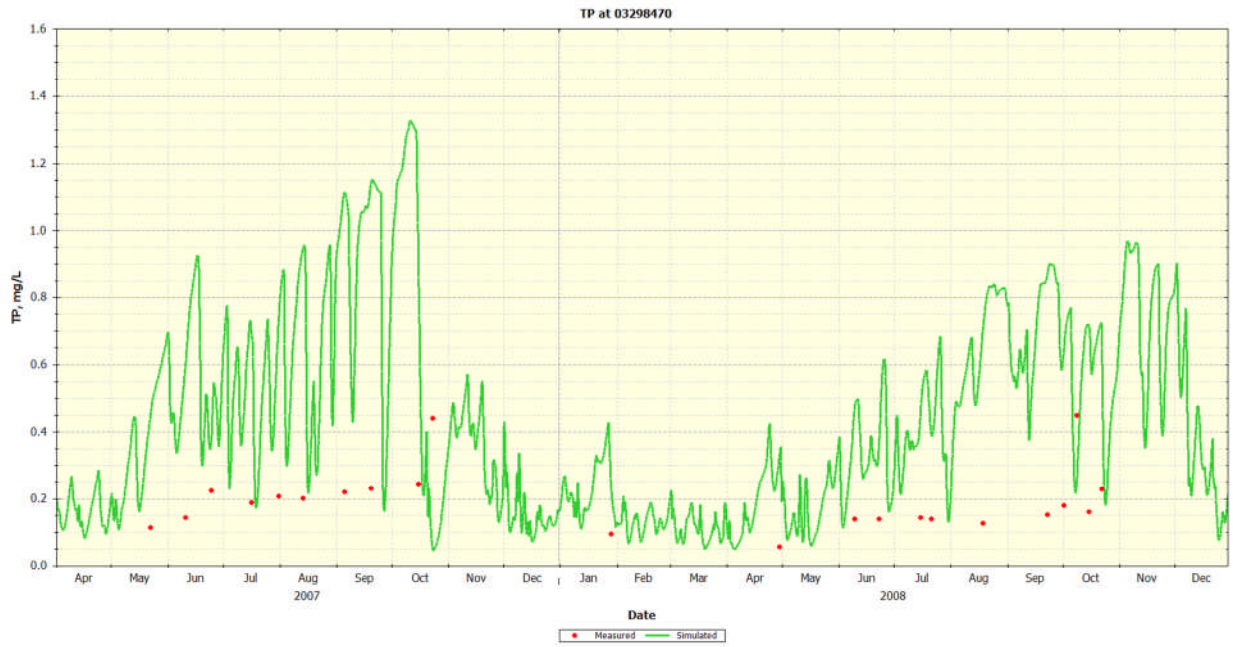


Figure A-210 Modeled vs. Observed PO_4 (mg/L) at 03297830

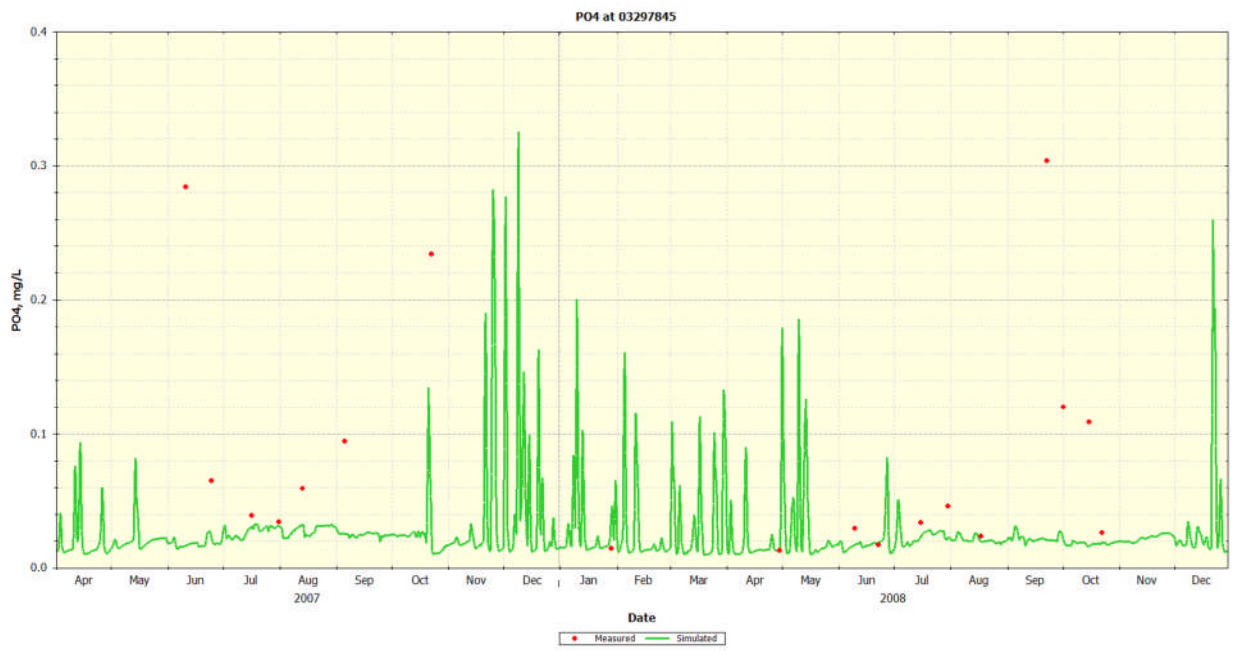


Figure A-211 Modeled vs. Observed PO_4 (mg/L) at 03297845

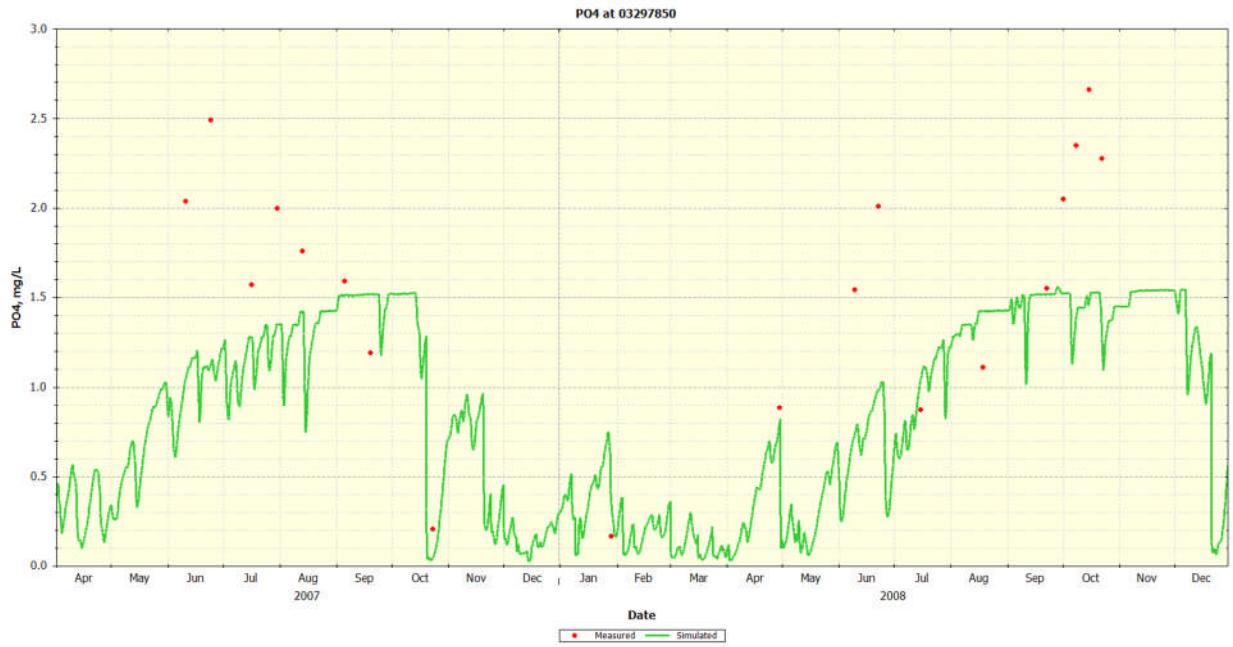


Figure A-212 Modeled vs. Observed PO_4 (mg/L) at 03297850

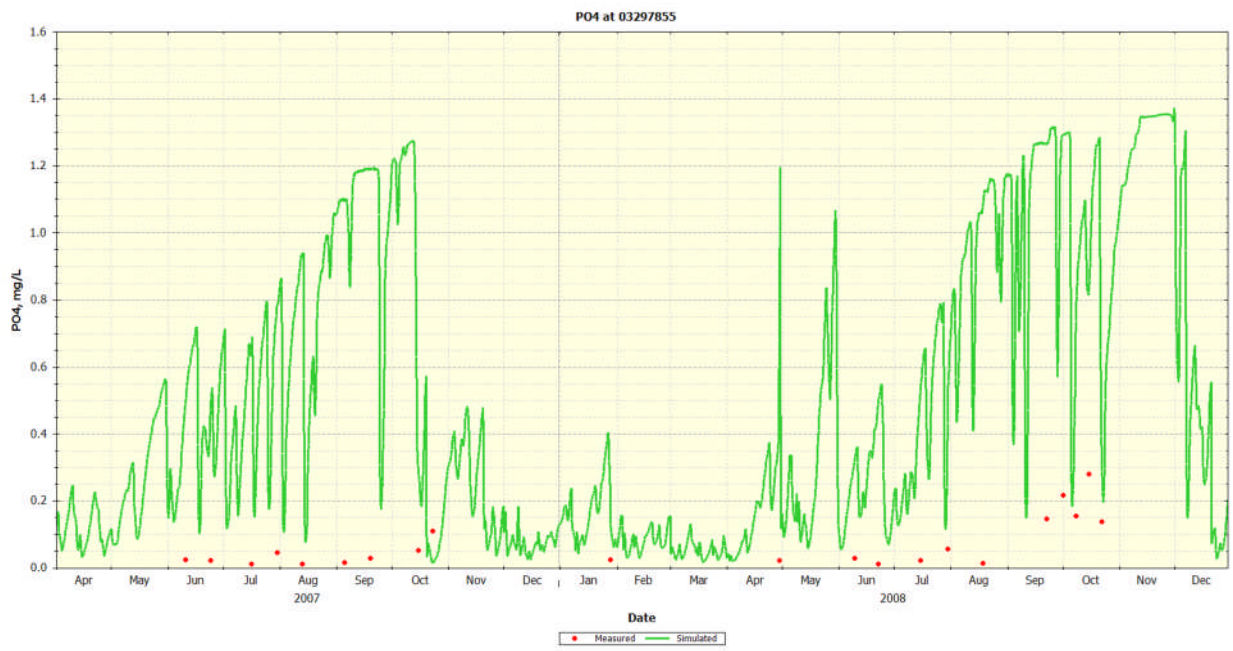


Figure A-213 Modeled vs. Observed PO_4 (mg/L) at 03297855

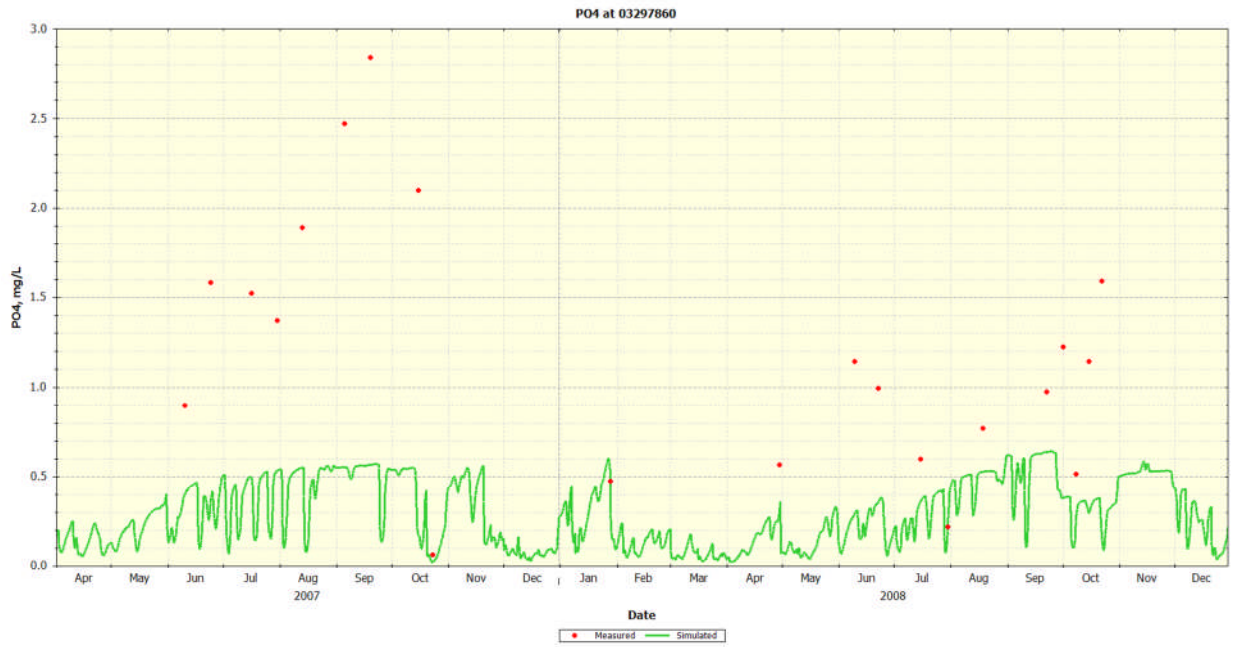


Figure A-214 Modeled vs. Observed PO_4 (mg/L) at 03297860

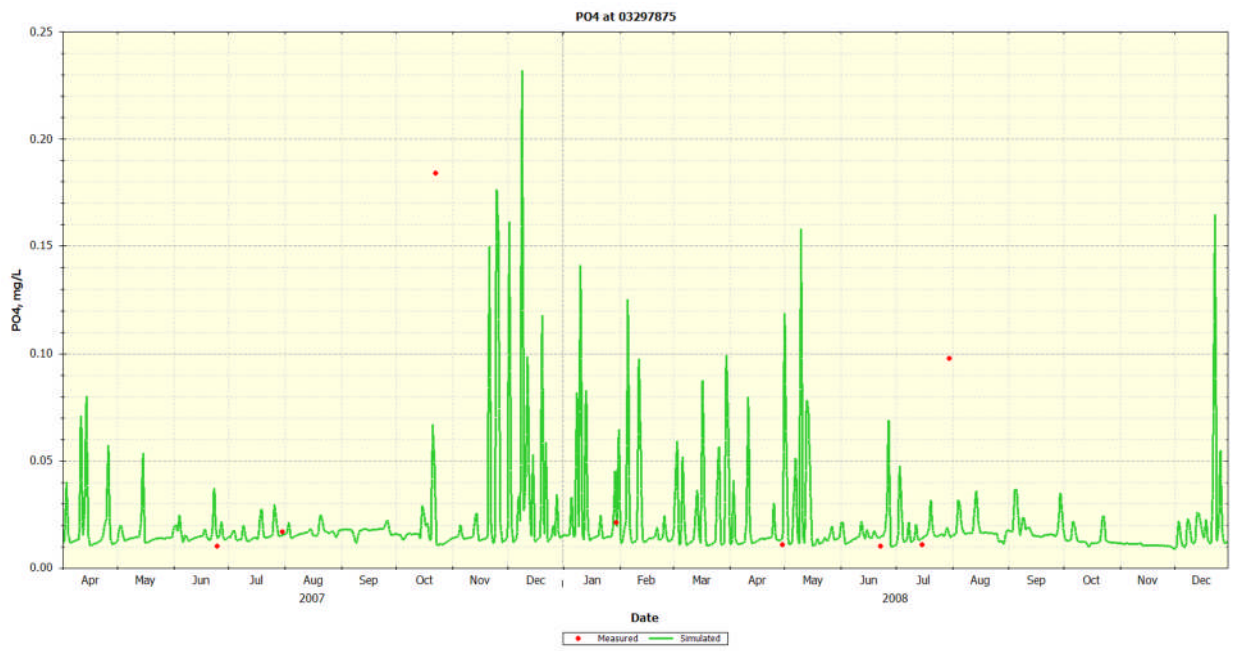


Figure A-215 Modeled vs. Observed PO_4 (mg/L) at 03297875

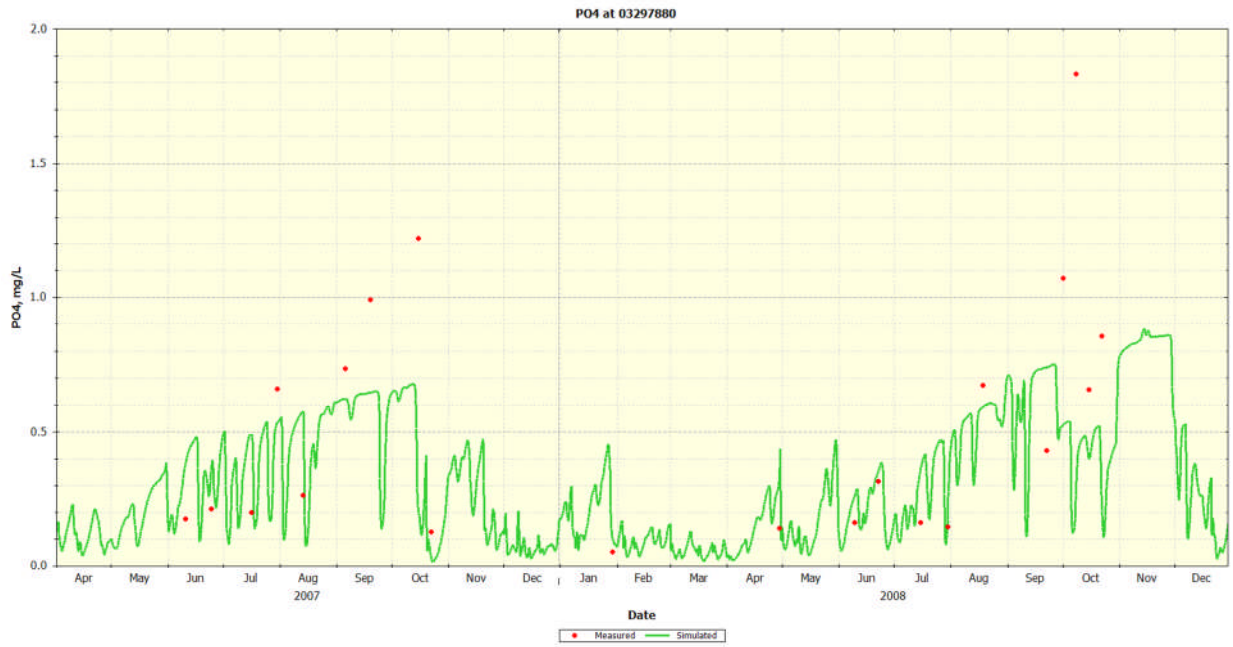


Figure A-216 Modeled vs. Observed PO_4 (mg/L) at 03297880

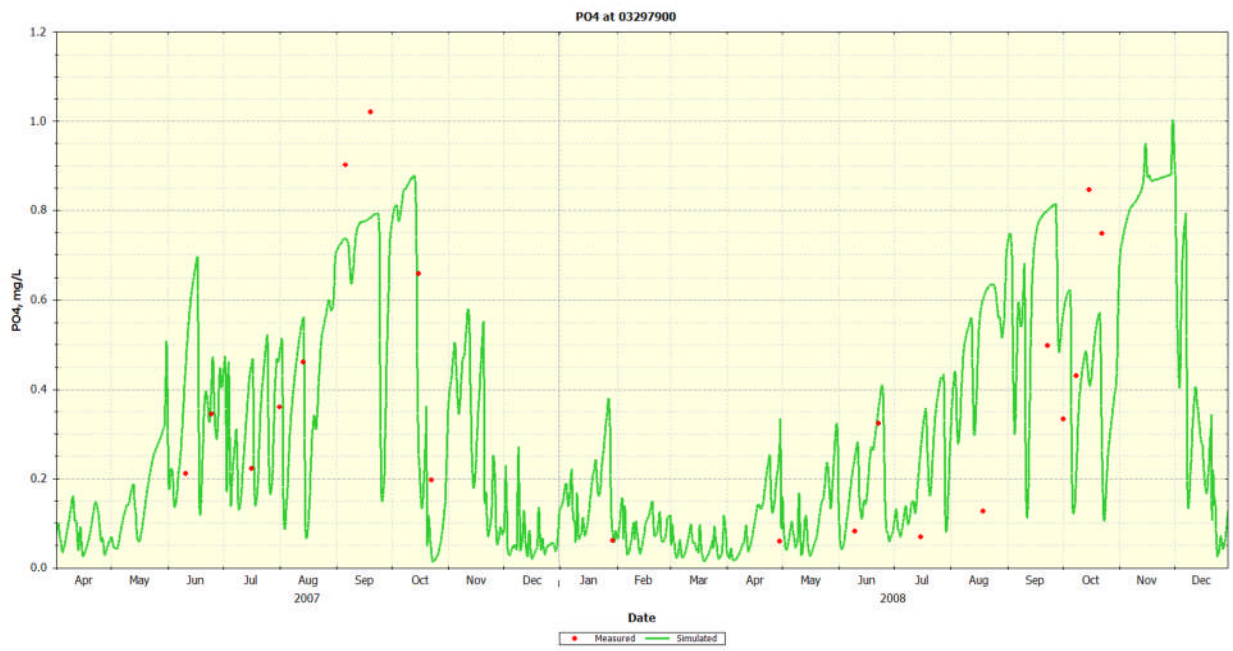


Figure A-217 Modeled vs. Observed PO_4 (mg/L) at 03297900

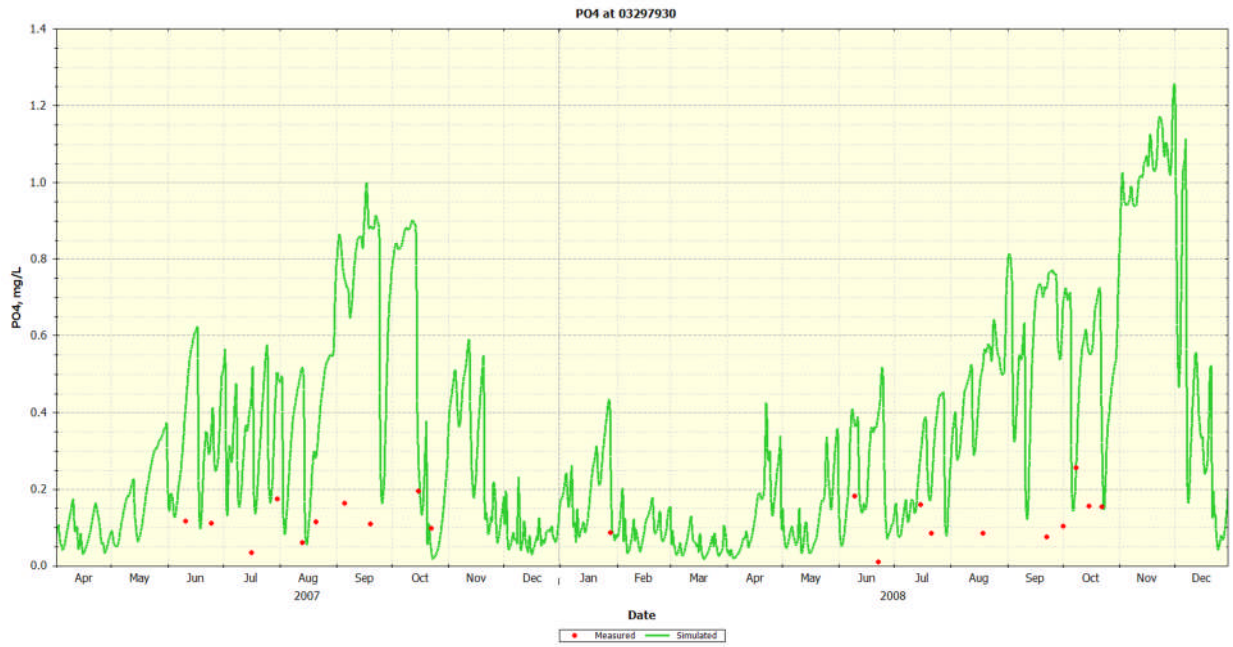


Figure A-218 Modeled vs. Observed PO_4 (mg/L) at 03297930

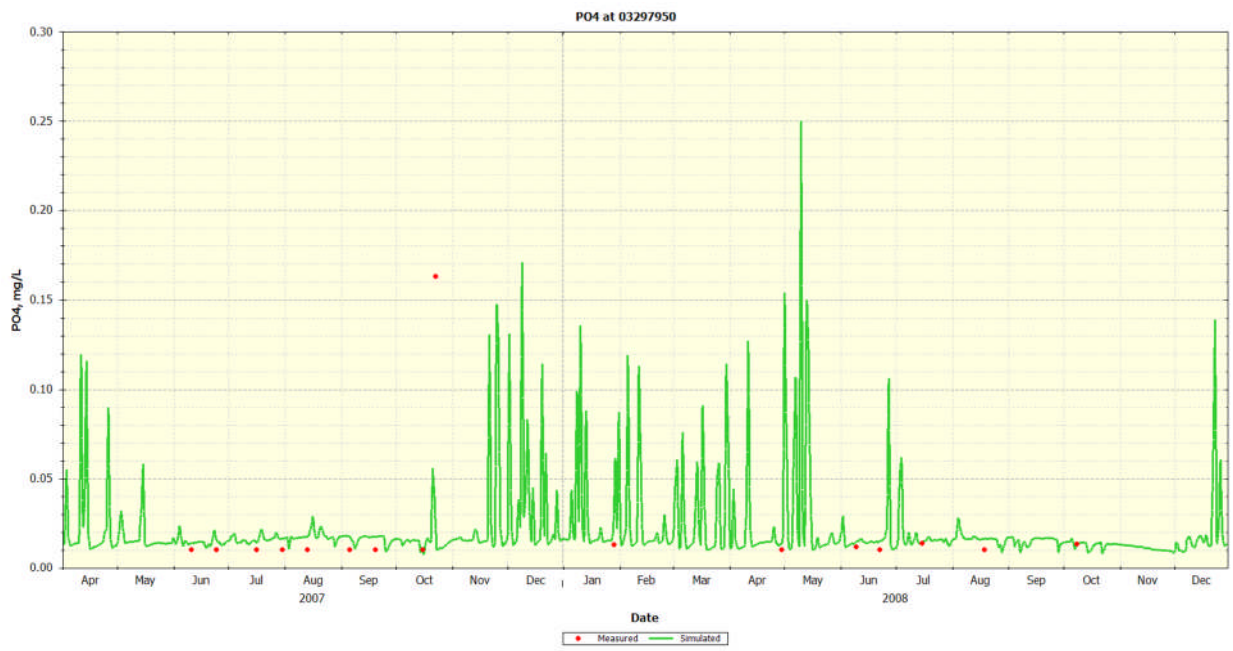


Figure A-219 Modeled vs. Observed PO_4 (mg/L) at 03297950

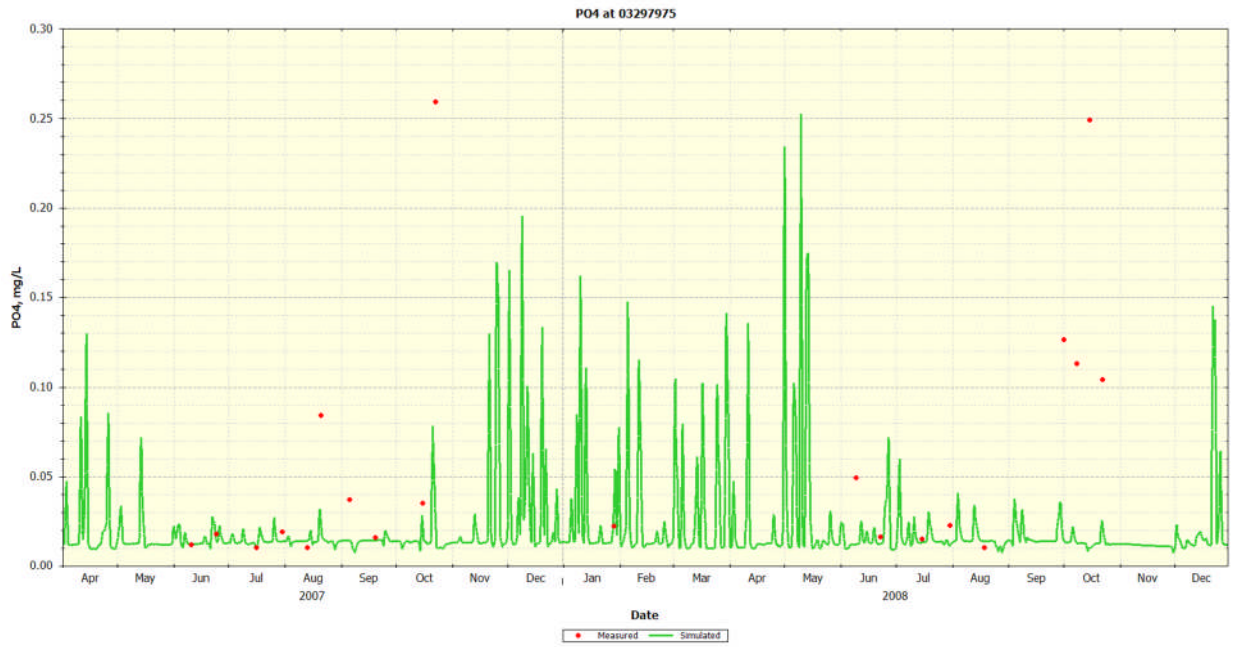


Figure A-220 Modeled vs. Observed PO_4 (mg/L) at 03297975

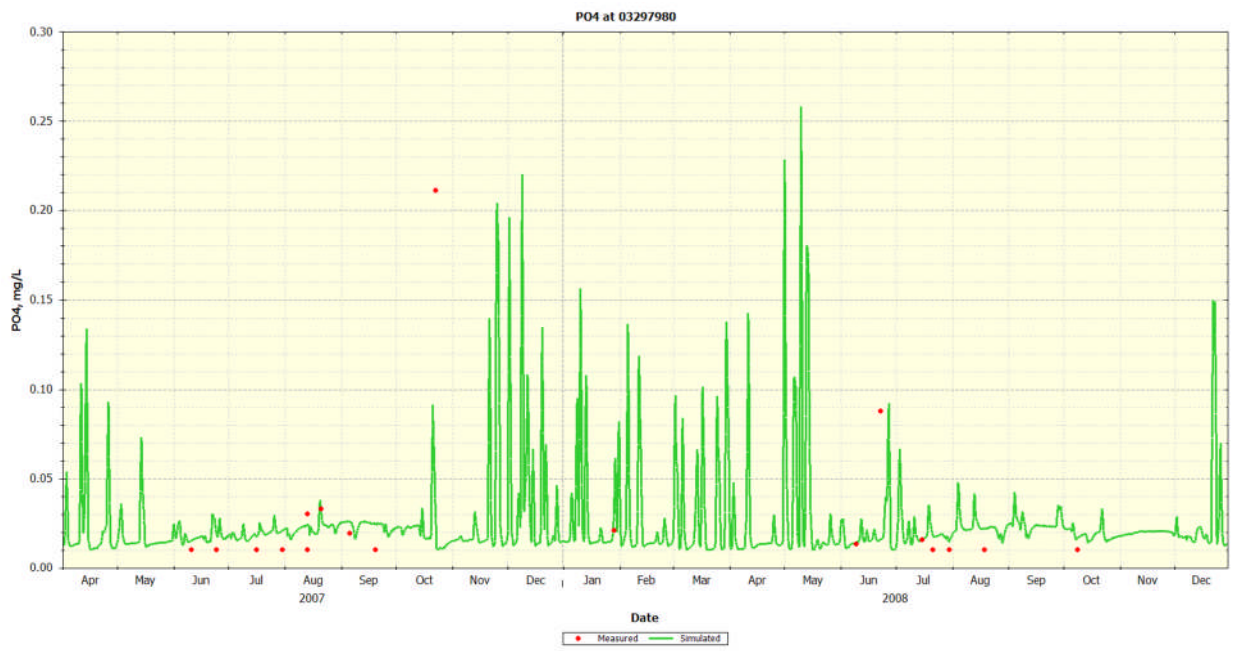


Figure A-221 Modeled vs. Observed PO_4 (mg/L) at 03297980

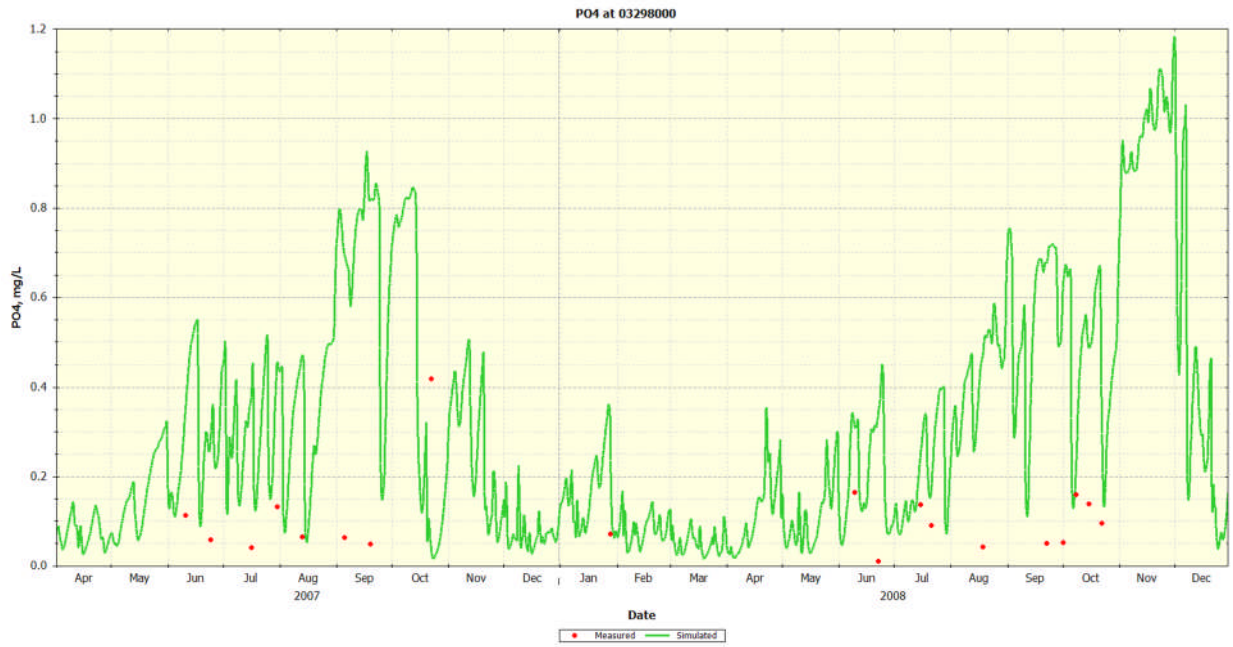


Figure A-222 Modeled vs. Observed PO_4 (mg/L) at 03298000

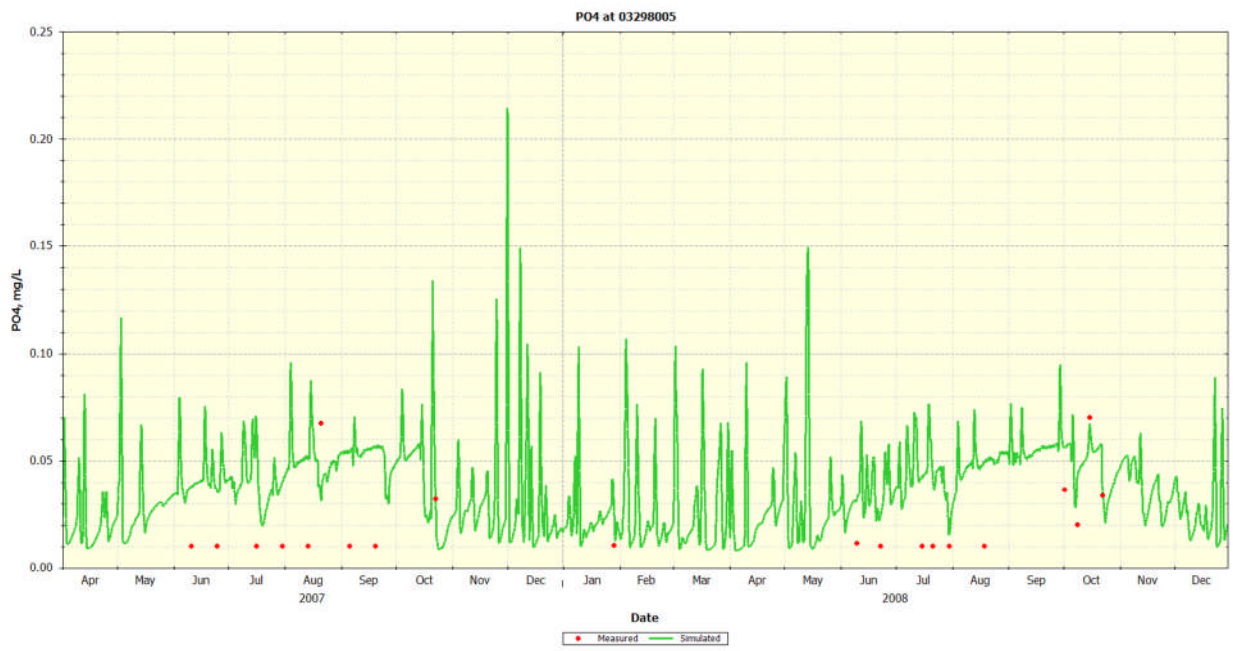


Figure A-223 Modeled vs. Observed PO_4 (mg/L) at 03298005

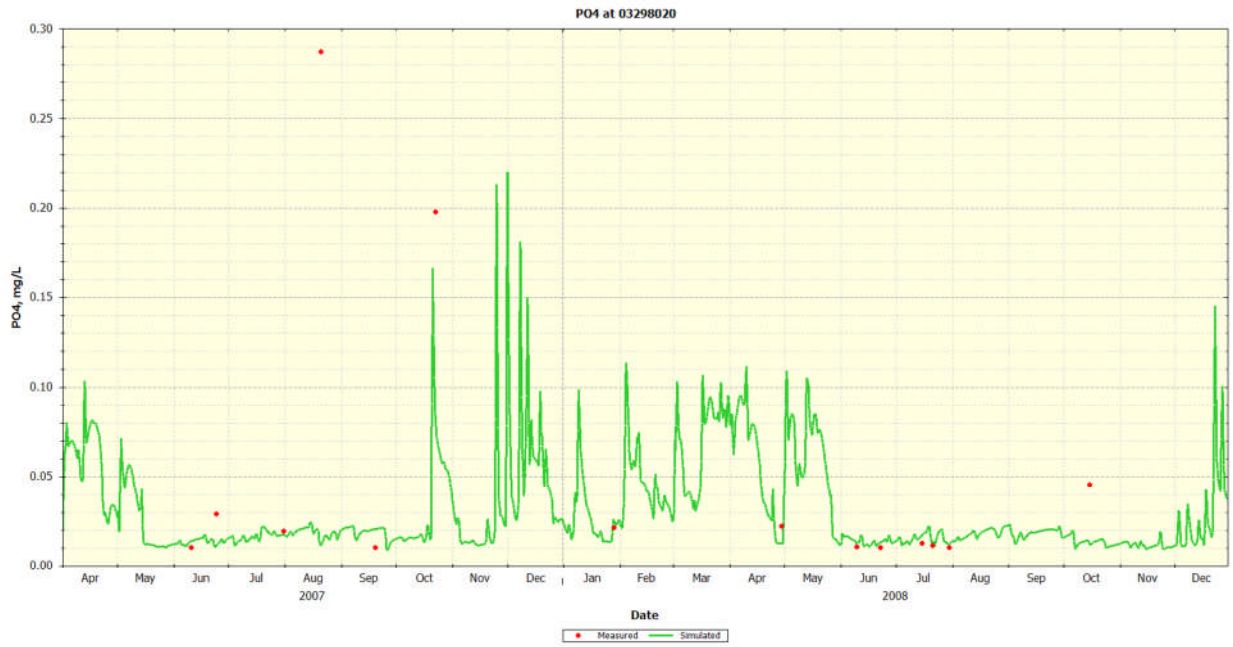


Figure A-224 Modeled vs. Observed PO_4 (mg/L) at 03298020

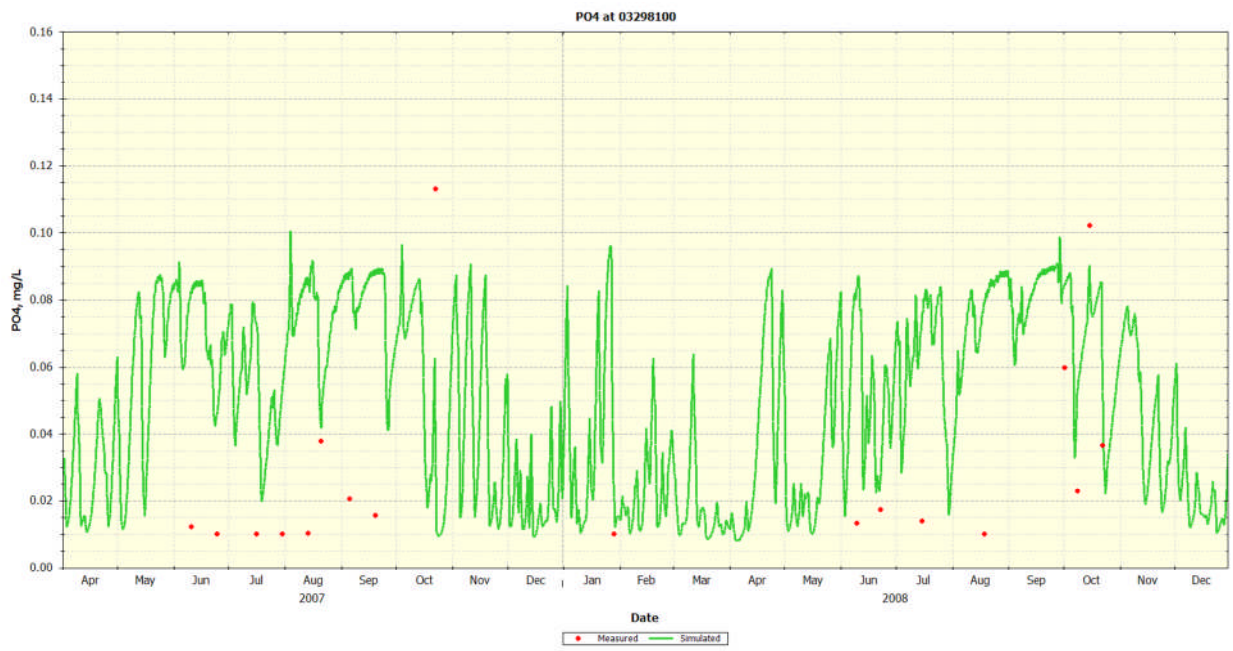


Figure A-225 Modeled vs. Observed PO_4 (mg/L) at 03298100

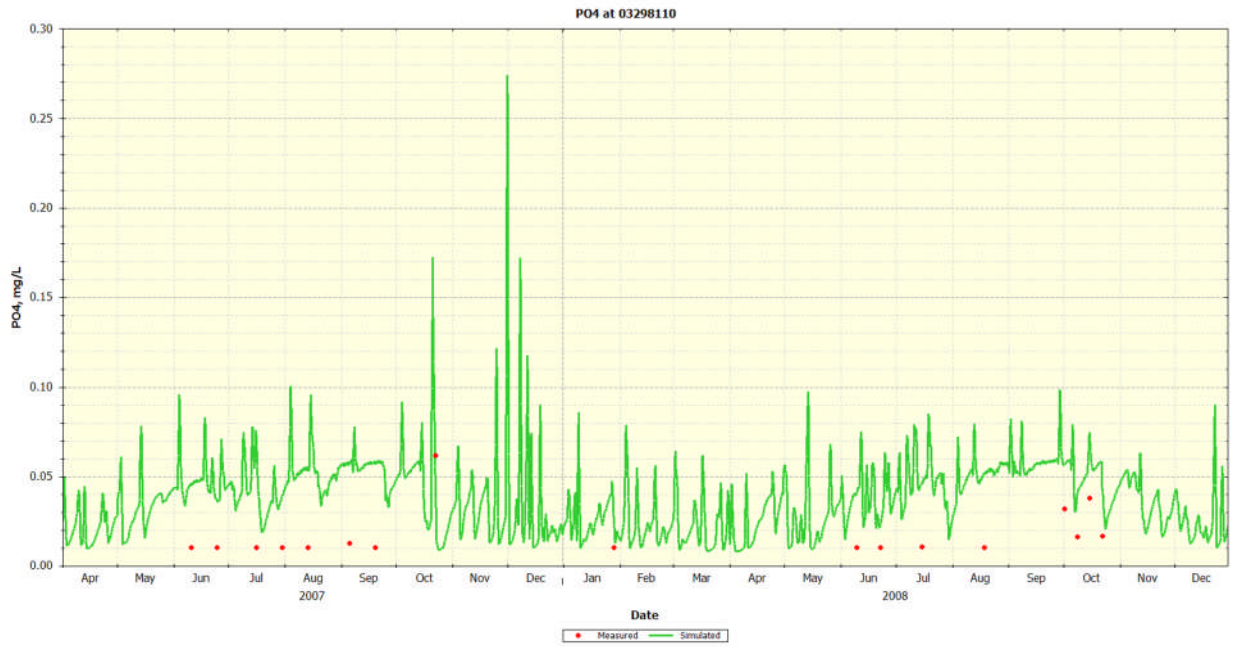


Figure A-226 Modeled vs. Observed PO_4 (mg/L) at 03298110

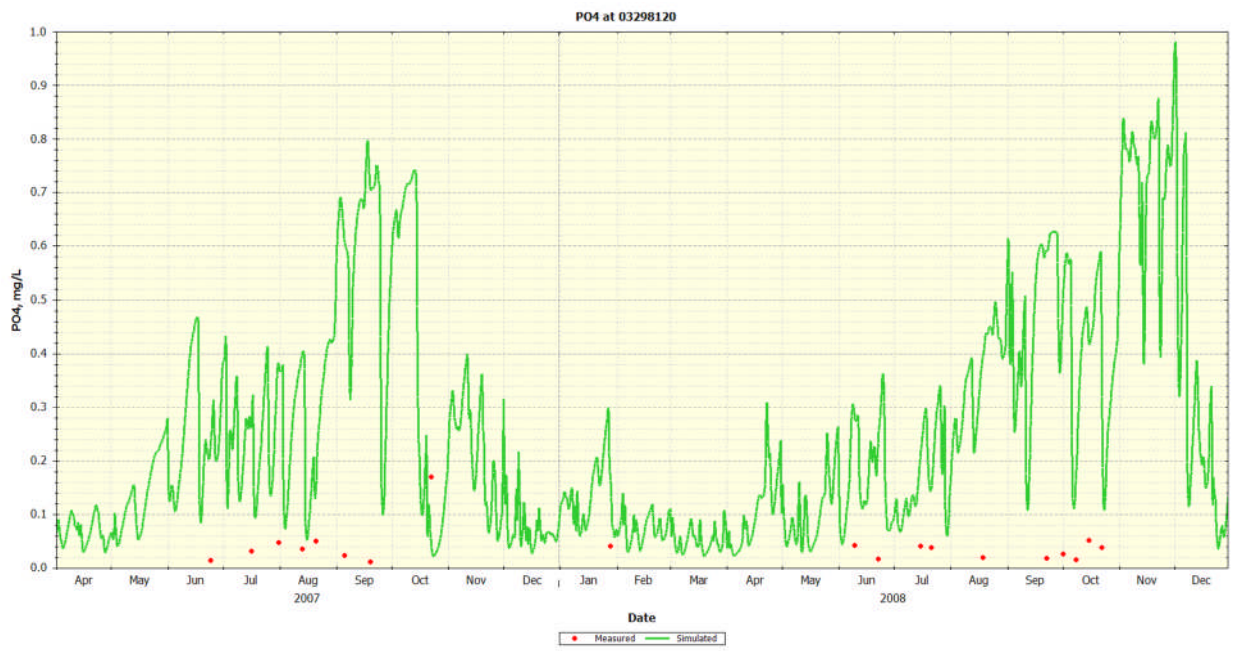


Figure A-227 Modeled vs. Observed PO_4 (mg/L) at 03298120

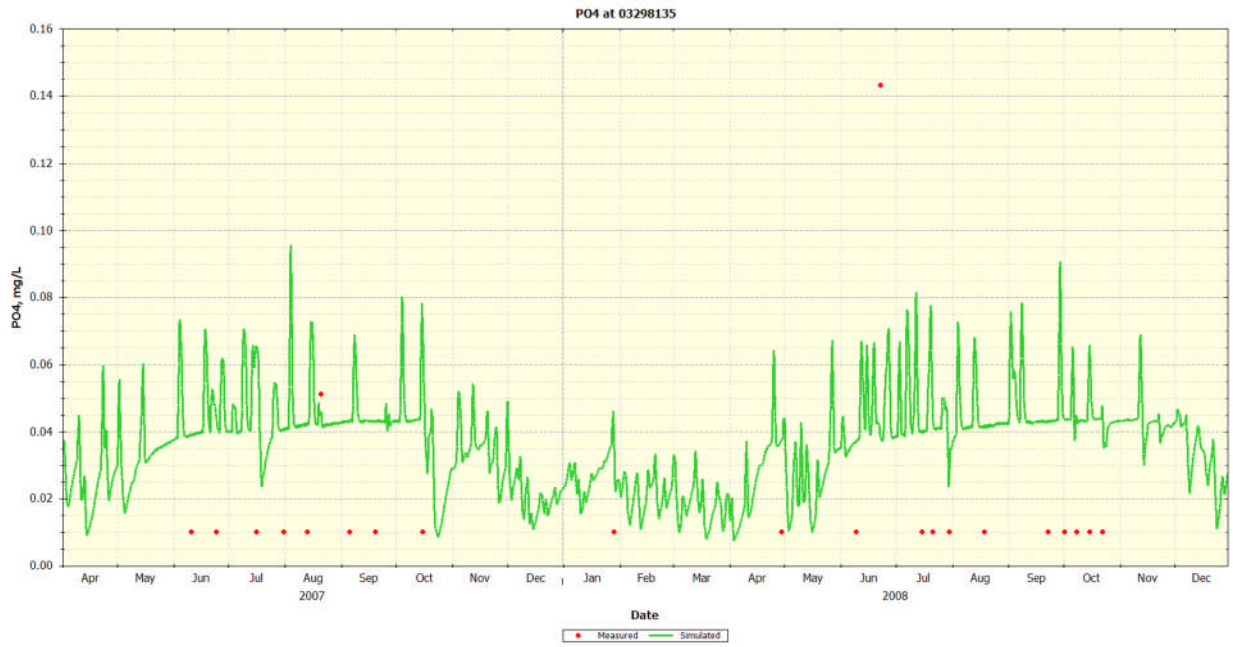


Figure A-228 Modeled vs. Observed PO_4 (mg/L) at 03298135

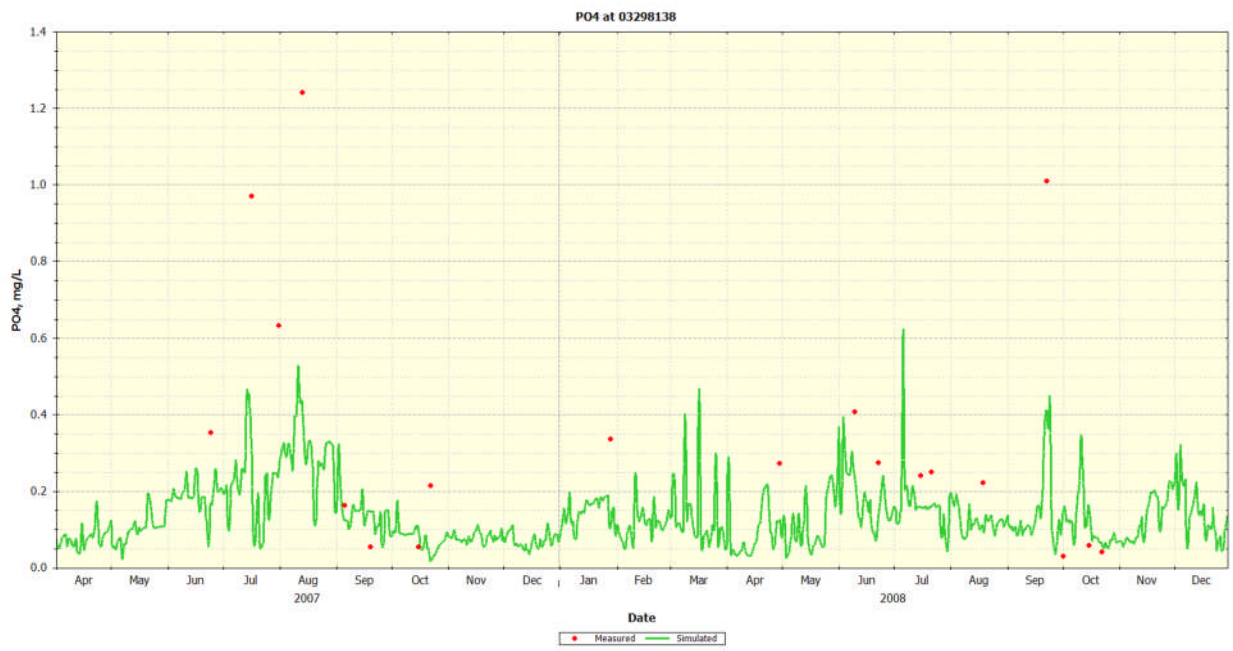


Figure A-229 Modeled vs. Observed PO_4 (mg/L) at 03298138

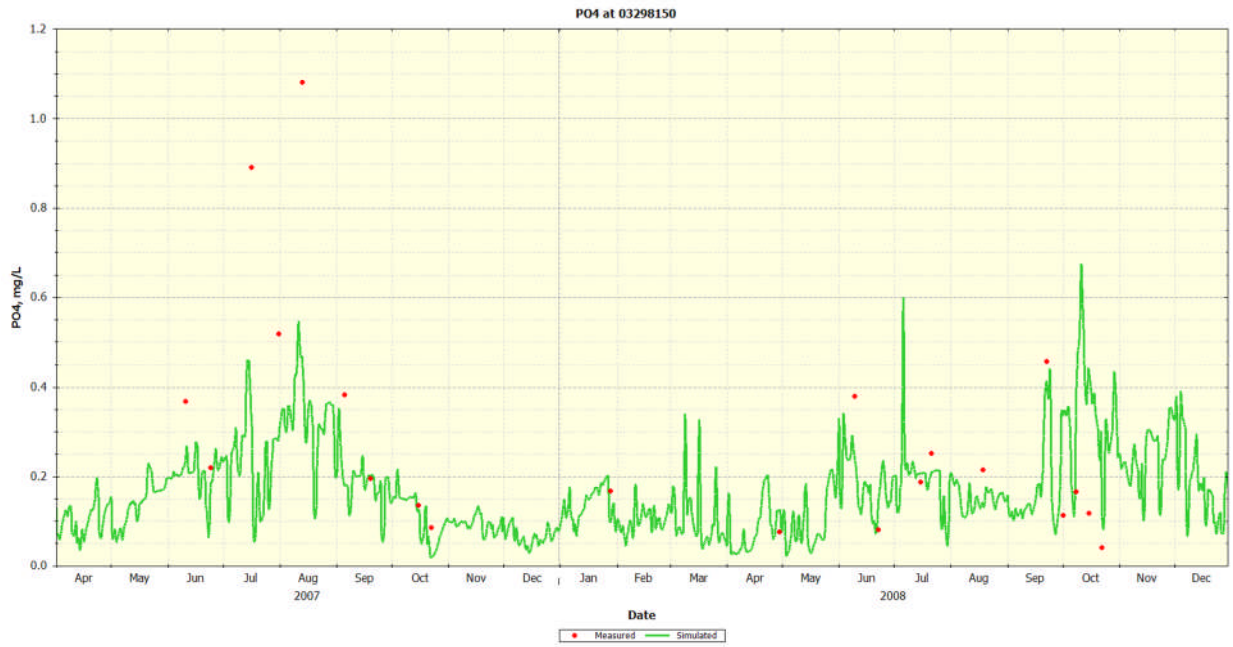


Figure A-230 Modeled vs. Observed PO_4 (mg/L) at 03298150

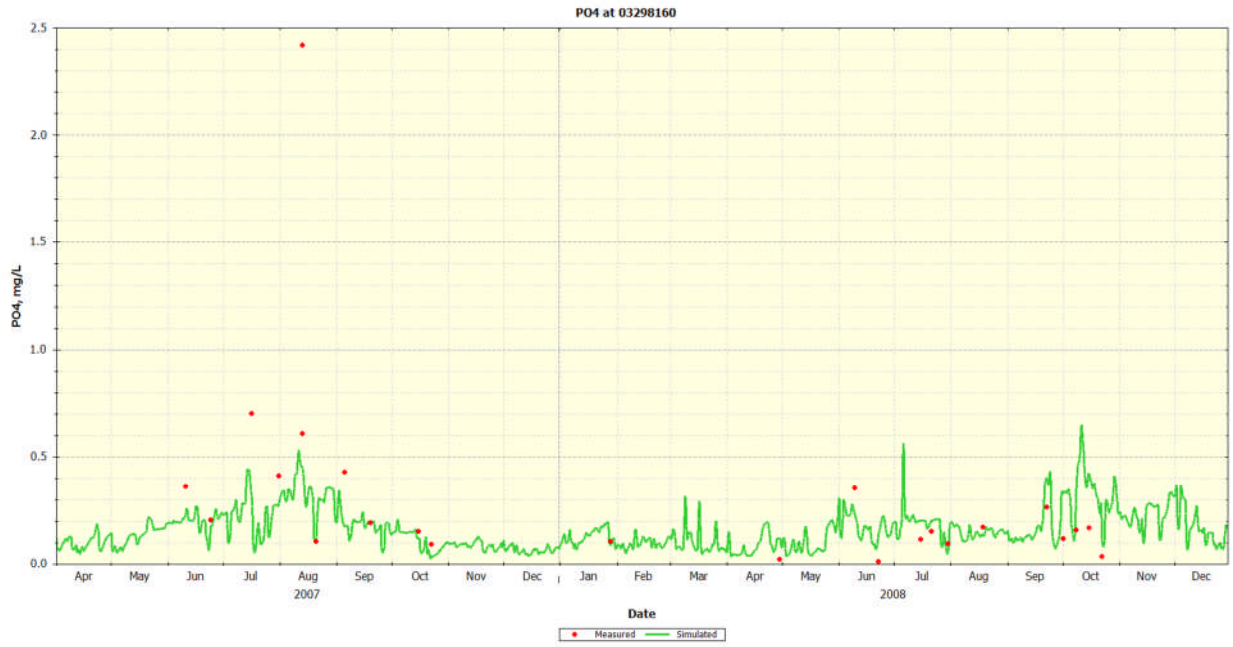


Figure A-231 Modeled vs. Observed PO_4 (mg/L) at 03298160

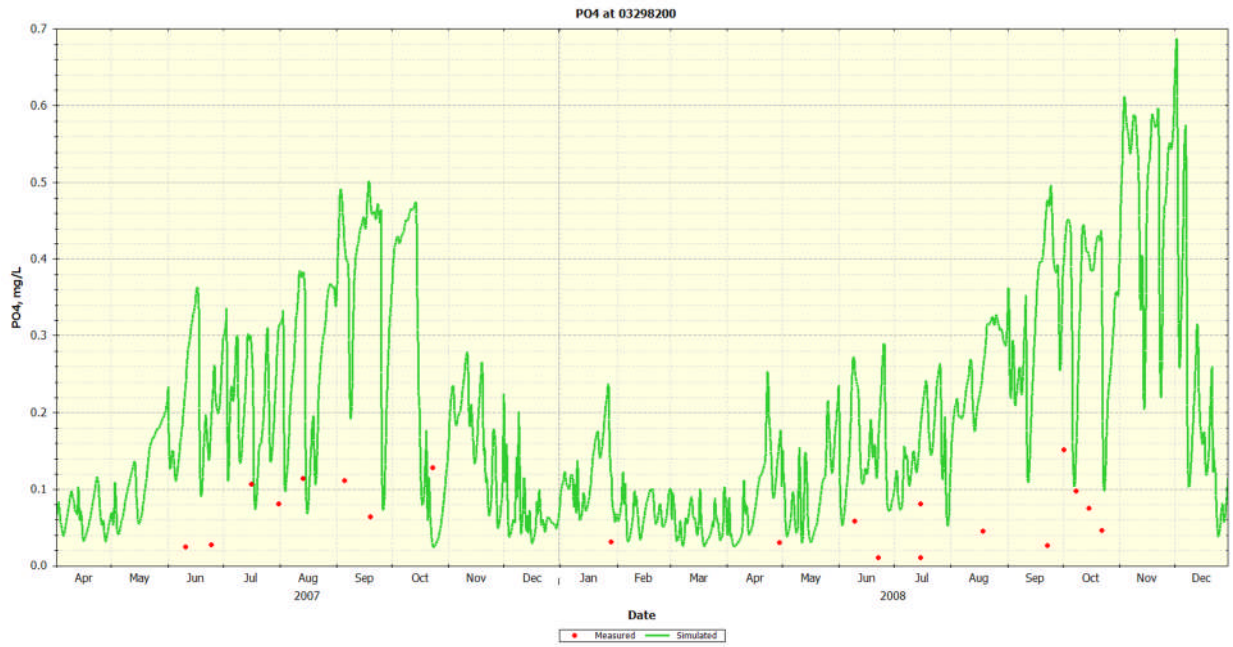


Figure A-232 Modeled vs. Observed PO_4 (mg/L) at 03298200

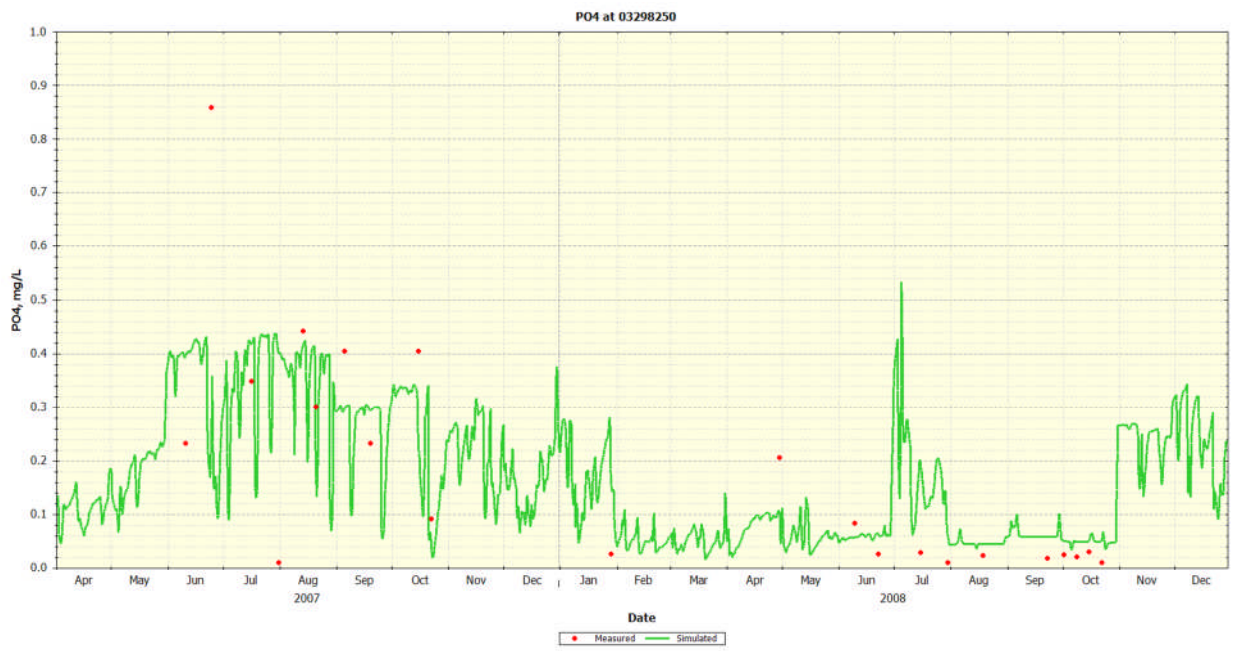


Figure A-233 Modeled vs. Observed PO_4 (mg/L) at 03298250

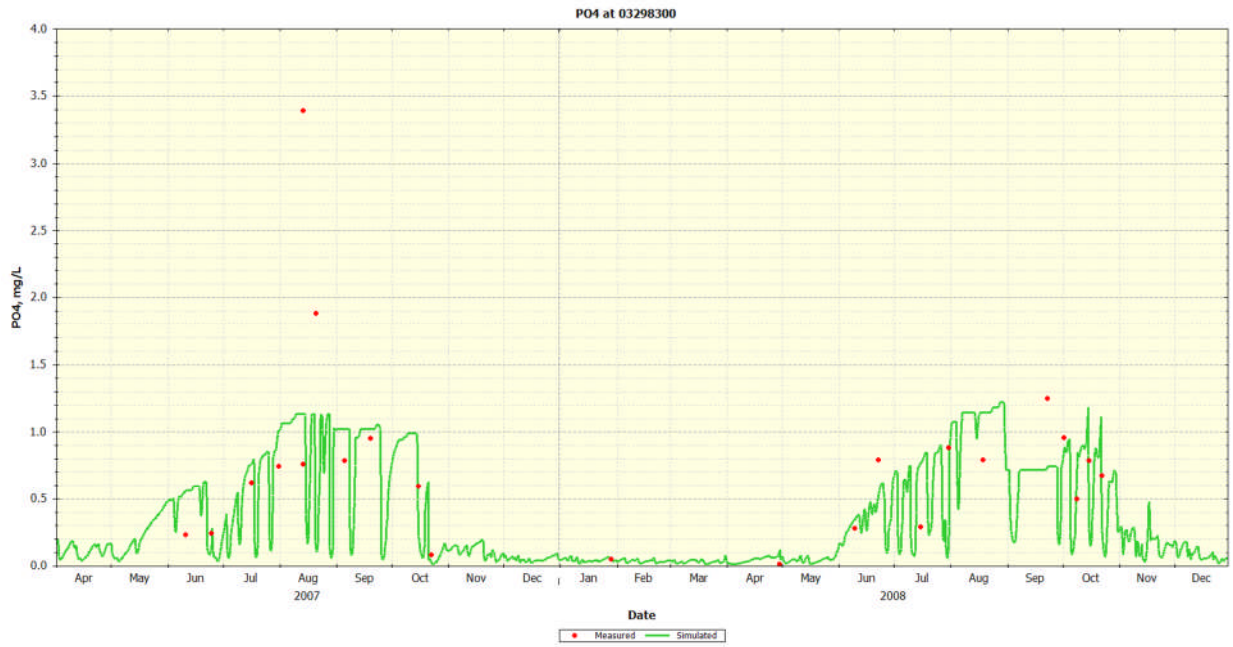


Figure A-234 Modeled vs. Observed PO_4 (mg/L) at 03298300

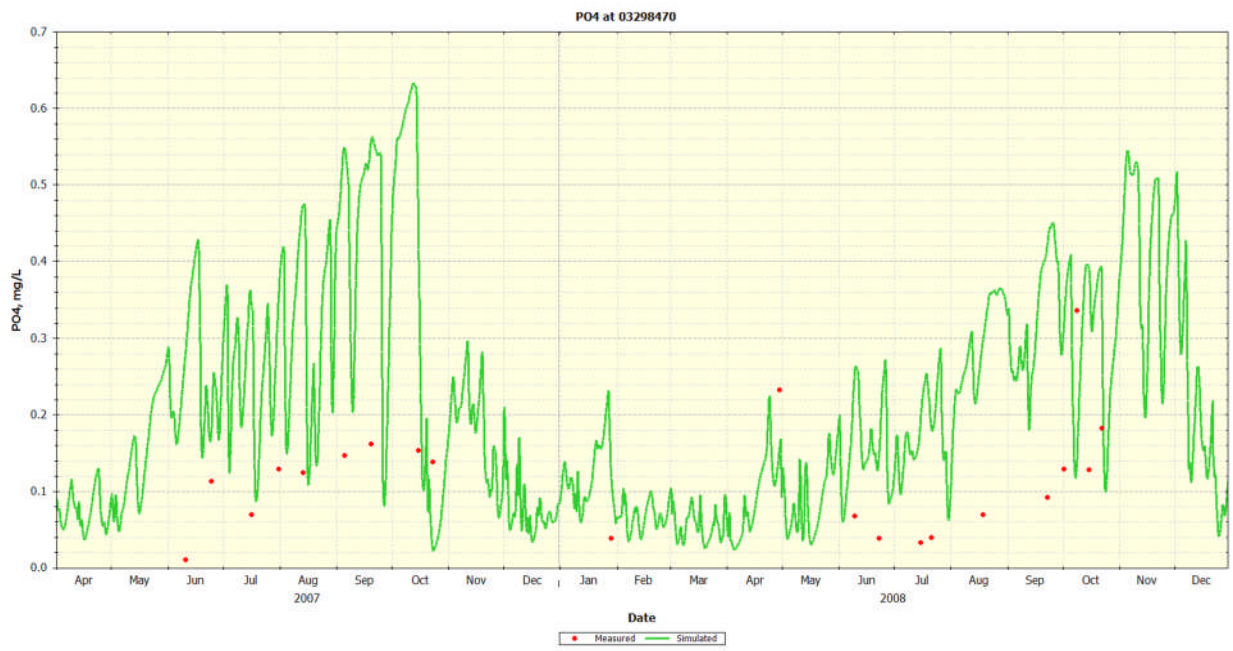


Figure A-235 Modeled vs. Observed PO_4 (mg/L) at 03298470

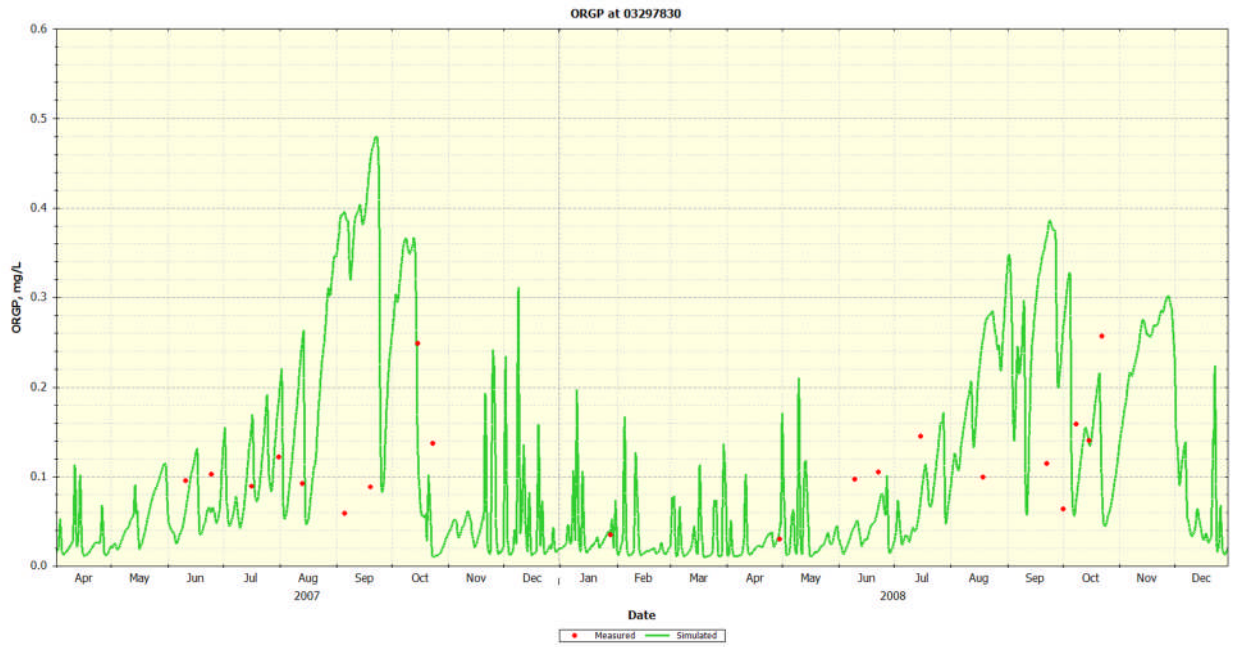


Figure A-236 Modeled vs. Observed ORGP (mg/L) at 03297830

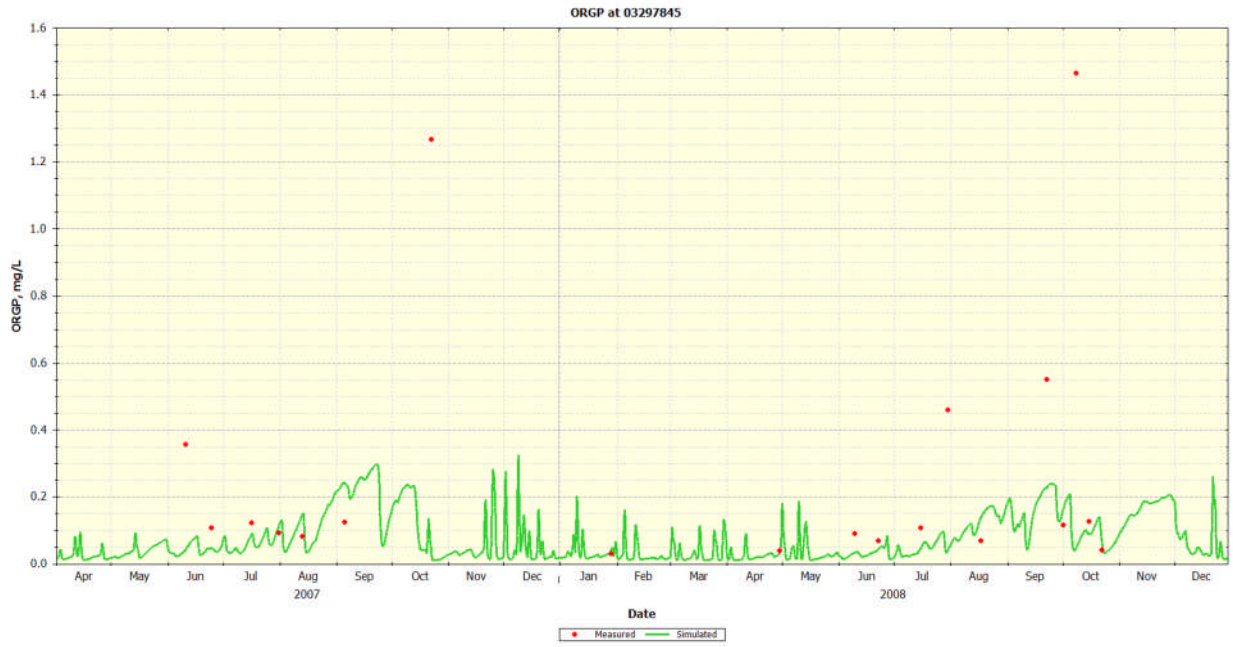


Figure A-237 Modeled vs. Observed ORGP (mg/L) at 03297845

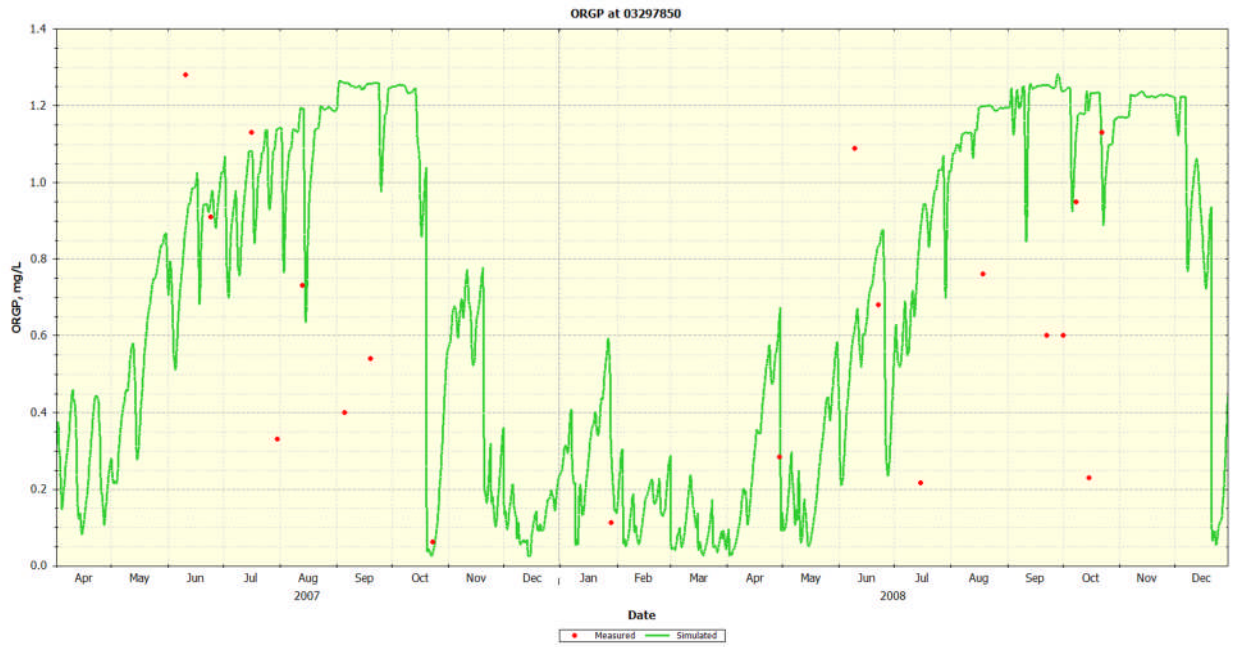


Figure A-238 Modeled vs. Observed ORGP (mg/L) at 03297850

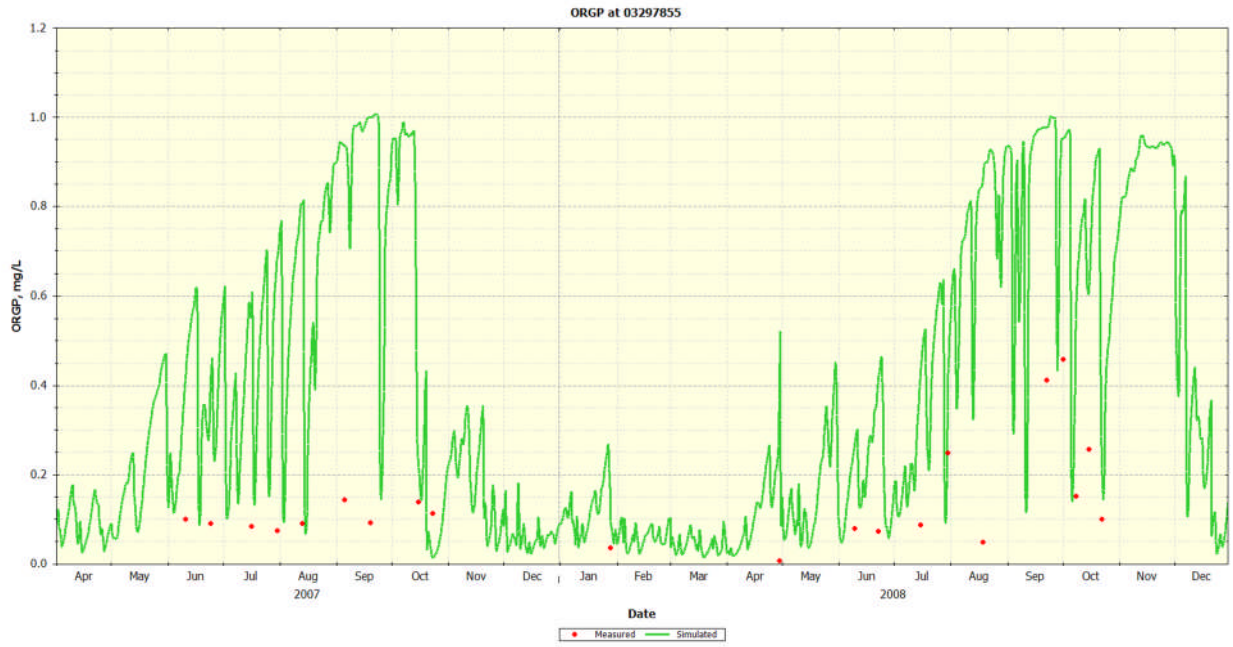


Figure A-239 Modeled vs. Observed ORGP (mg/L) at 03297855

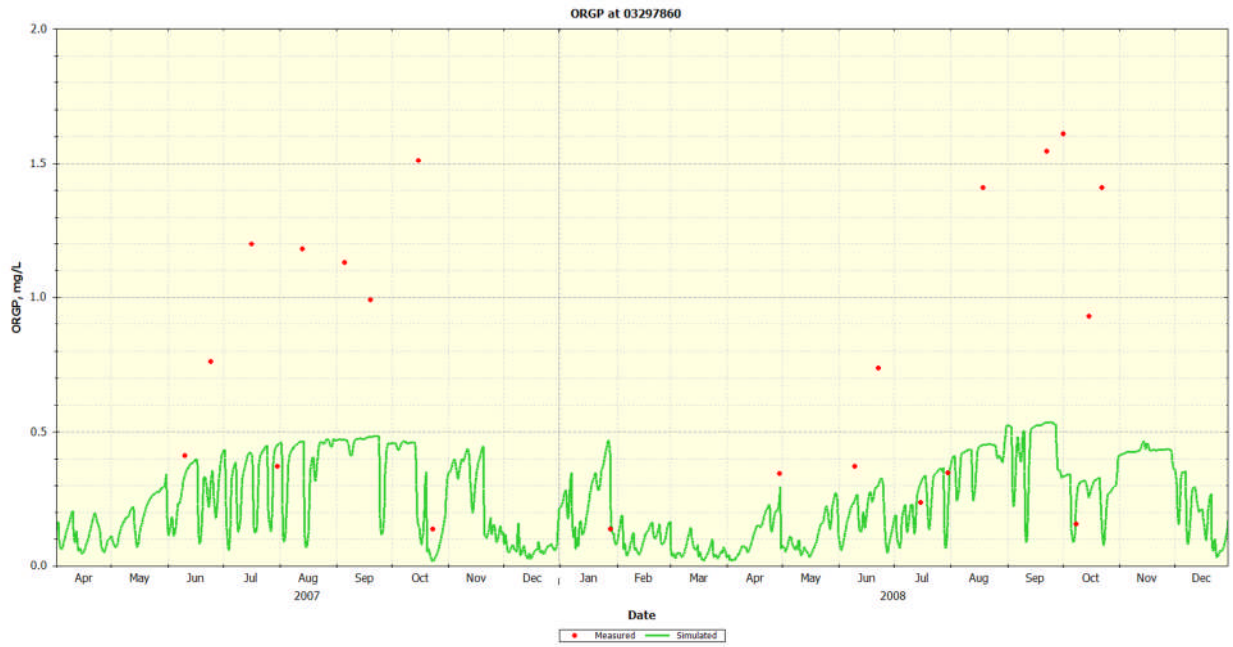


Figure A-240 Modeled vs. Observed ORGP (mg/L) at 03297860

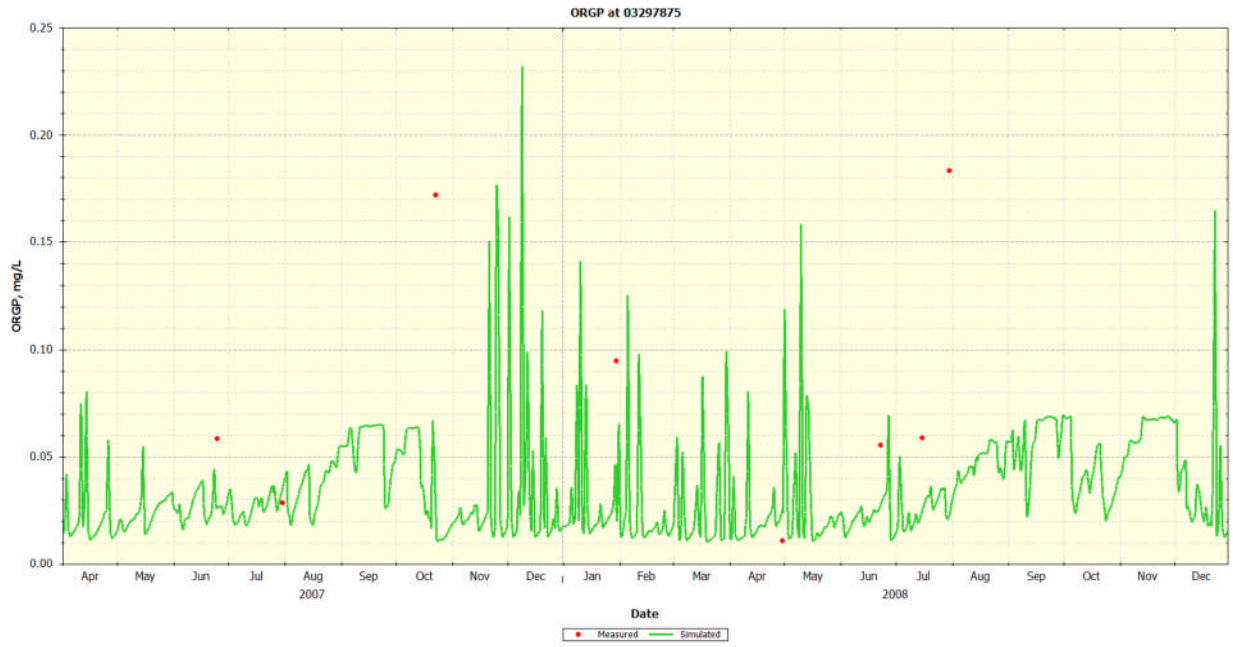


Figure A-241 Modeled vs. Observed ORGP (mg/L) at 03297875

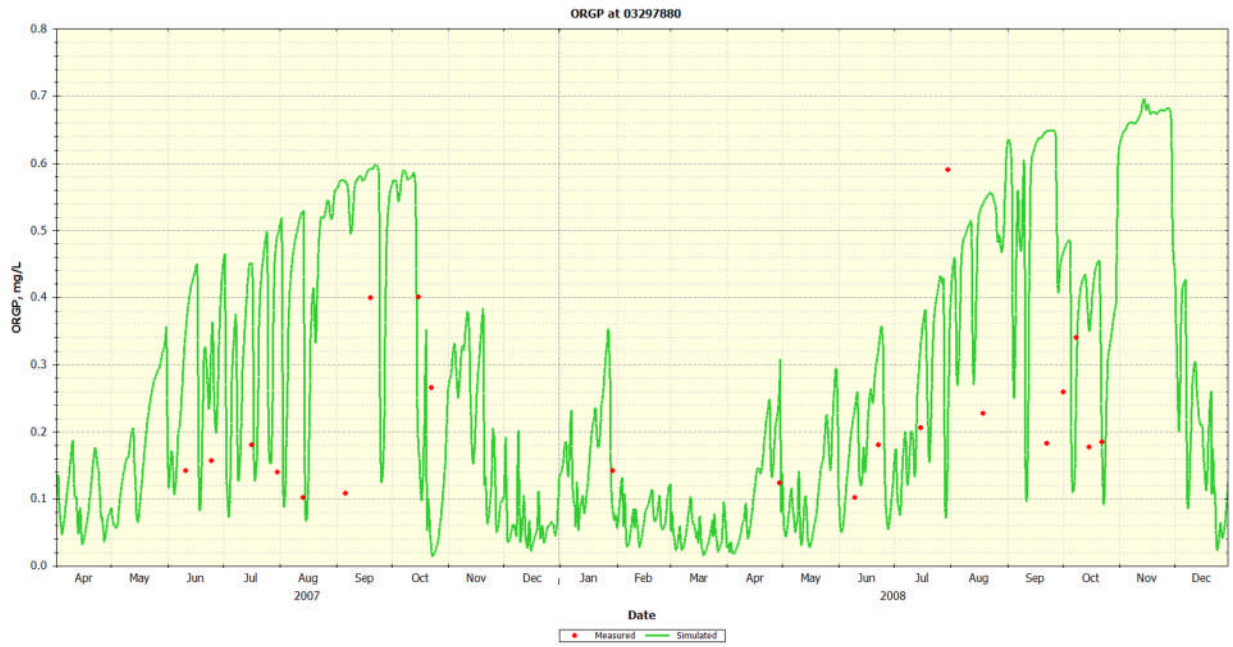


Figure A-242 Modeled vs. Observed ORGP (mg/L) at 03297880

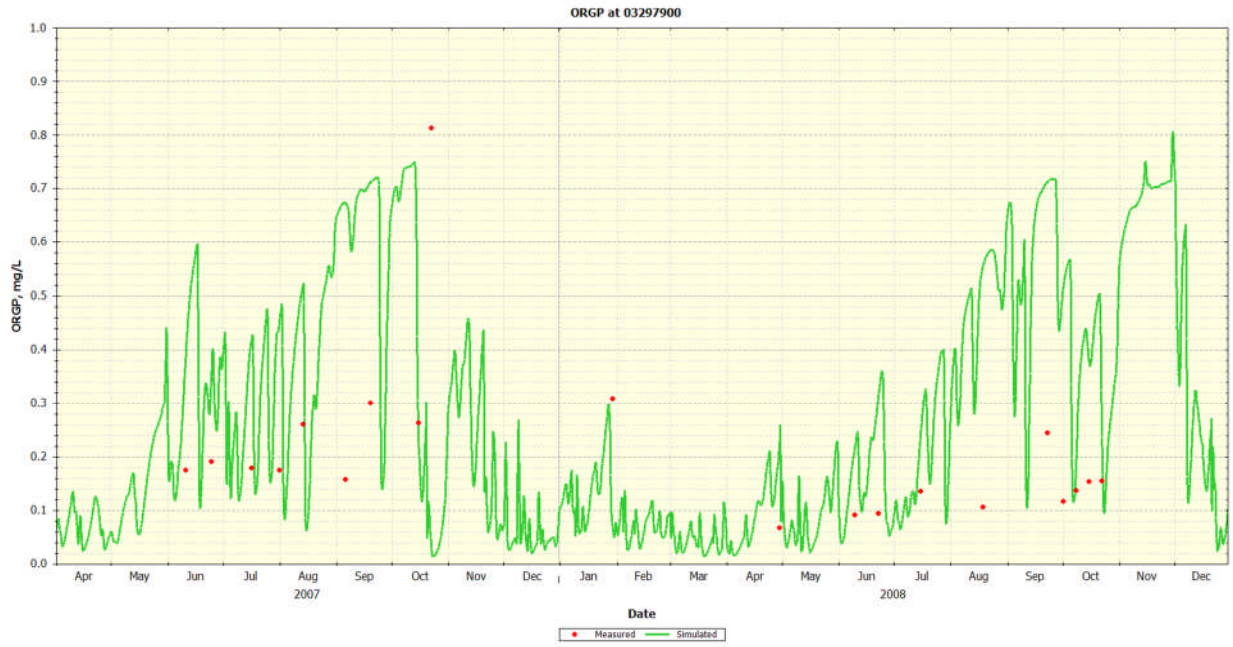


Figure A-243 Modeled vs. Observed ORGP (mg/L) at 03297900

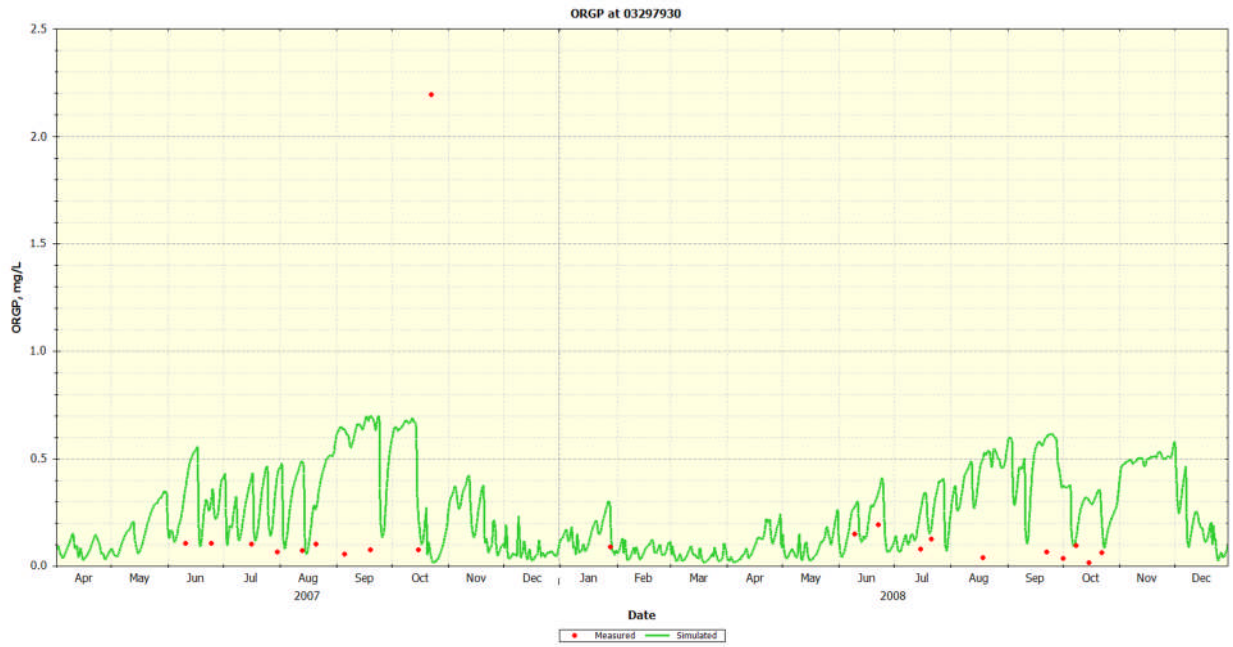


Figure A-244 Modeled vs. Observed ORGP (mg/L) at 03297930

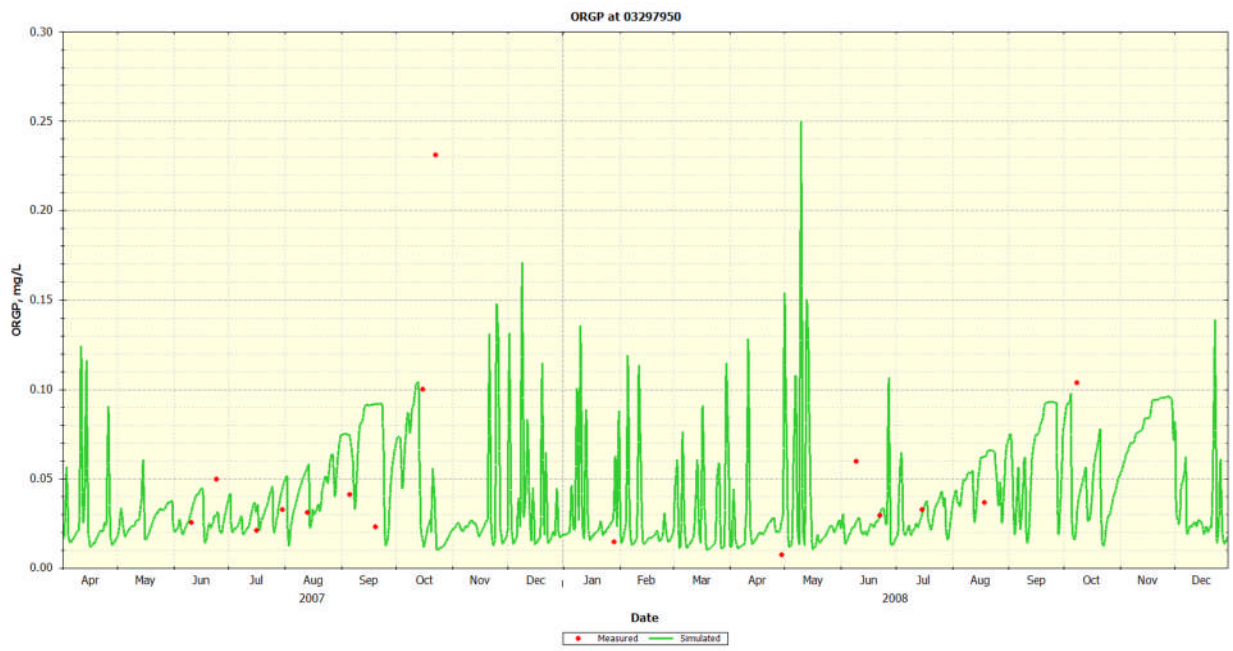


Figure A-245 Modeled vs. Observed ORGP (mg/L) at 03297950

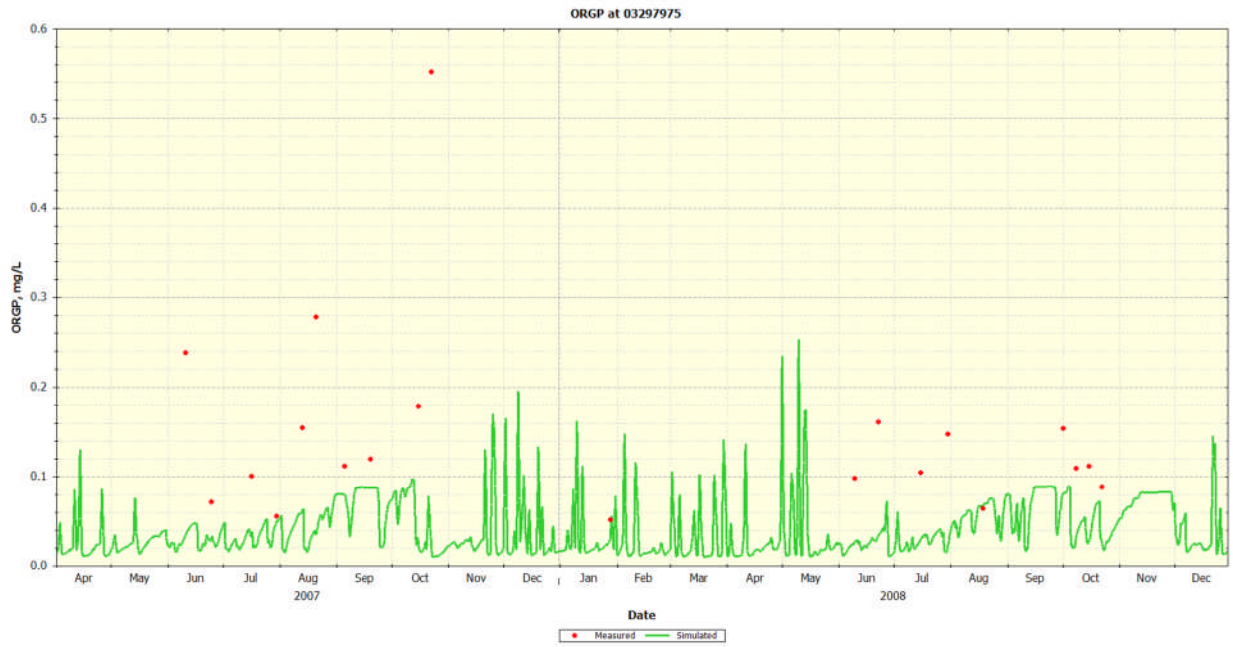


Figure A-246 Modeled vs. Observed ORGP (mg/L) at 03297975

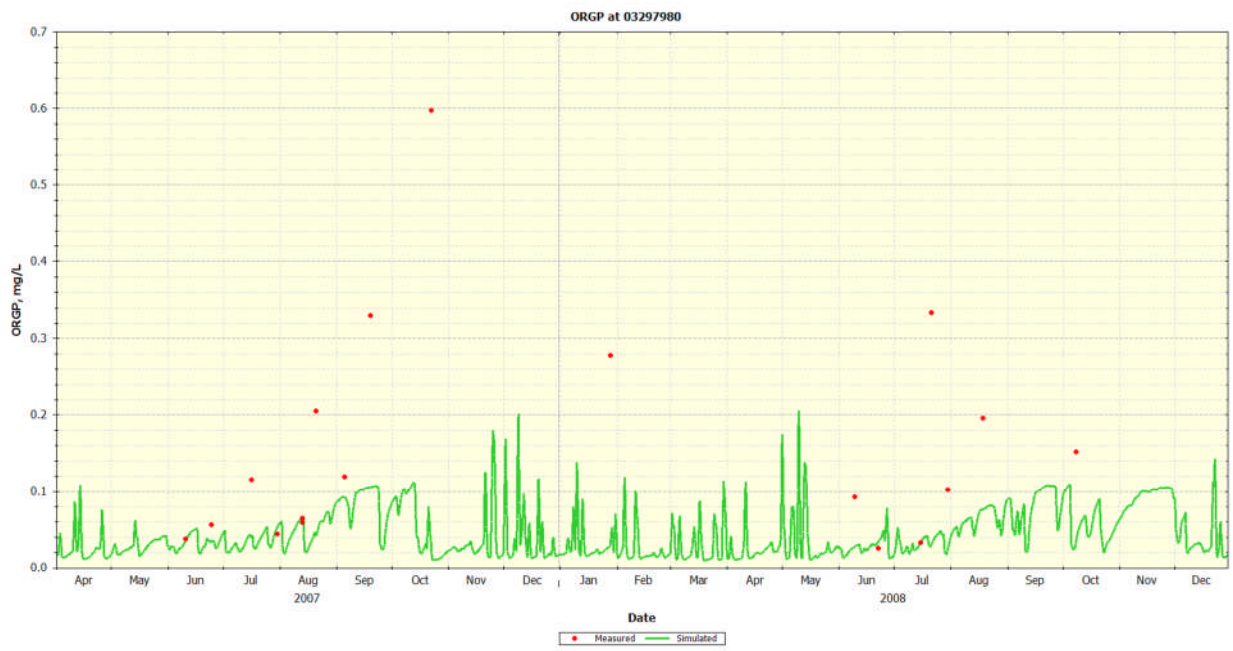


Figure A-247 Modeled vs. Observed ORGP (mg/L) at 03297980

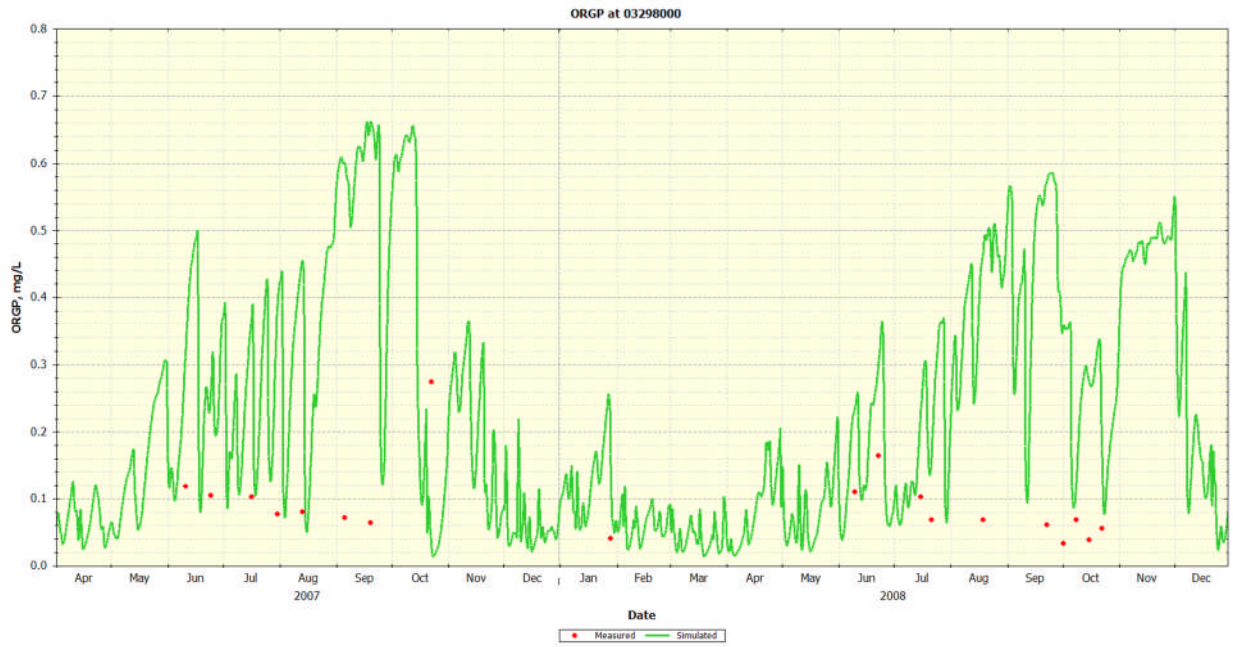


Figure A-248 Modeled vs. Observed ORGP (mg/L) at 03298000

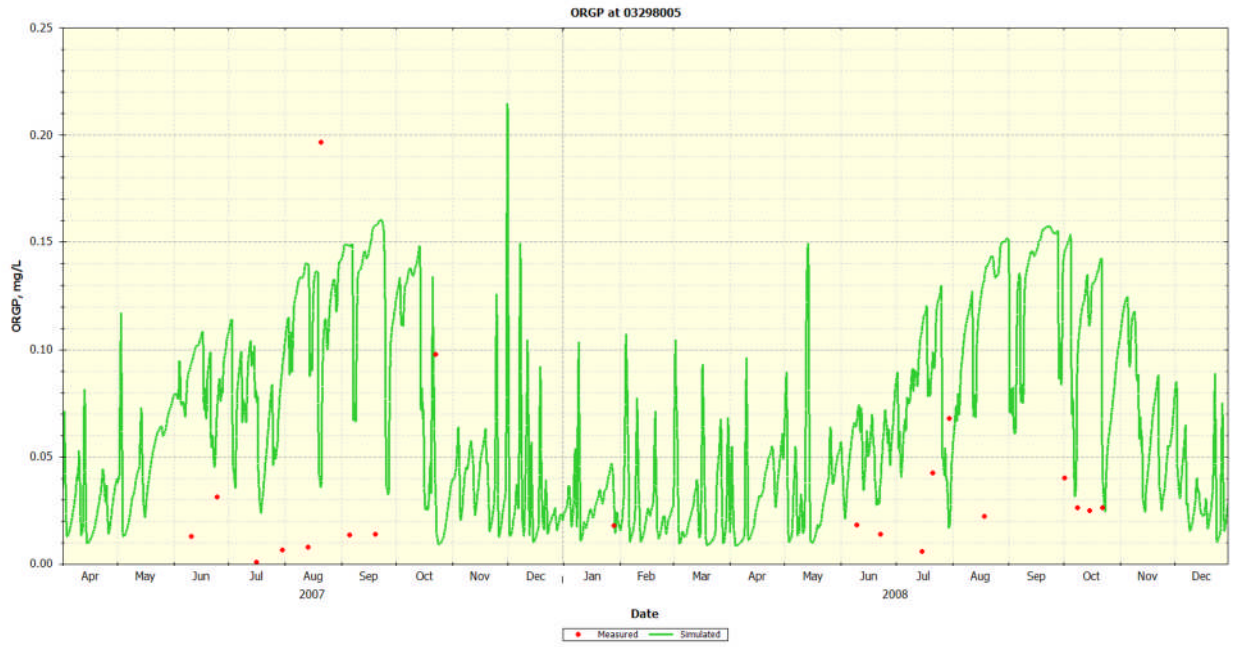


Figure A-249 Modeled vs. Observed ORGP (mg/L) at 03298005

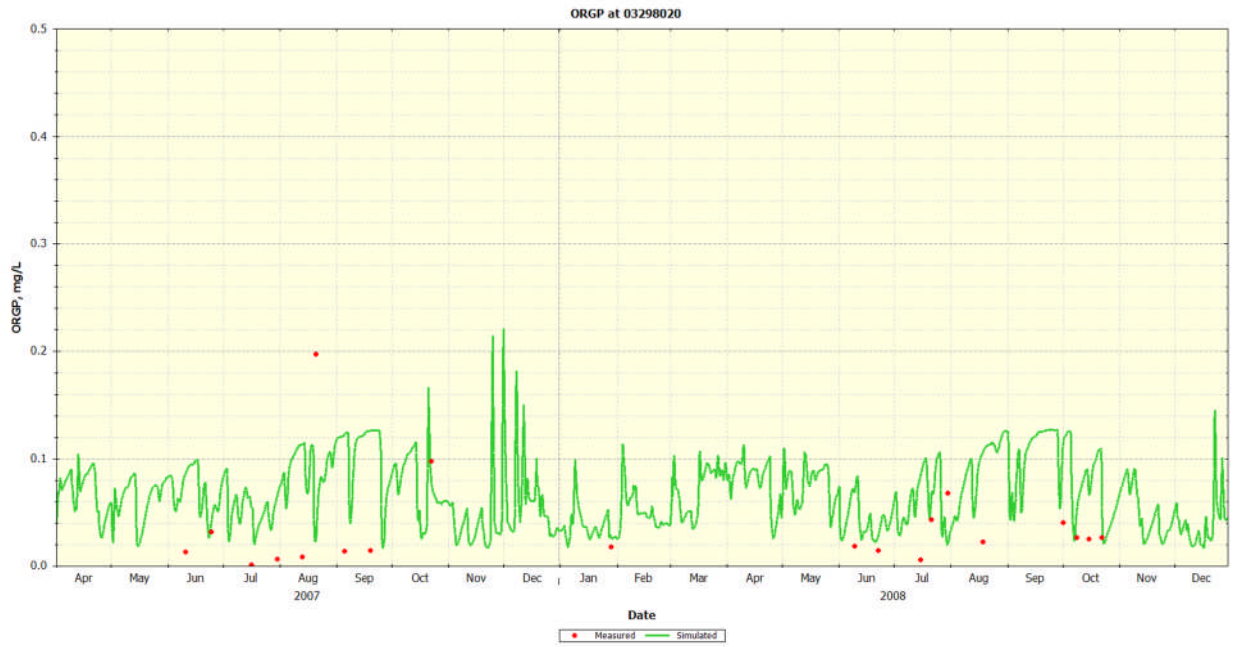


Figure A-250 Modeled vs. Observed ORGP (mg/L) at 03298020

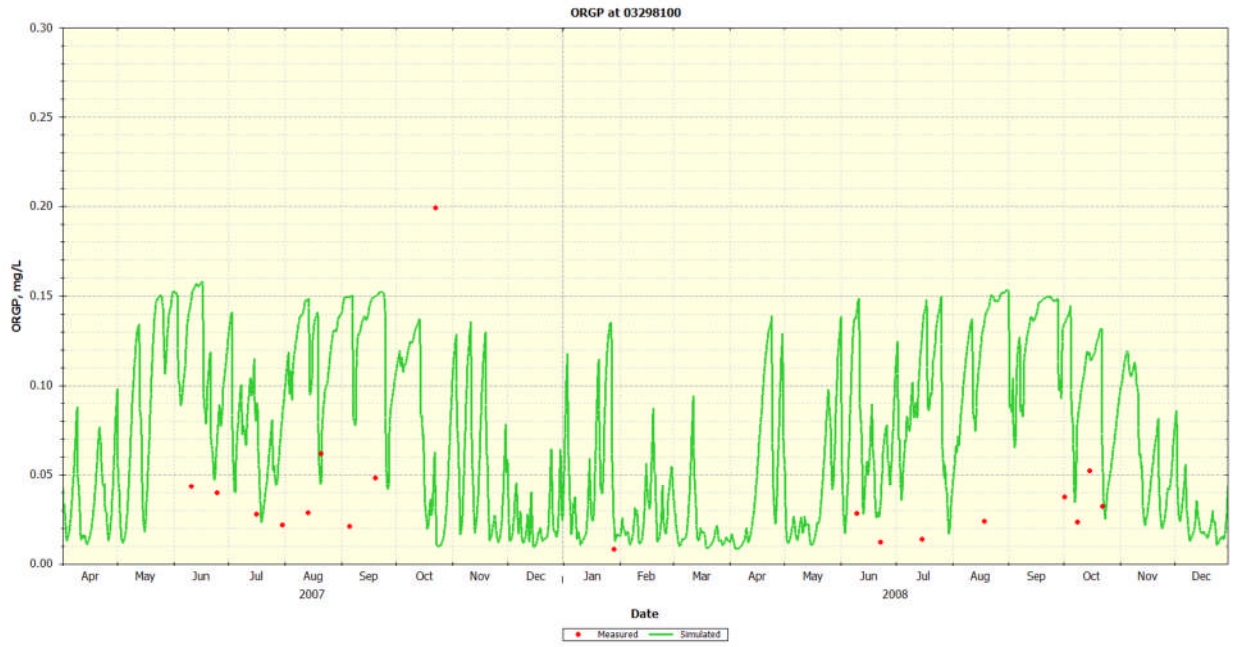


Figure A-251 Modeled vs. Observed ORGP (mg/L) at 03298100

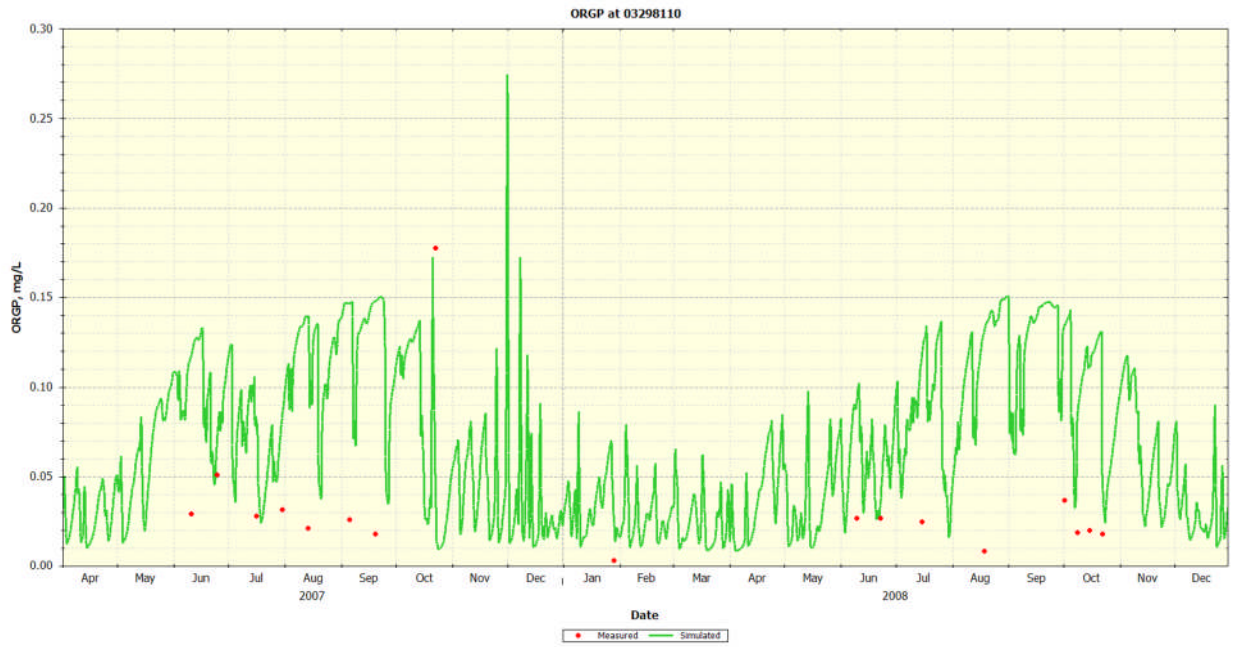


Figure A-252 Modeled vs. Observed ORGP (mg/L) at 03298110

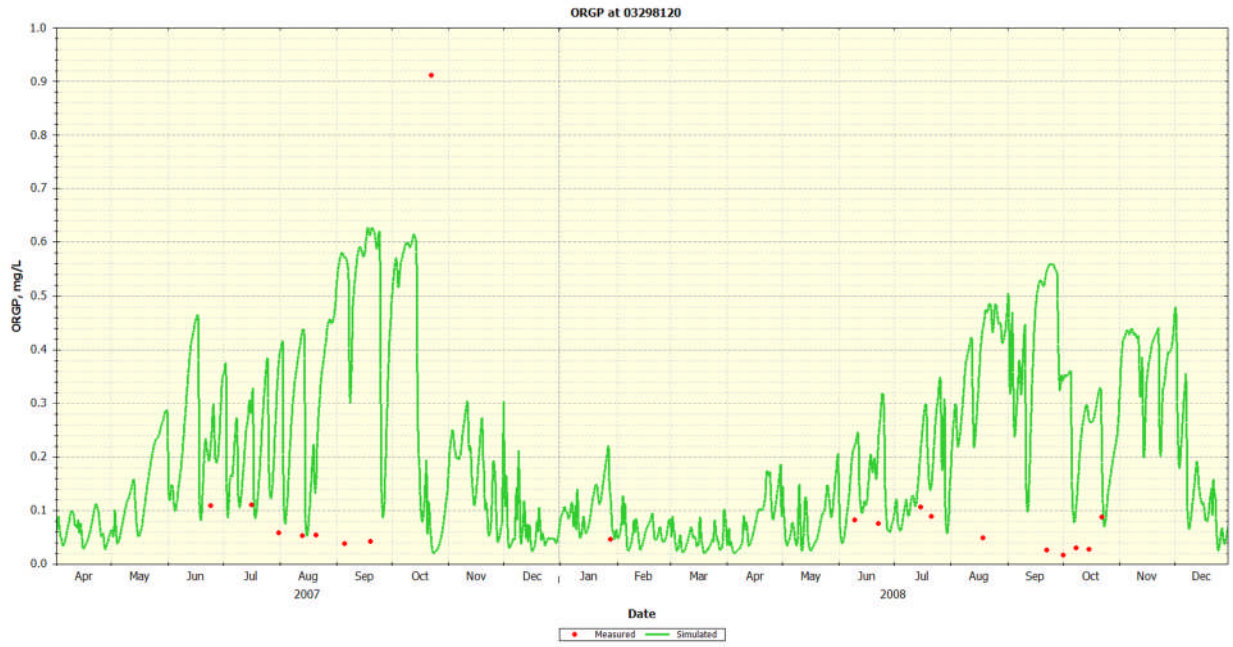


Figure A-253 Modeled vs. Observed ORGP (mg/L) at 03298120

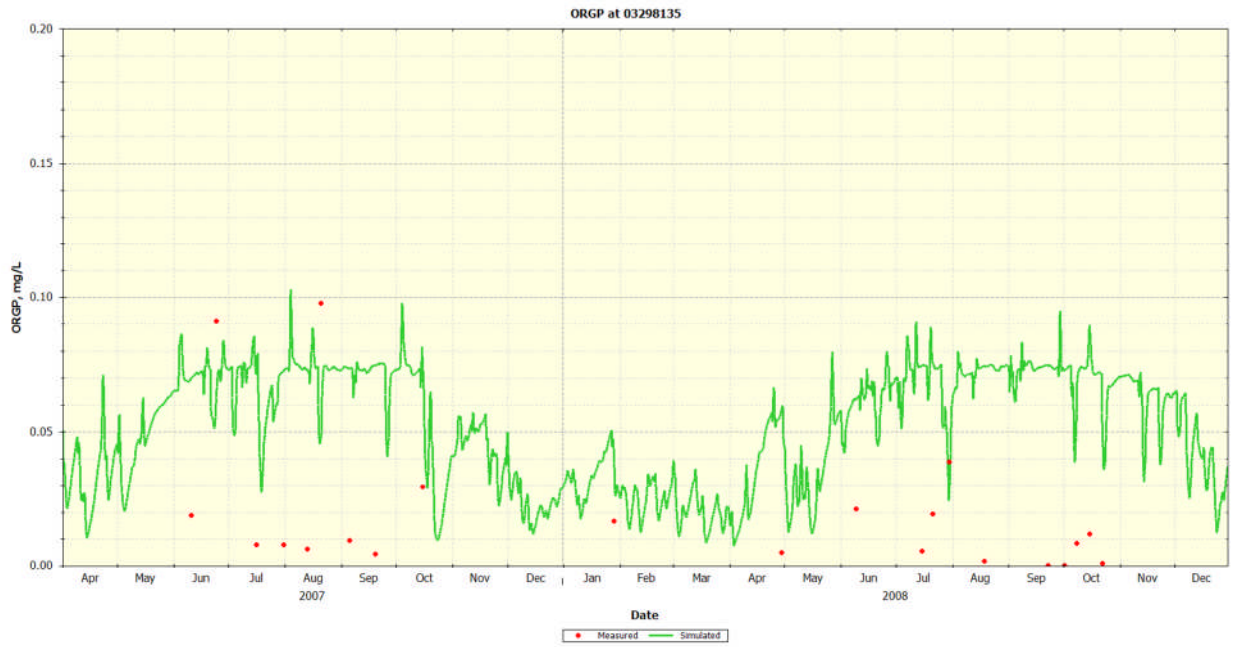


Figure A-254 Modeled vs. Observed ORGP (mg/L) at 03298135

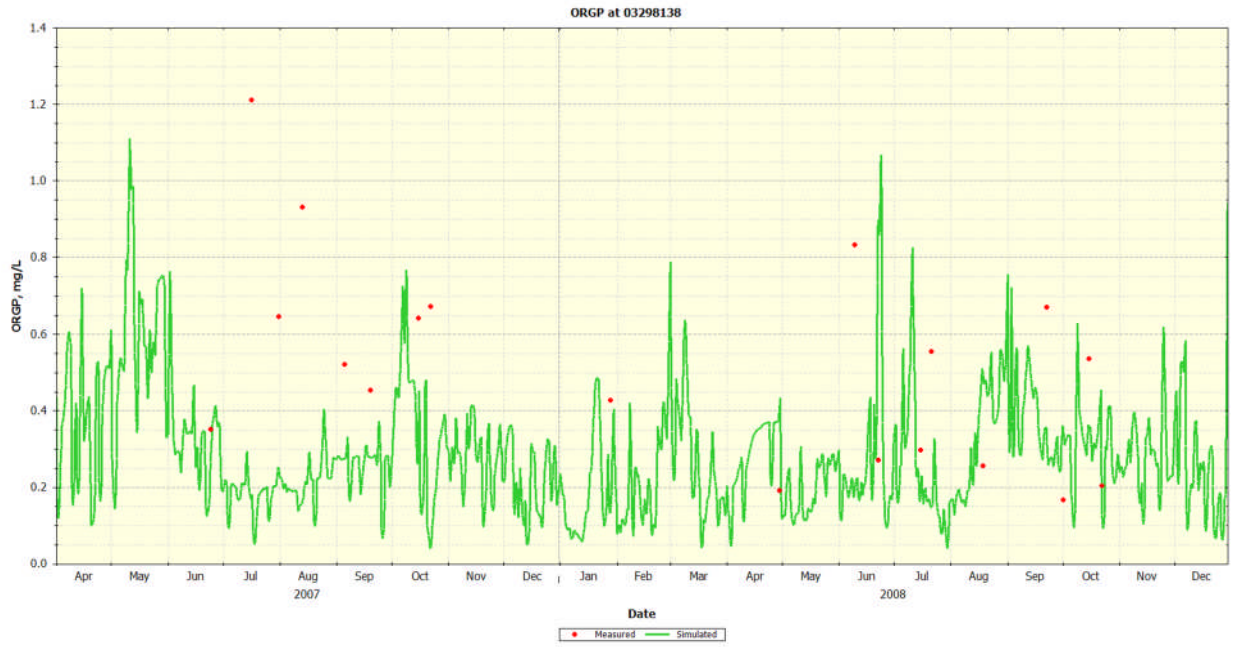


Figure A-255 Modeled vs. Observed ORGP (mg/L) at 03298138

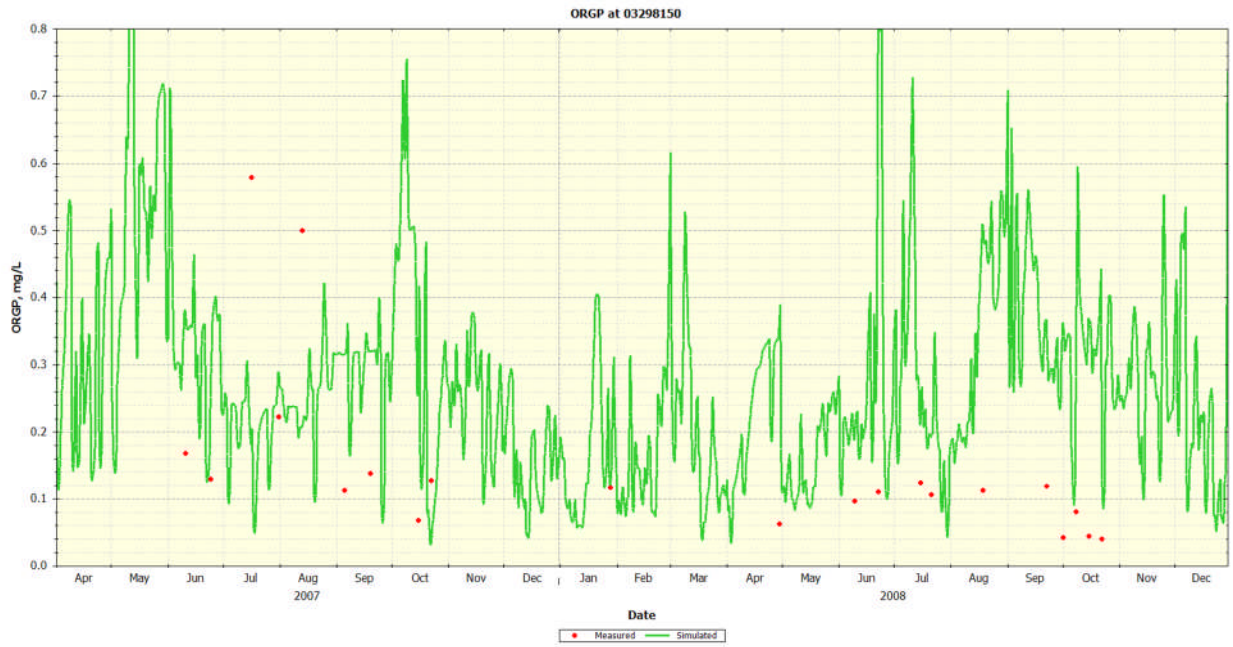


Figure A-256 Modeled vs. Observed ORGP (mg/L) at 03298150

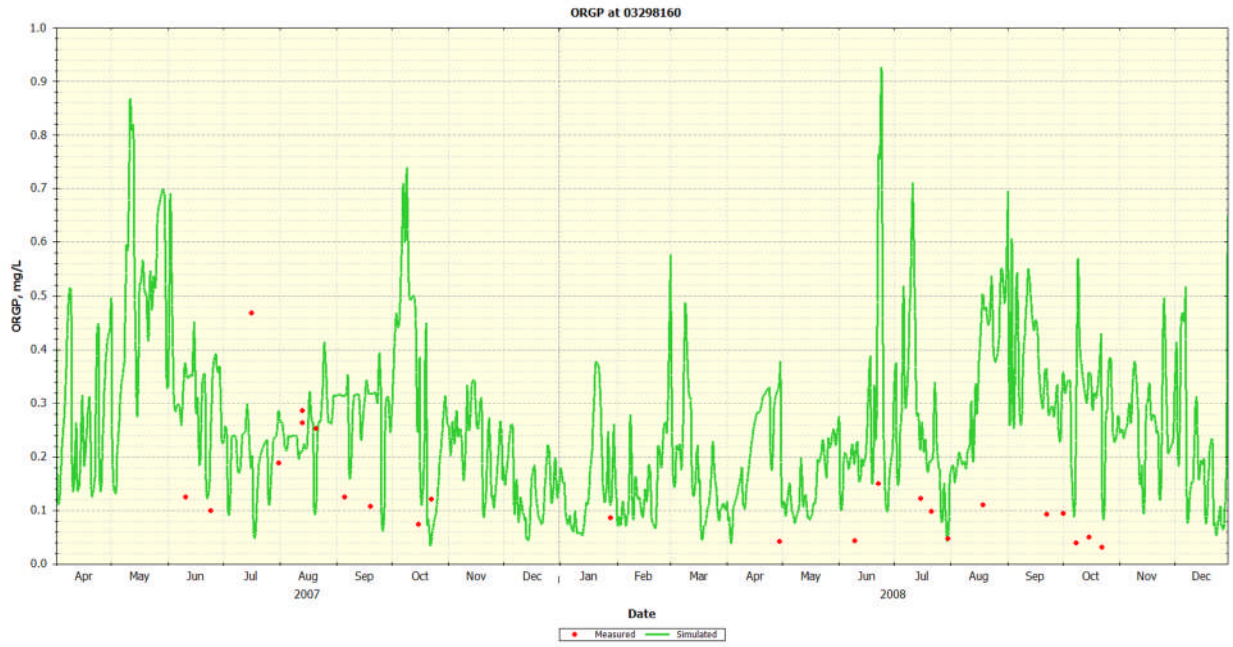


Figure A-257 Modeled vs. Observed ORGP (mg/L) at 03298160

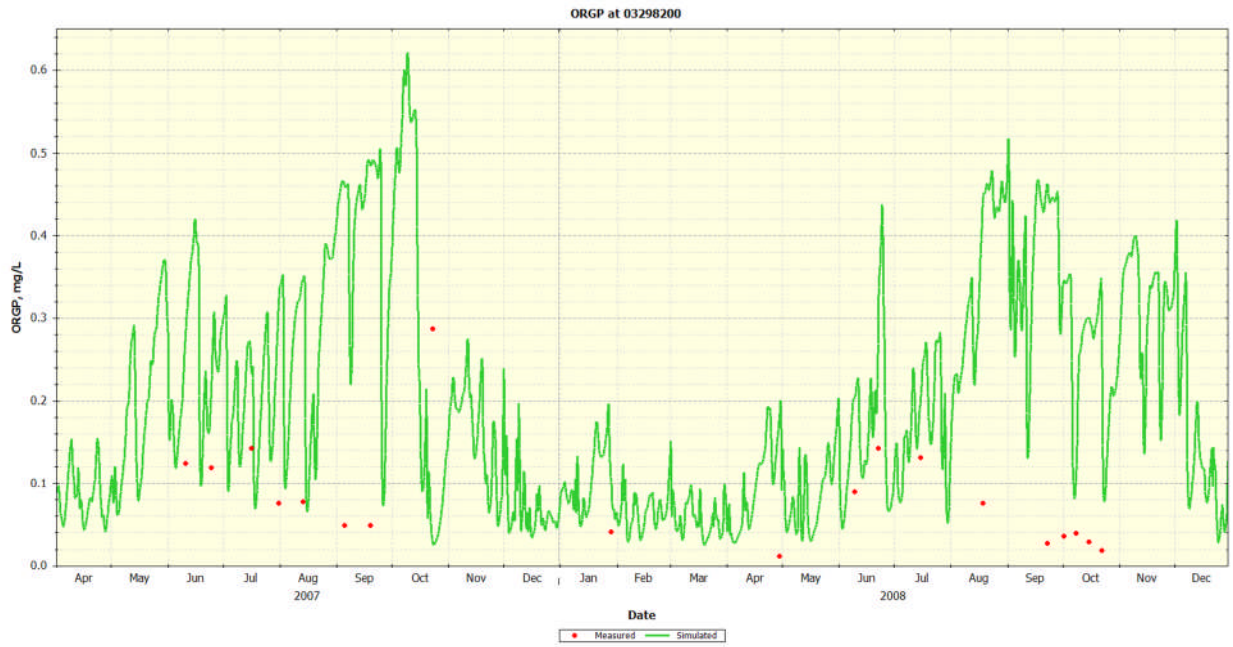


Figure A-258 Modeled vs. Observed ORGP (mg/L) at 03298200

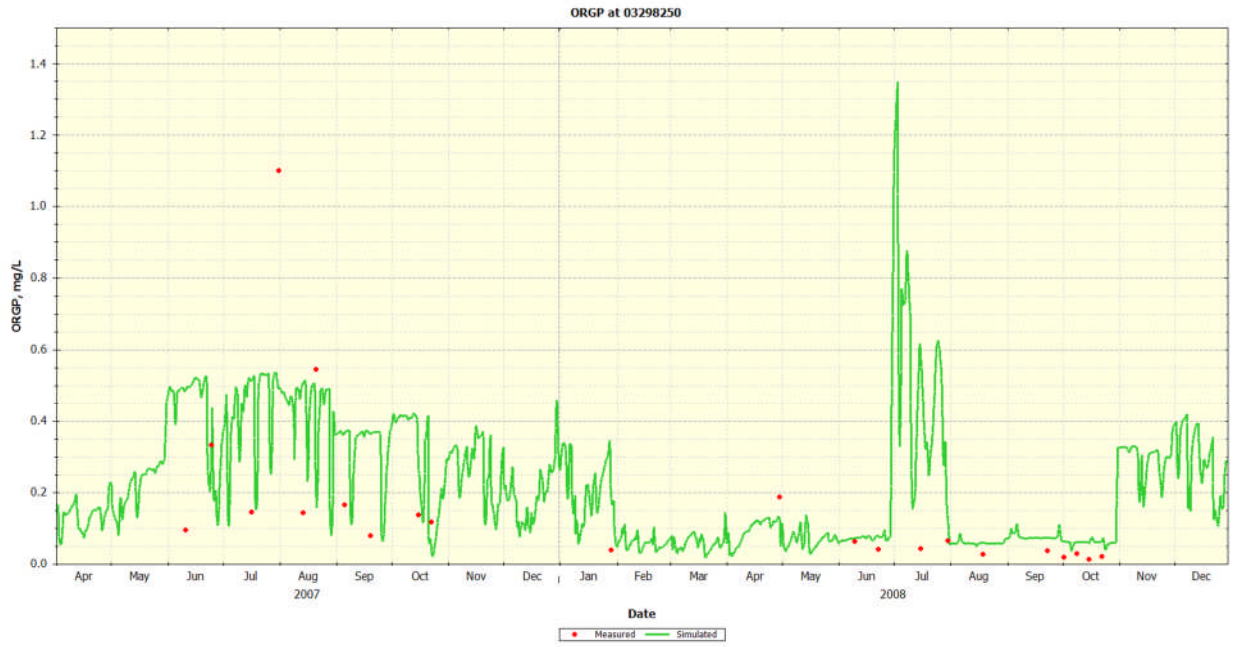


Figure A-259 Modeled vs. Observed ORGP (mg/L) at 03298250

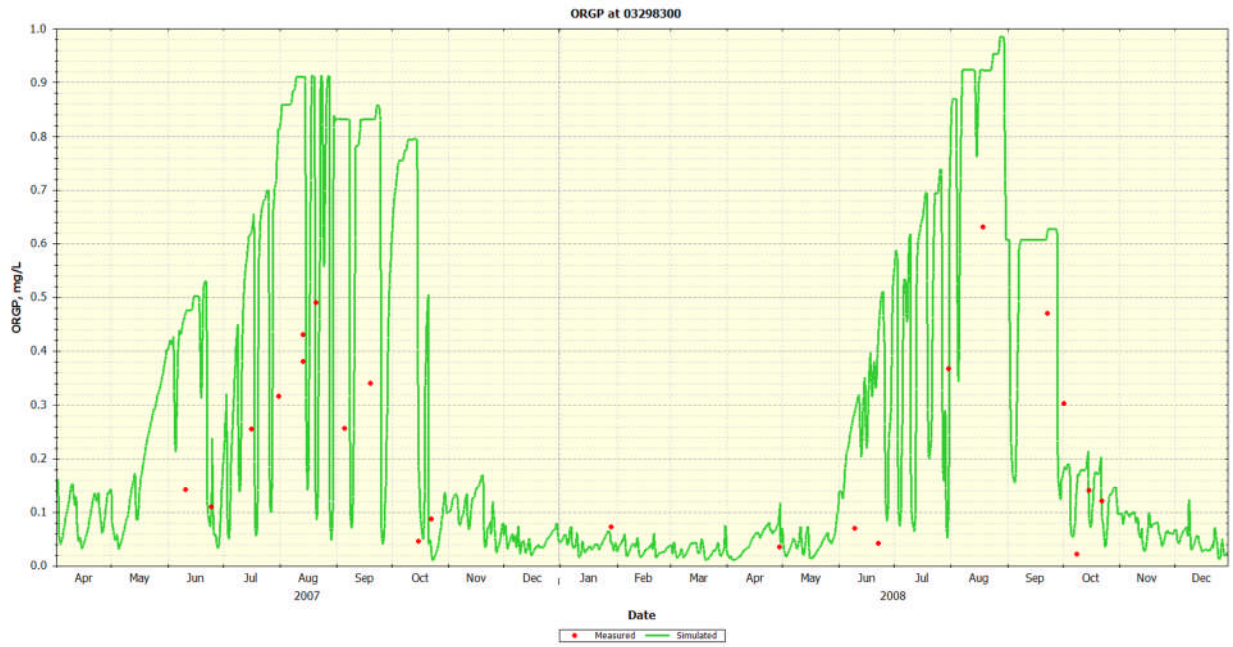


Figure A-260 Modeled vs. Observed ORGP (mg/L) at 03298300

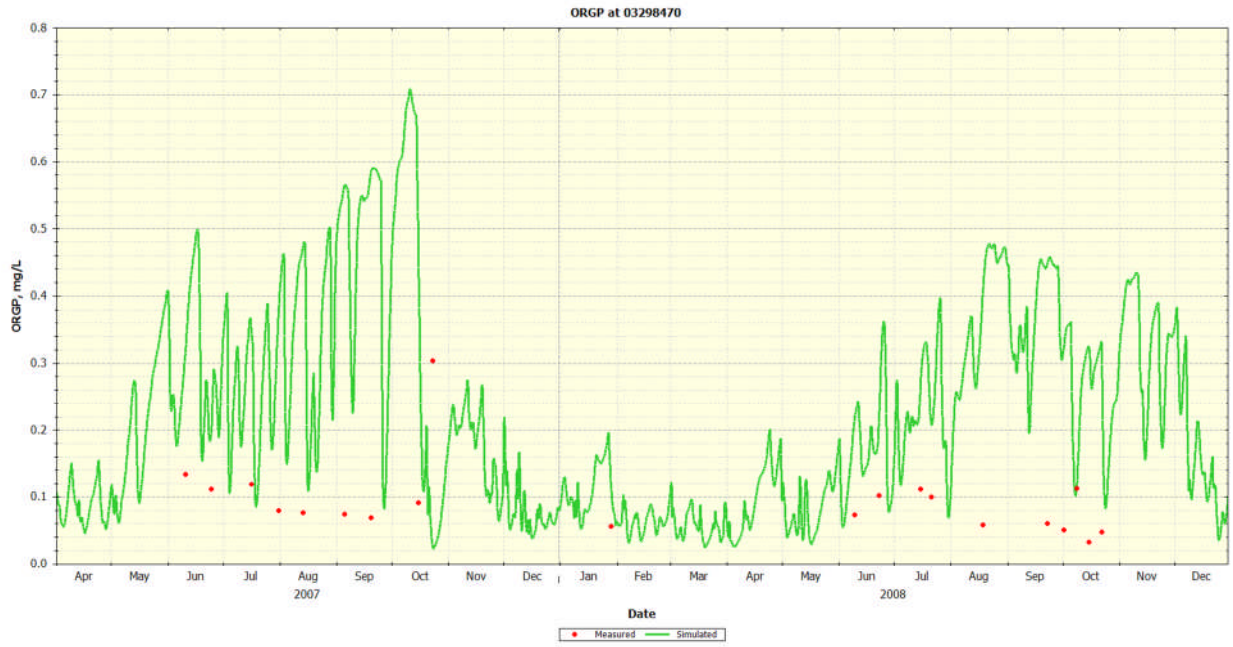


Figure A-261 Modeled vs. Observed ORGP (mg/L) at 03298470

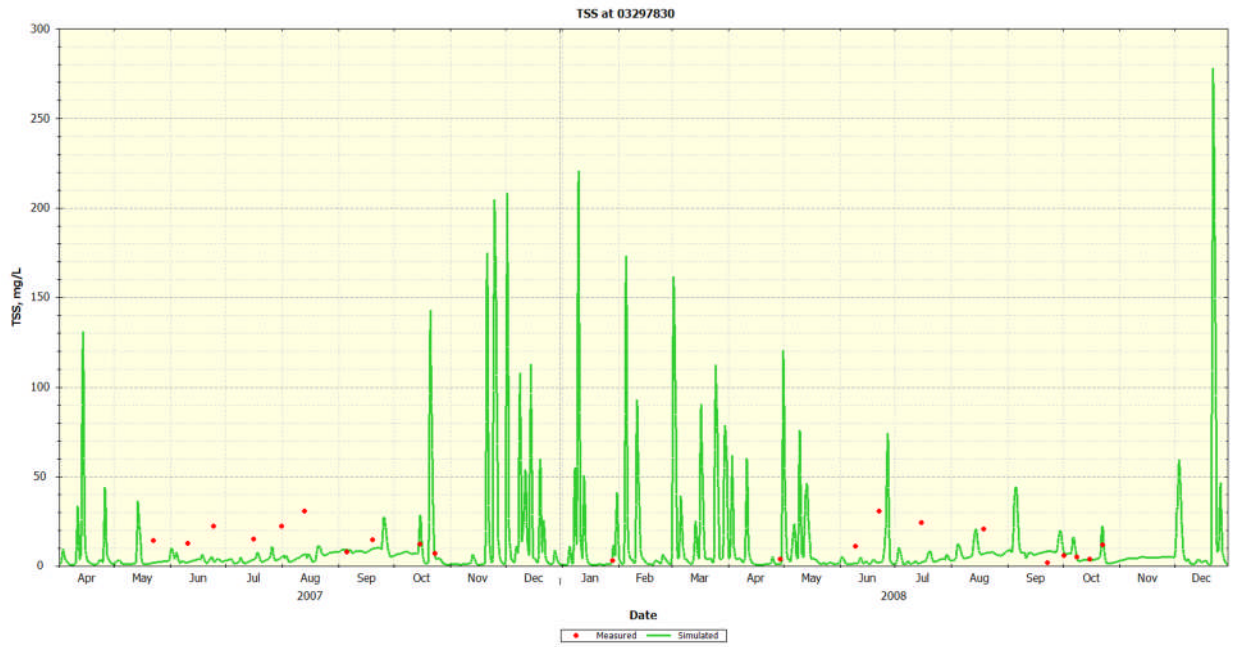


Figure A-262 Modeled vs. Observed TSS (mg/L) at 03297830

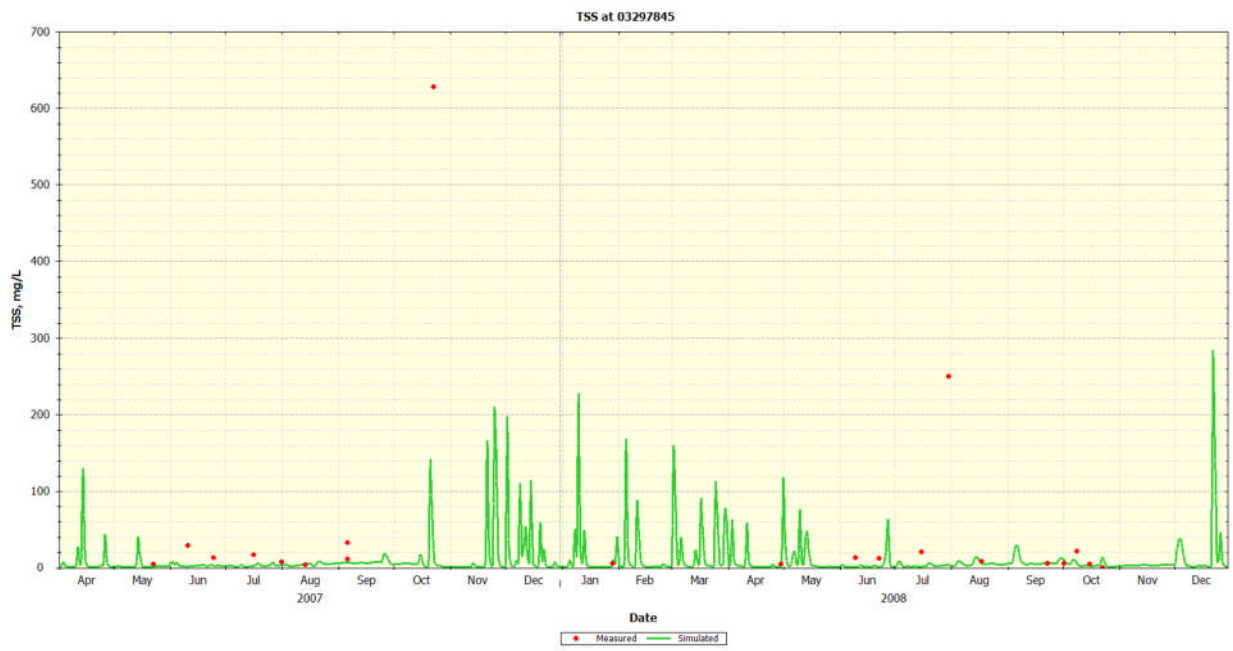


Figure A-263 Modeled vs. Observed TSS (mg/L) at 03297845

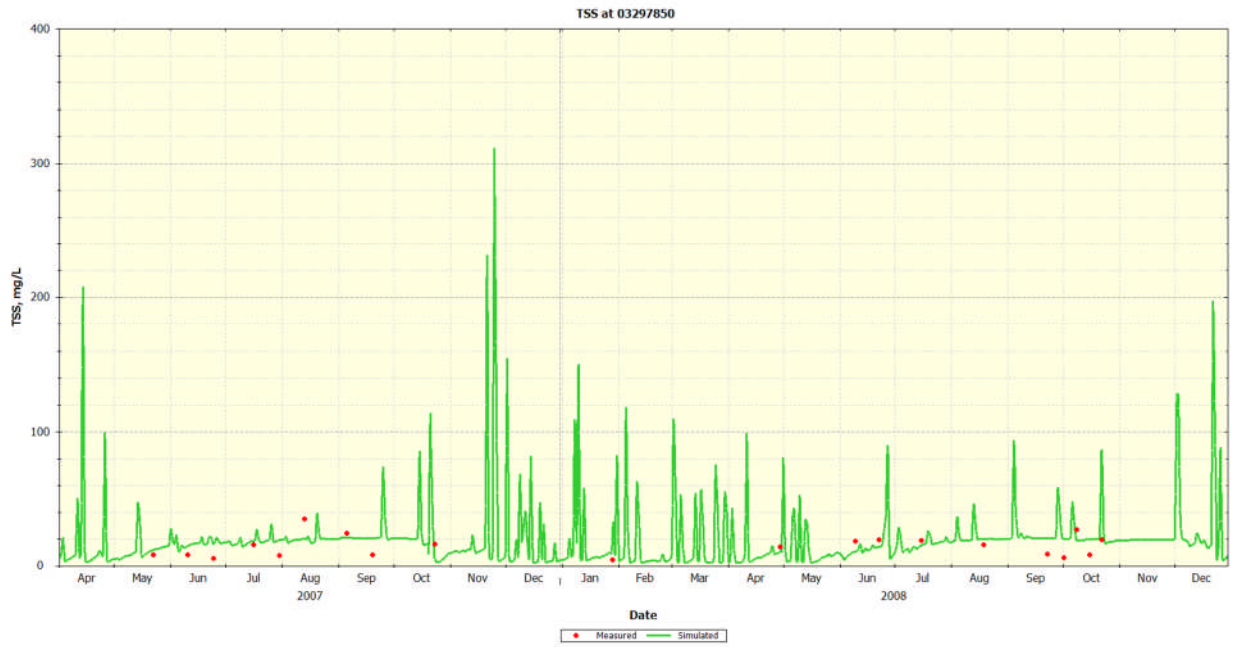


Figure A-264 Modeled vs. Observed TSS (mg/L) at 03297850

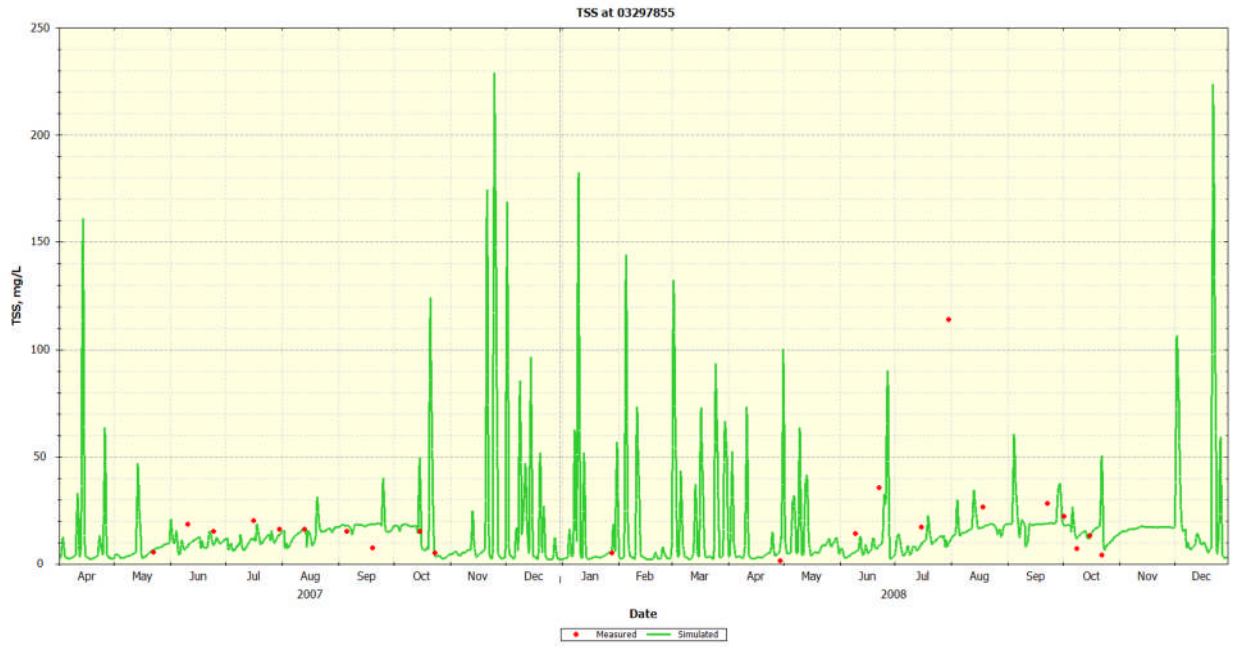


Figure A-265 Modeled vs. Observed TSS (mg/L) at 03297855

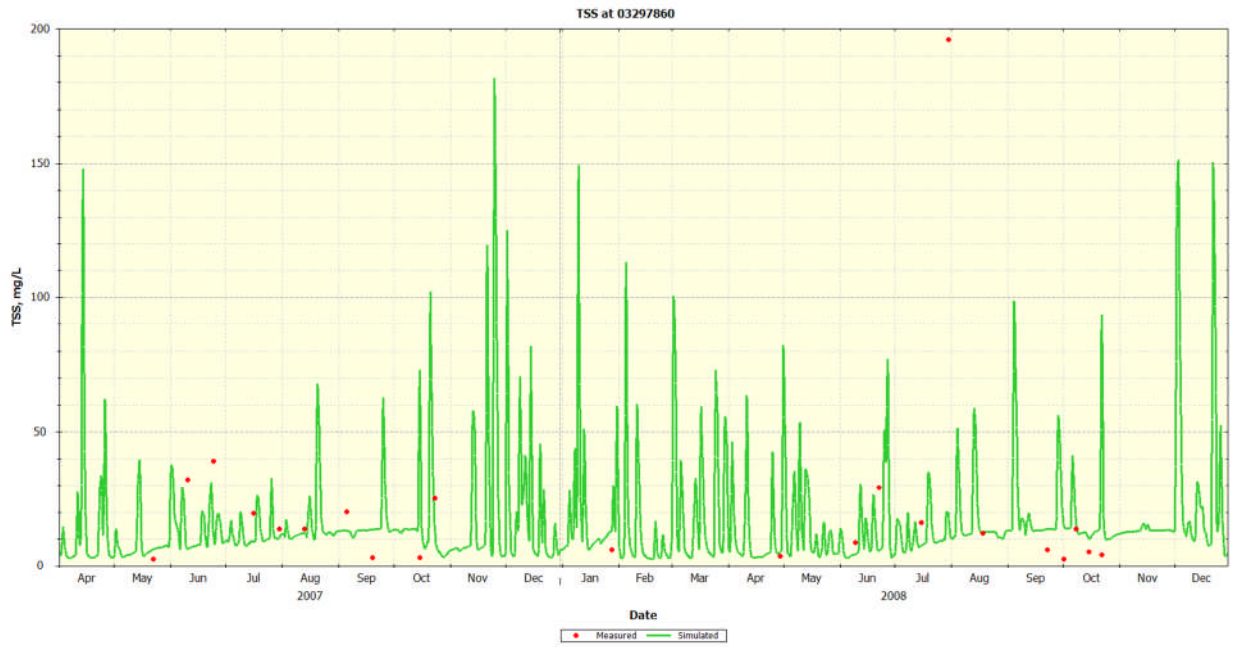


Figure A-266 Modeled vs. Observed TSS (mg/L) at 03297860

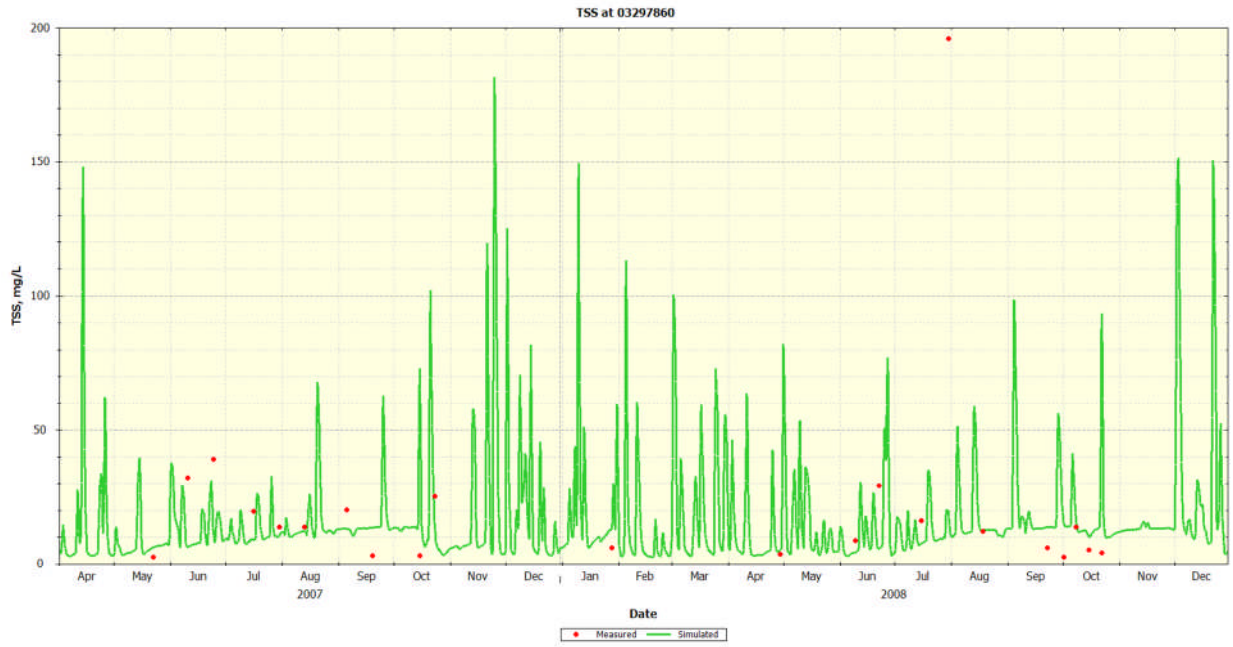


Figure A-267 Modeled vs. Observed TSS (mg/L) at 03297875

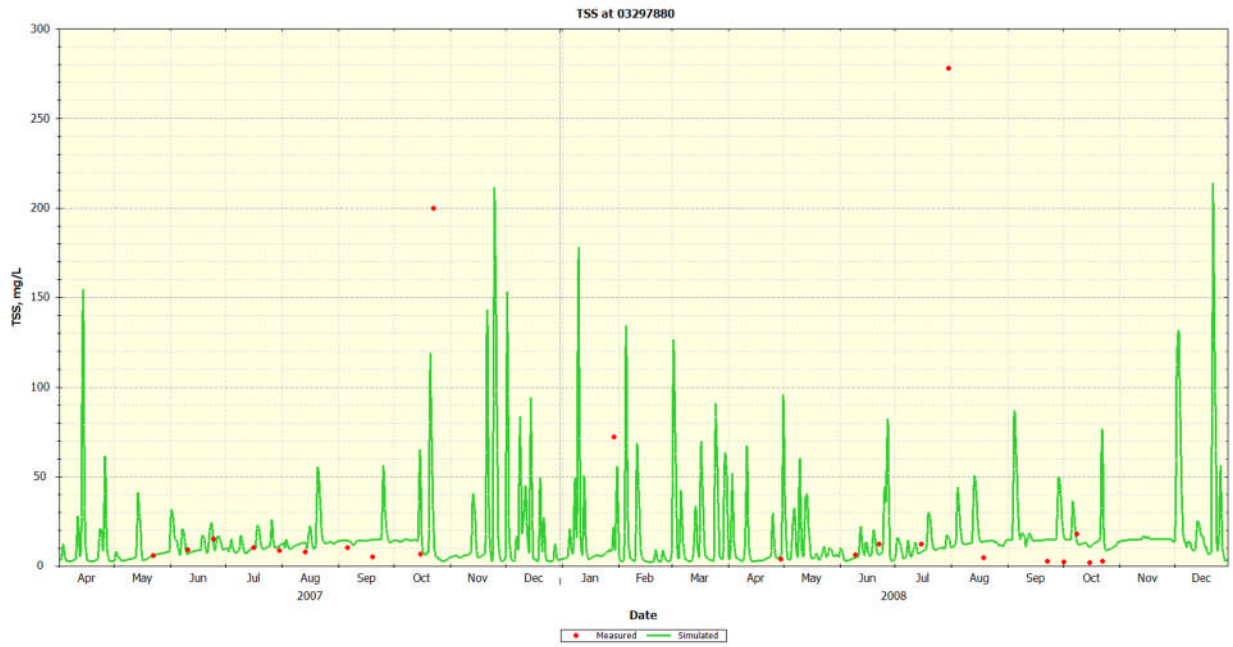


Figure A-268 Modeled vs. Observed TSS (mg/L) at 03297880

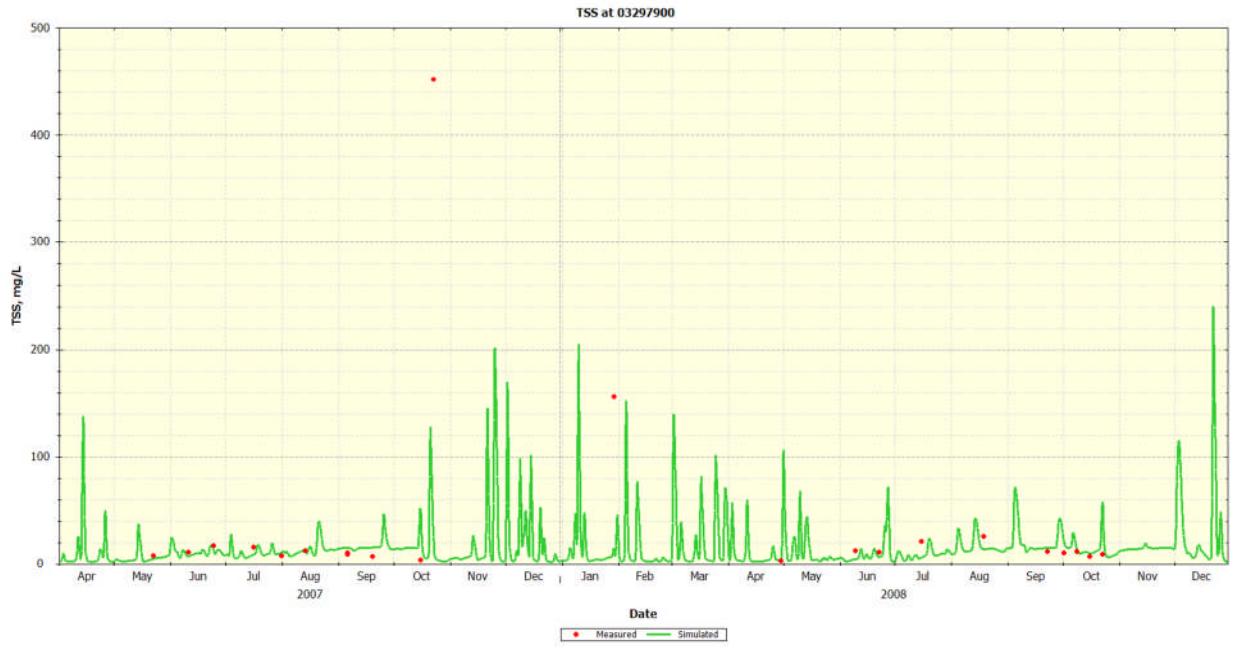


Figure A-269 Modeled vs. Observed TSS (mg/L) at 03297900

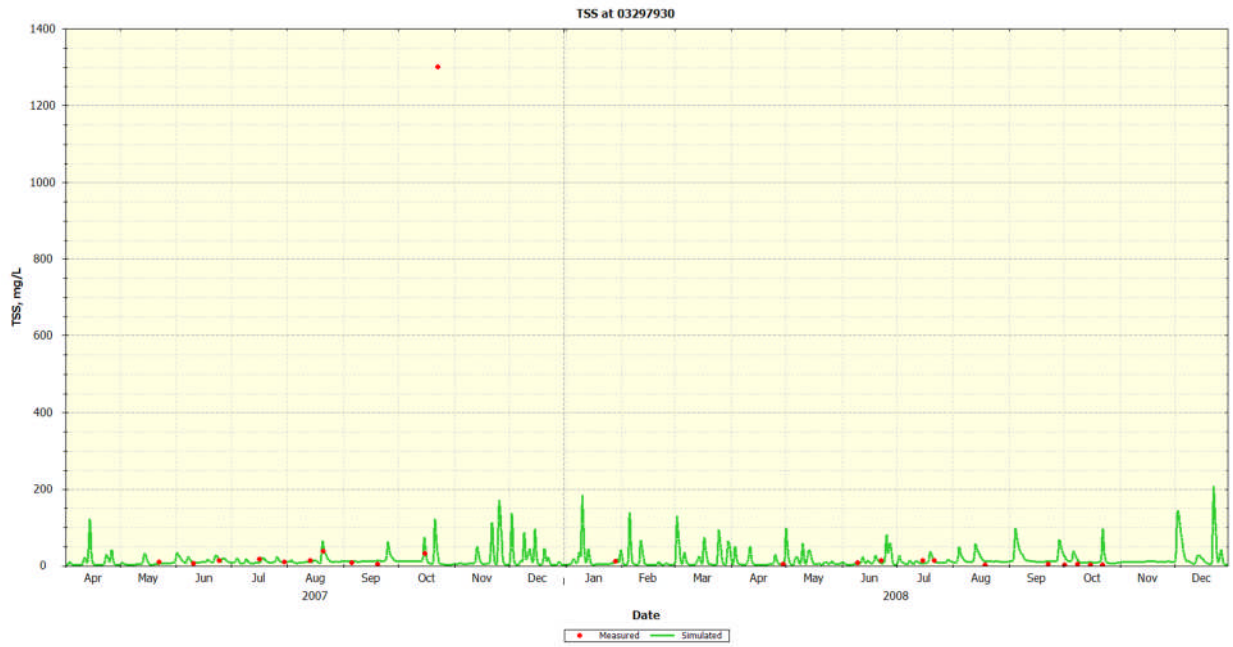


Figure A-270 Modeled vs. Observed TSS (mg/L) at 03297930

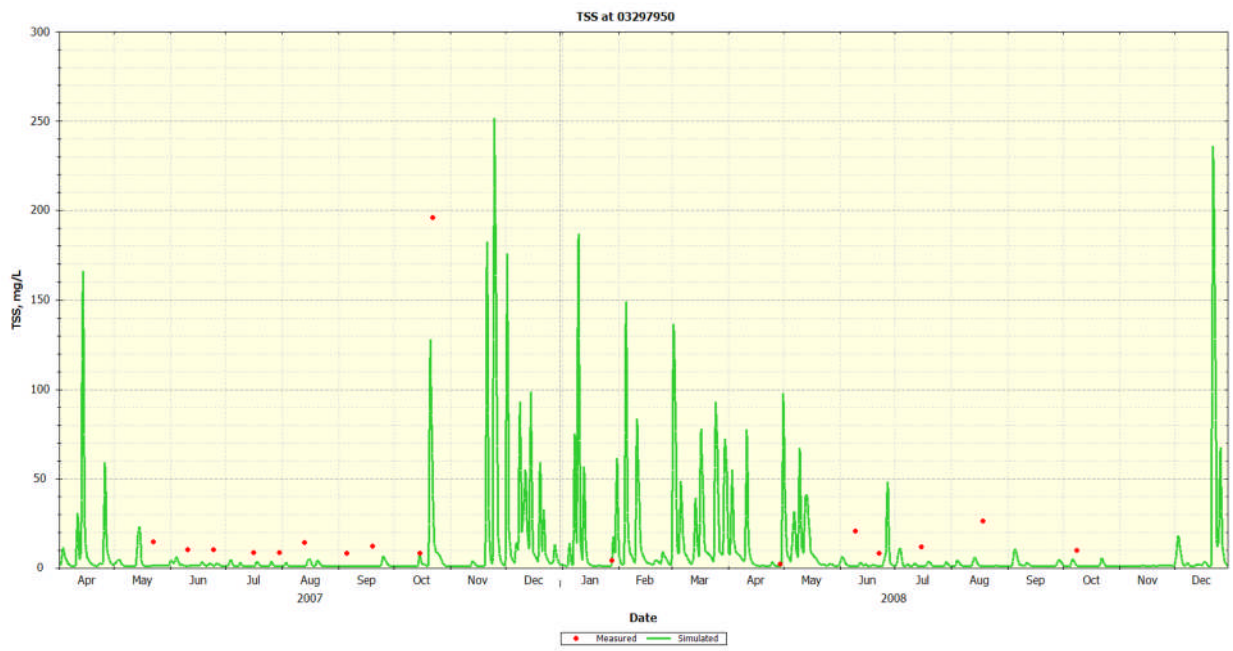


Figure A-271 Modeled vs. Observed TSS (mg/L) at 03297950

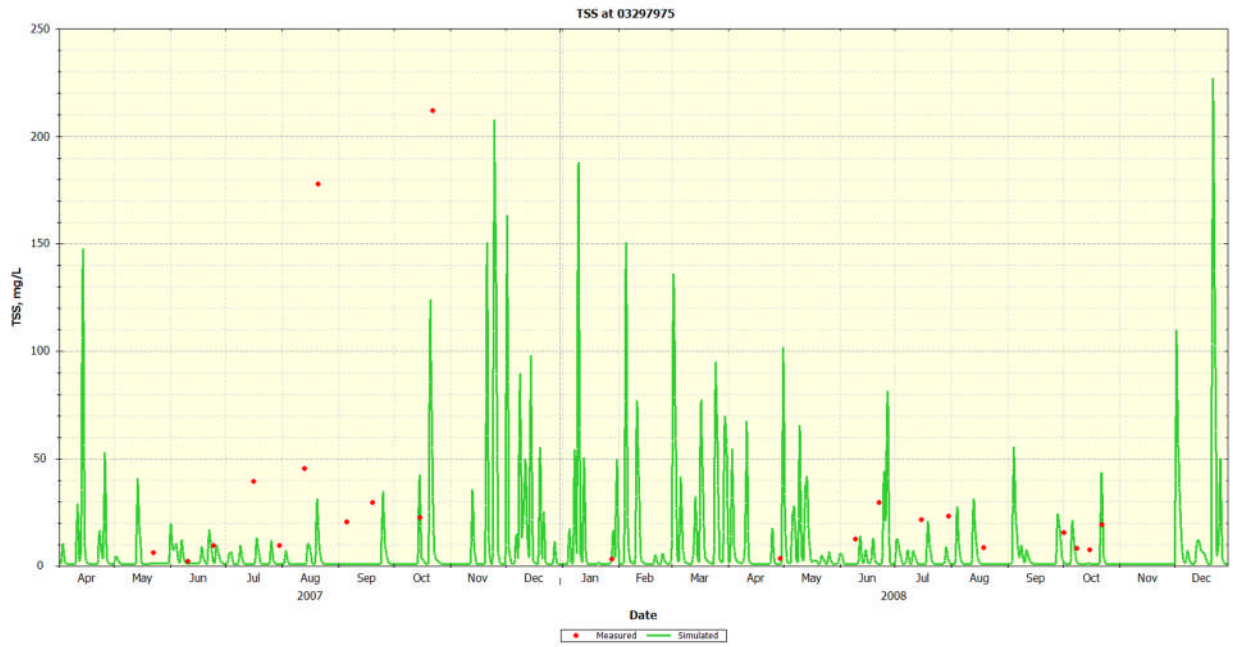


Figure A-272 Modeled vs. Observed TSS (mg/L) at 03297975

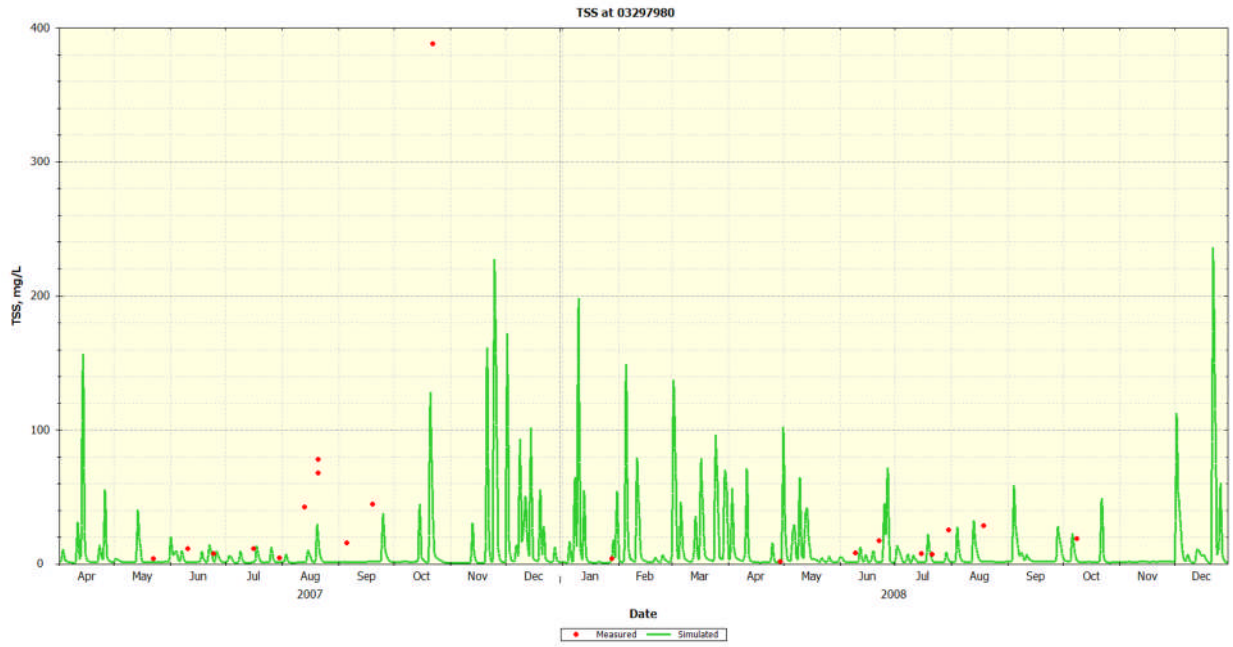


Figure A-273 Modeled vs. Observed TSS (mg/L) at 03297980

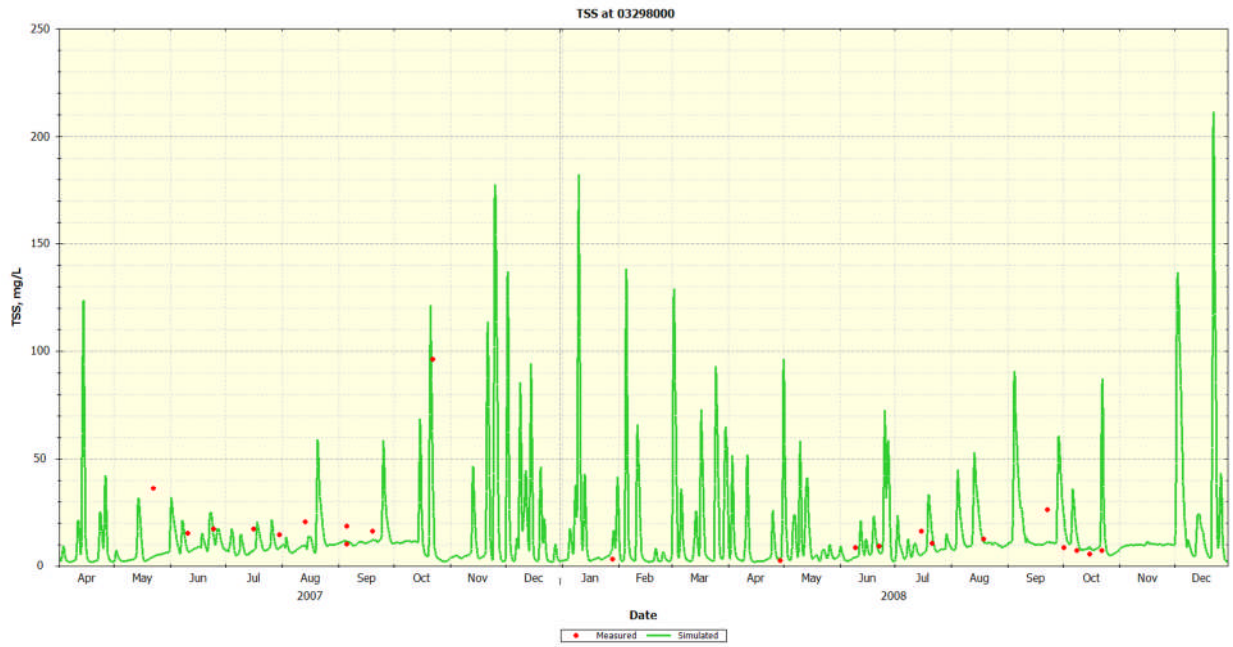


Figure A-274 Modeled vs. Observed TSS (mg/L) at 03298000

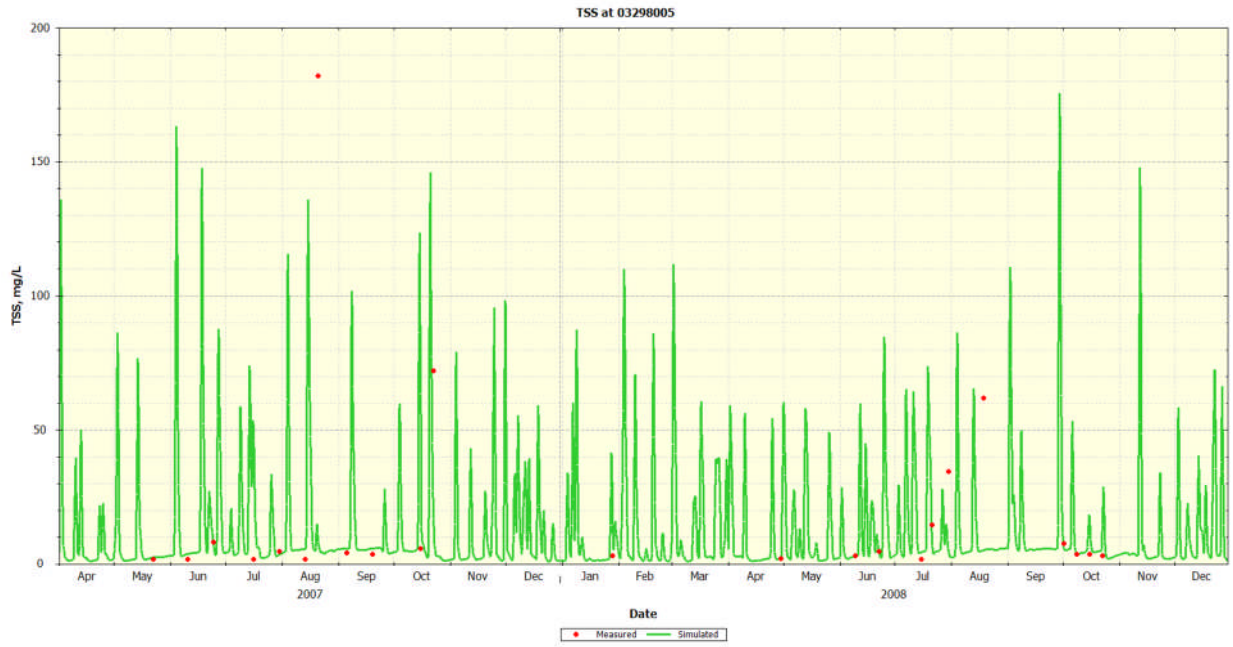


Figure A-275 Modeled vs. Observed TSS (mg/L) at 03298005

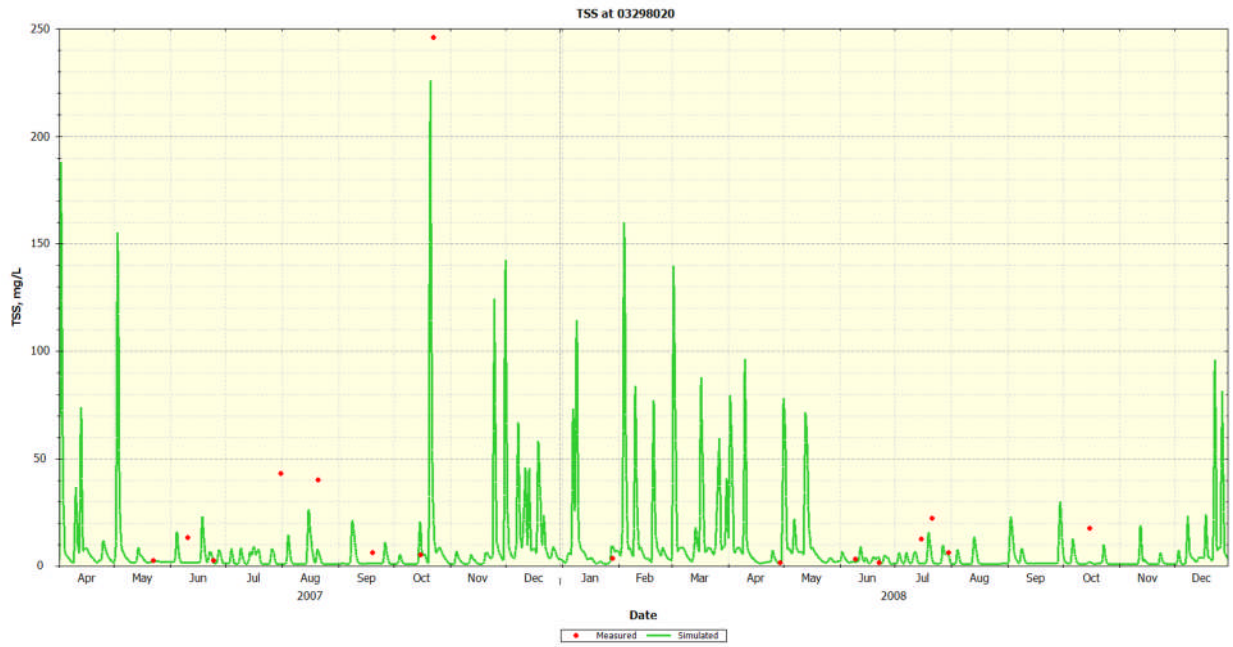


Figure A-276 Modeled vs. Observed TSS (mg/L) at 03298020

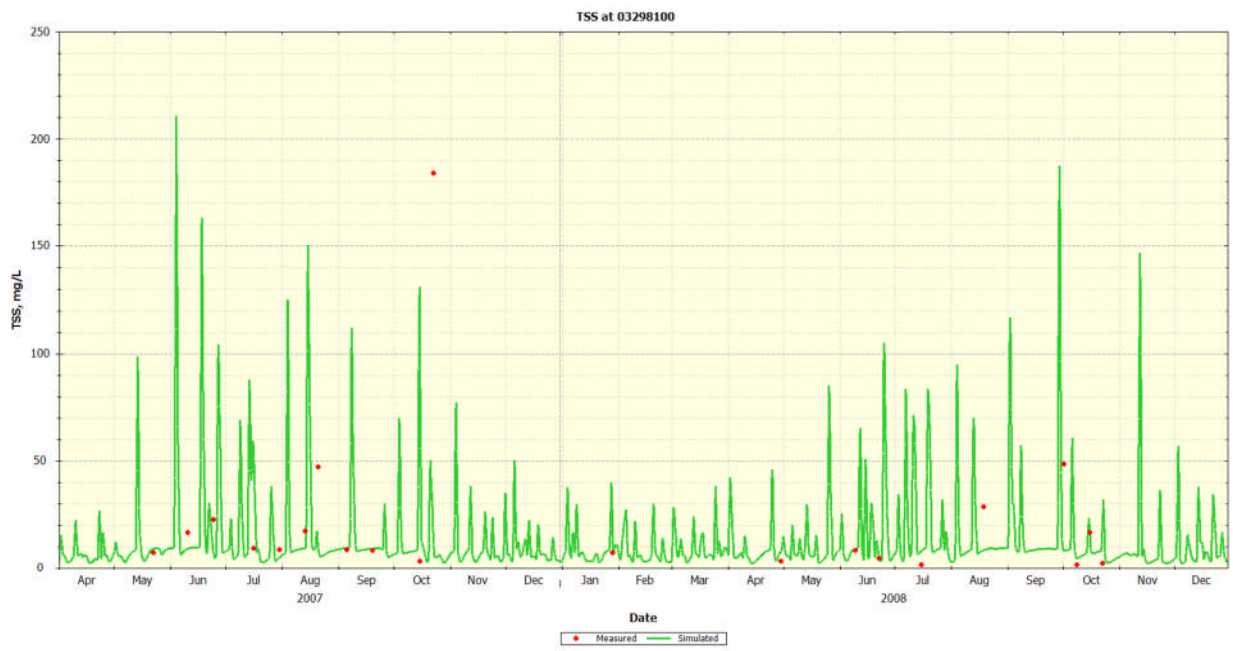


Figure A-277 Modeled vs. Observed TSS (mg/L) at 03298100

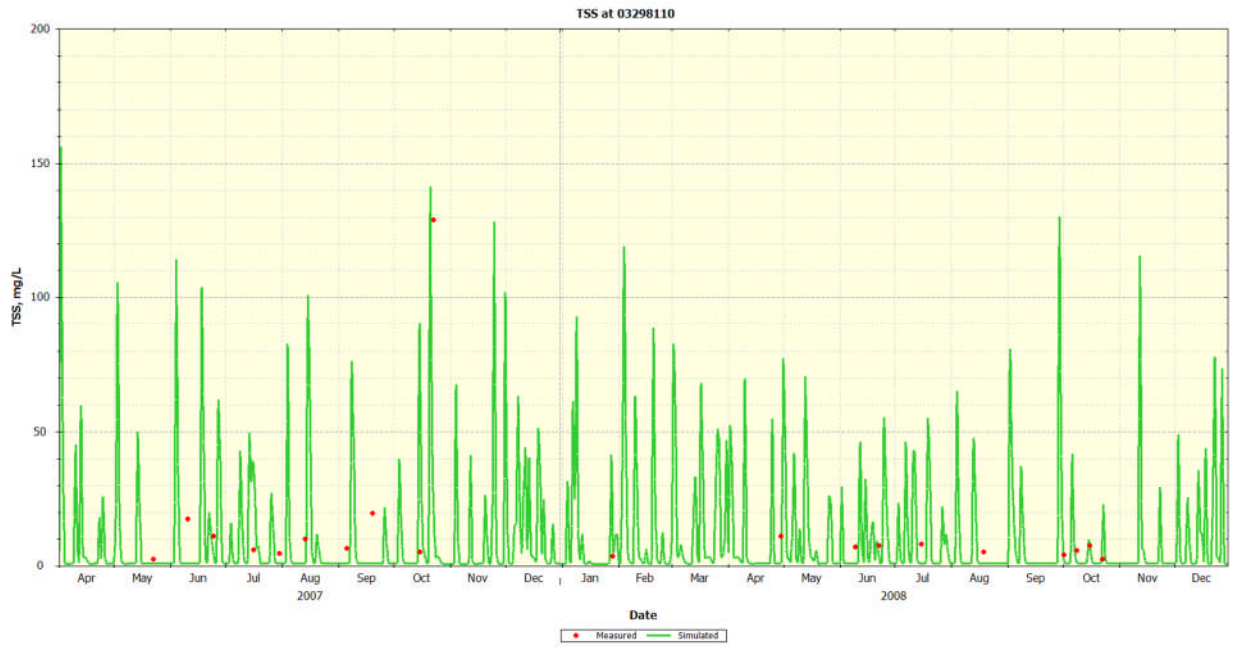


Figure A-278 Modeled vs. Observed TSS (mg/L) at 03298110

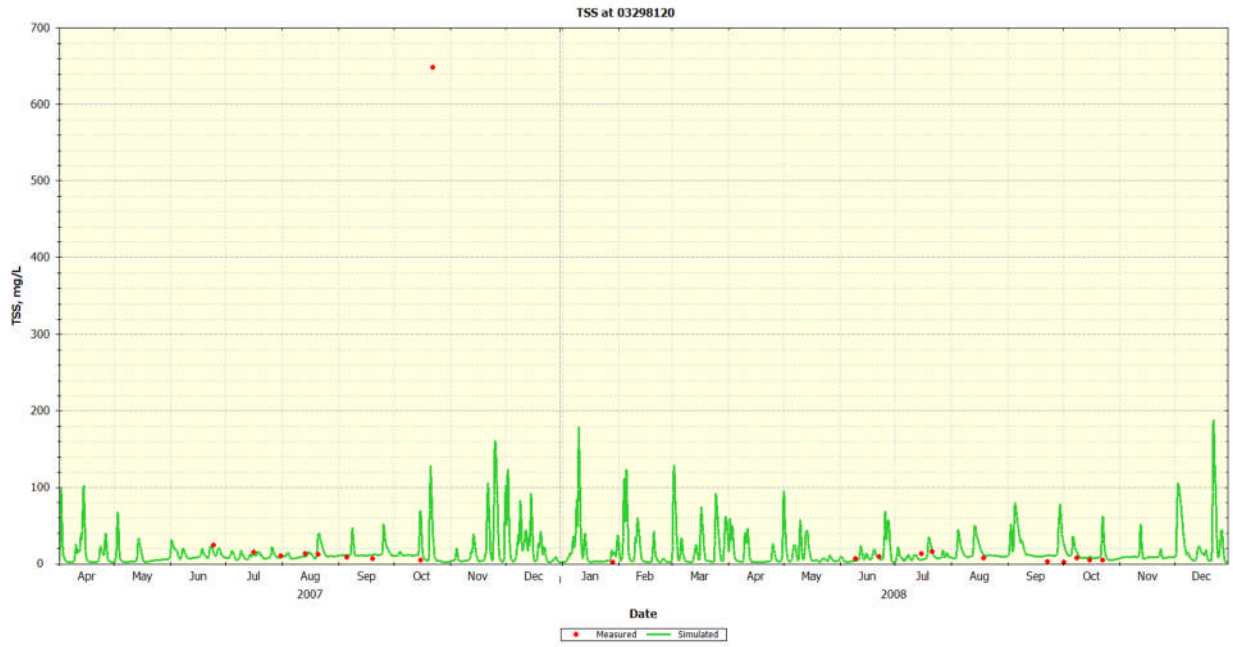


Figure A-279 Modeled vs. Observed TSS (mg/L) at 03298120

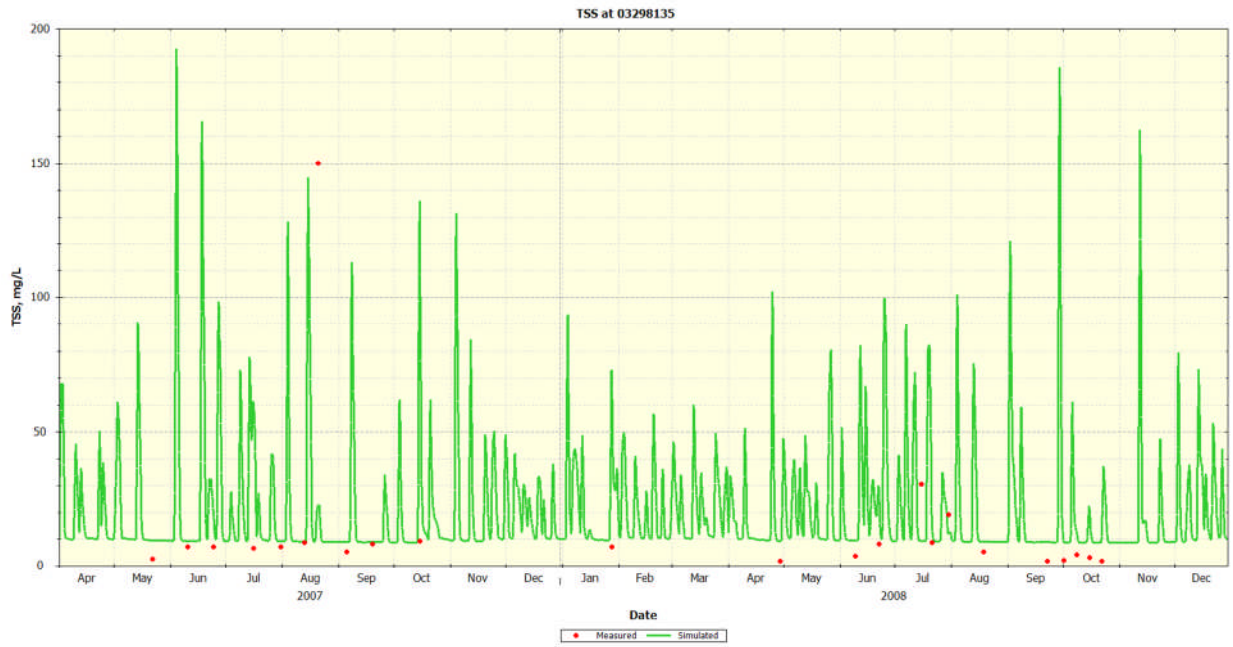


Figure A-280 Modeled vs. Observed TSS (mg/L) at 03298135

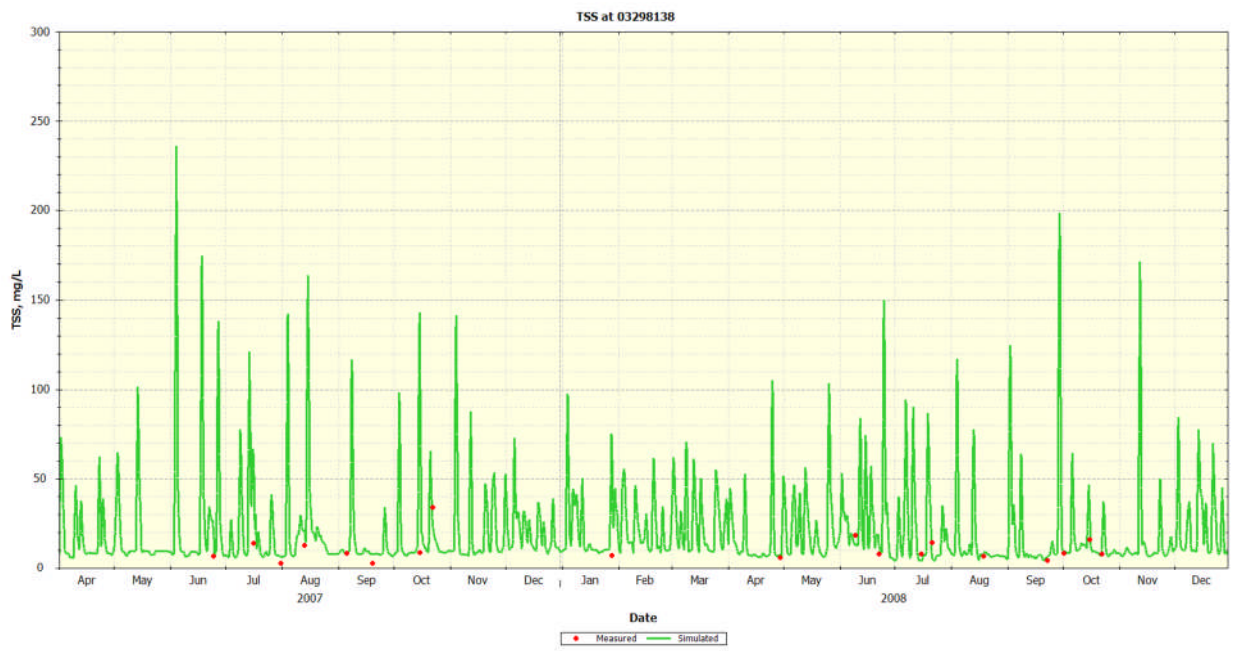


Figure A-281 Modeled vs. Observed TSS (mg/L) at 03298138

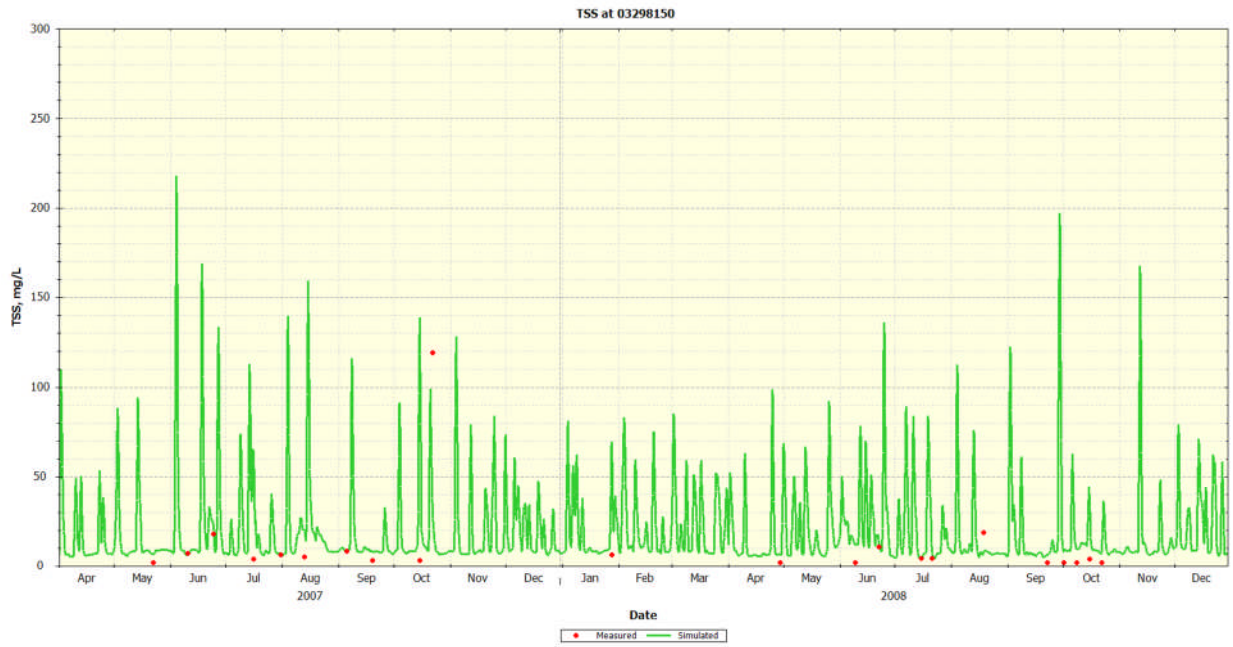


Figure A-282 Modeled vs. Observed TSS (mg/L) at 03298150

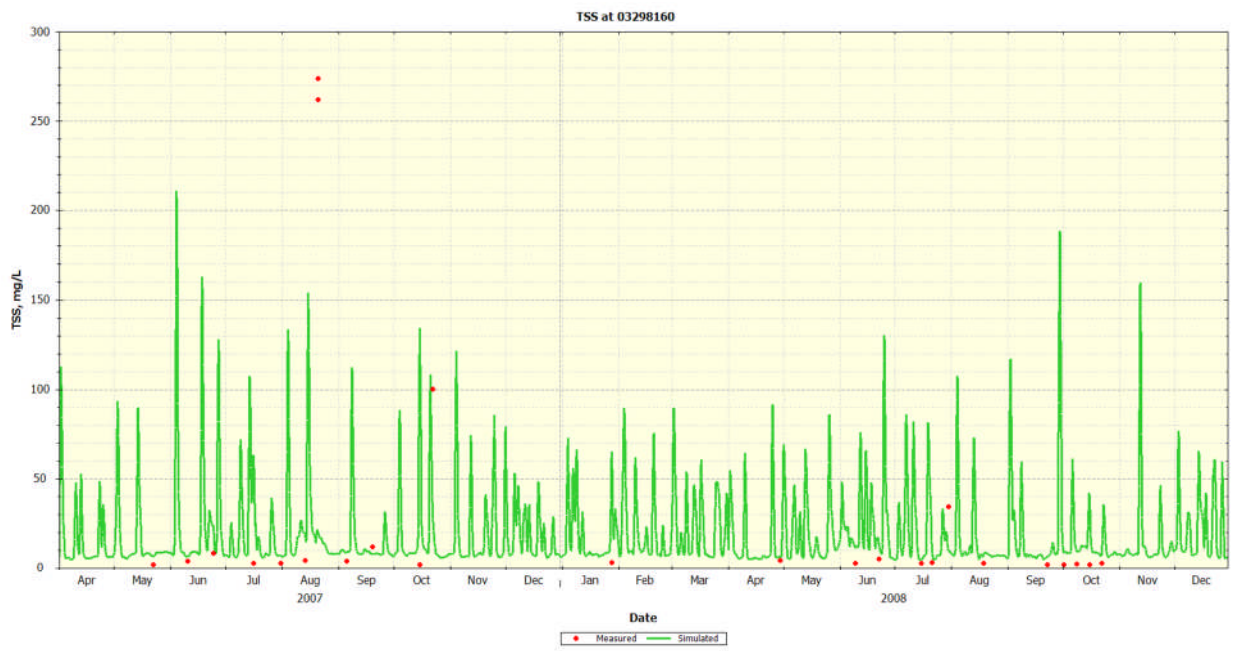


Figure A-283 Modeled vs. Observed TSS (mg/L) at 03298160

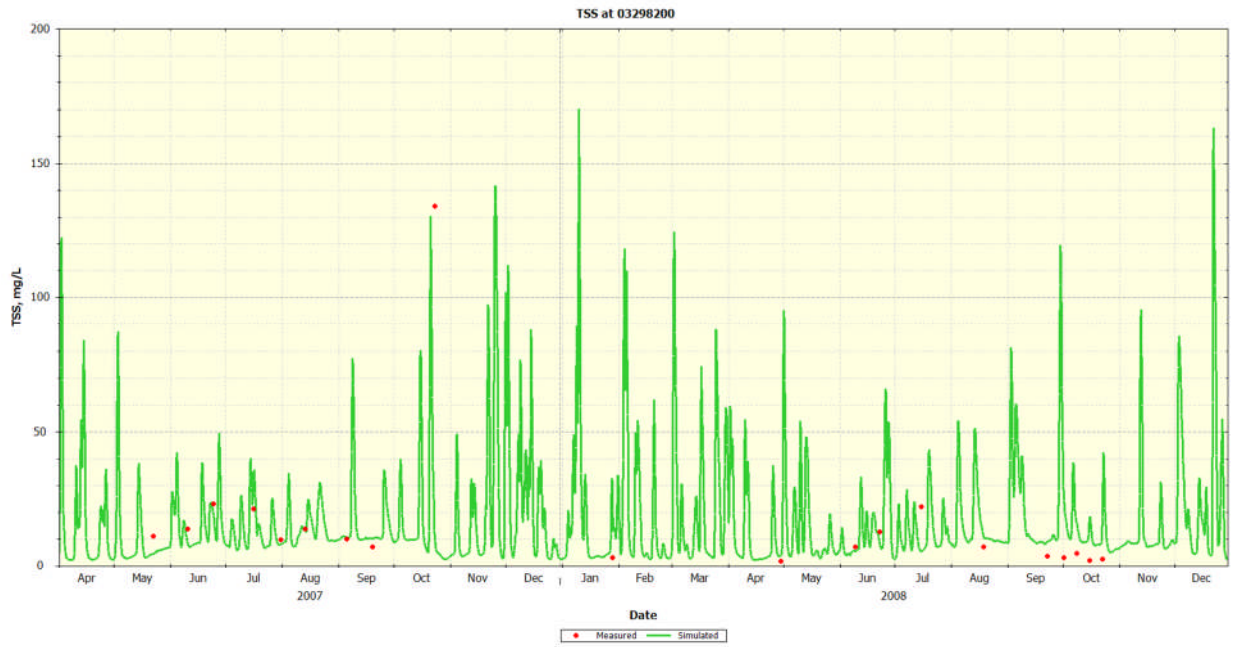


Figure A-284 Modeled vs. Observed TSS (mg/L) at 03298200

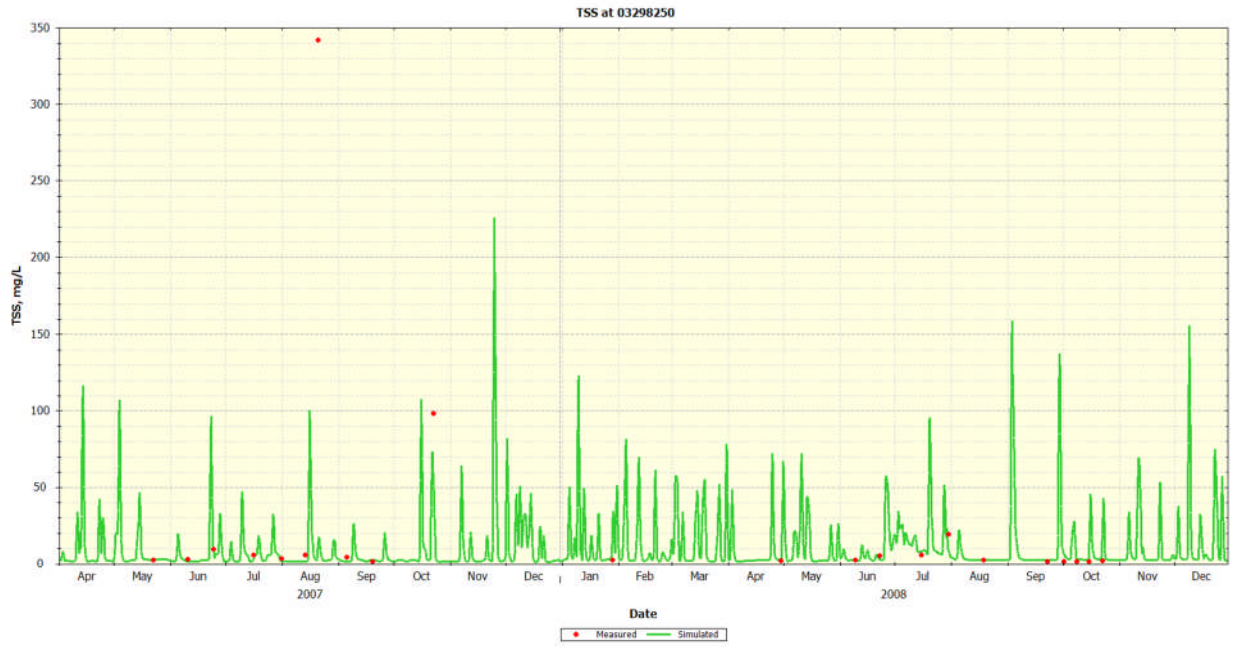


Figure A-285 Modeled vs. Observed TSS (mg/L) at 03298250

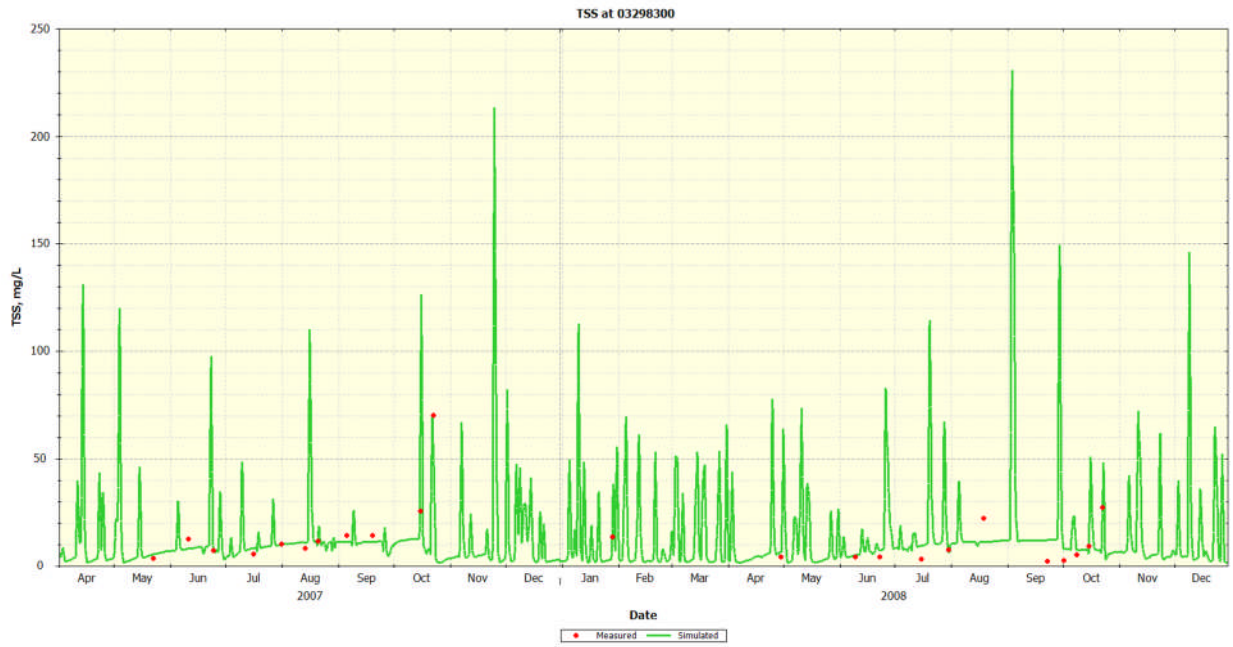


Figure A-286 Modeled vs. Observed TSS (mg/L) at 03298300

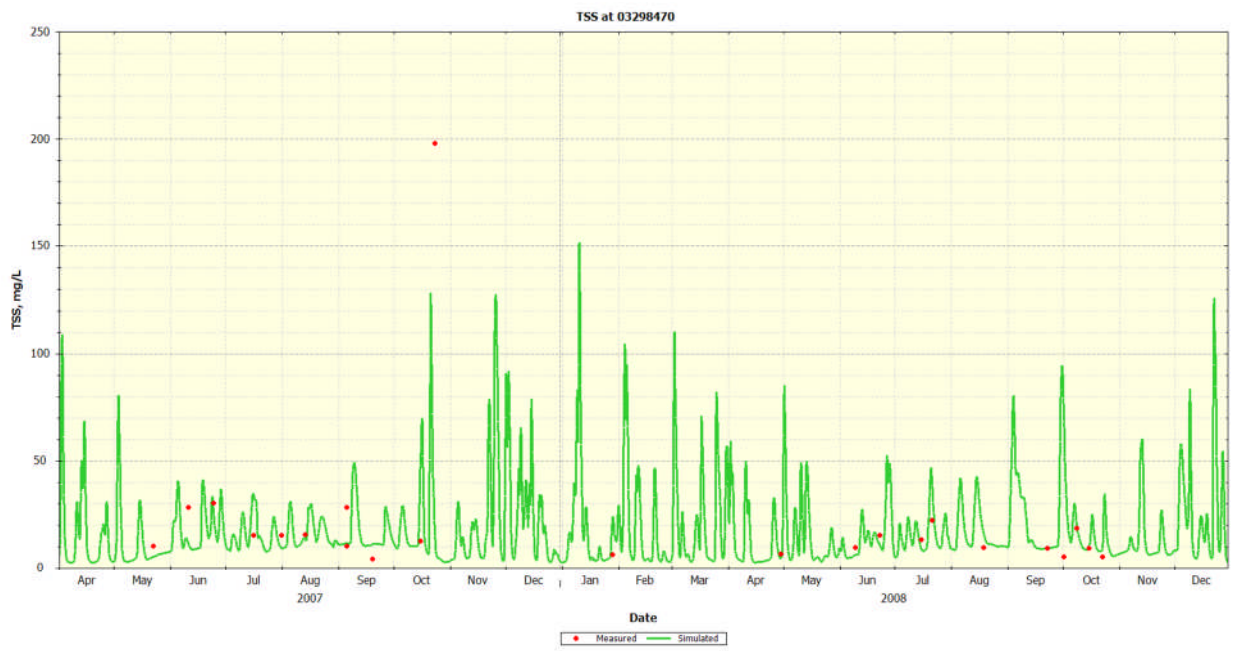


Figure A-287 Modeled vs. Observed TSS (mg/L) at 03298470

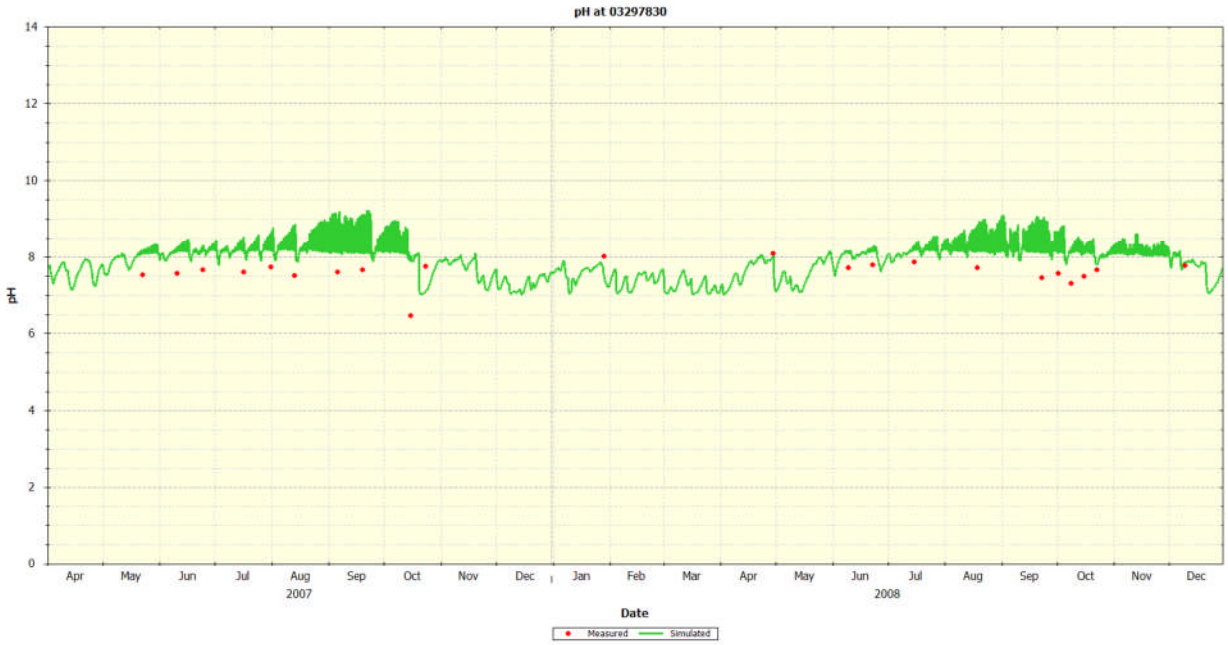


Figure A-288 Modeled vs. Observed pH at 03297830

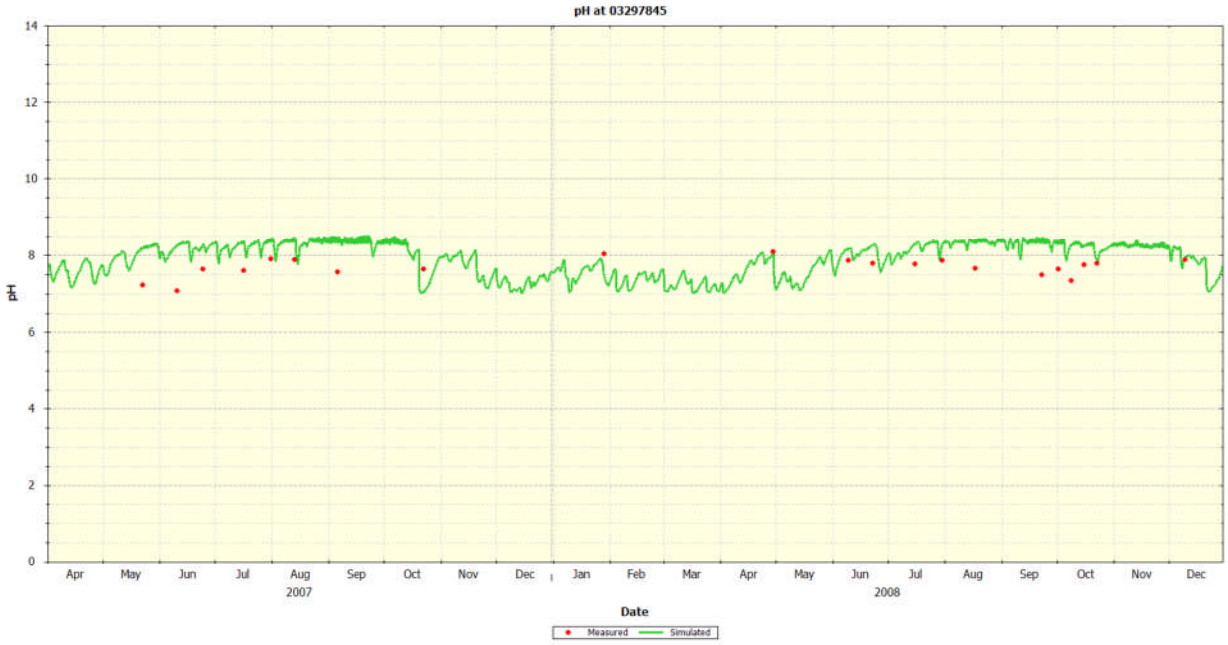


Figure A-289 Modeled vs. Observed pH at 03297845

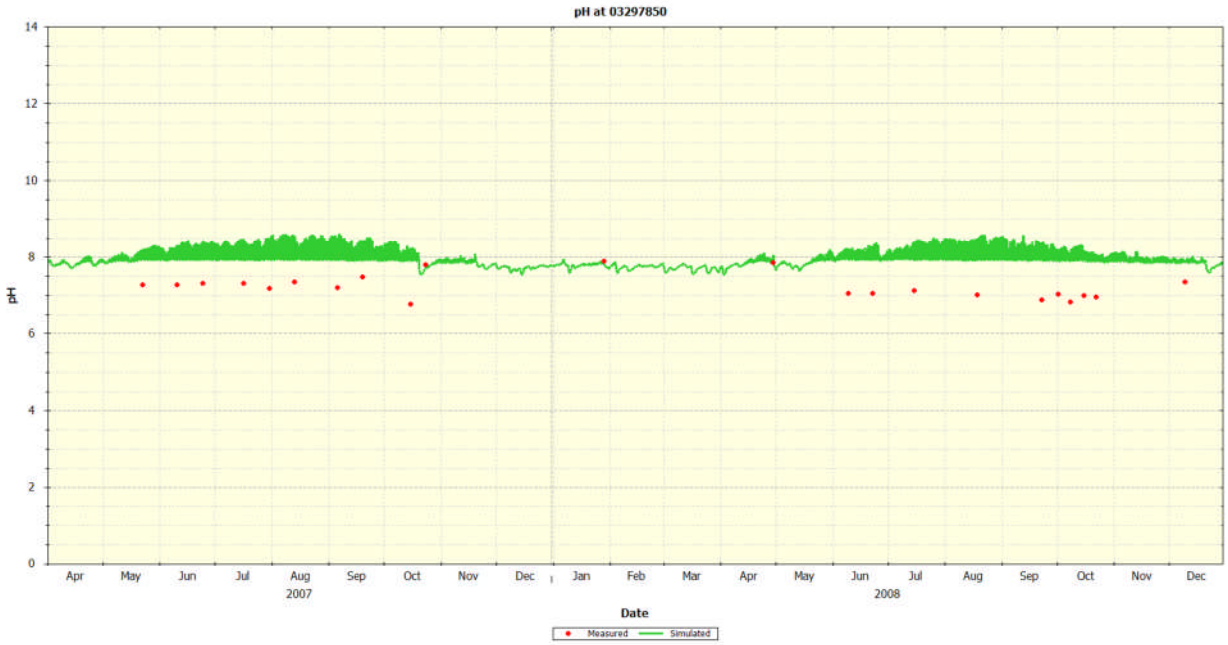


Figure A-290 Modeled vs. Observed pH at 03297850

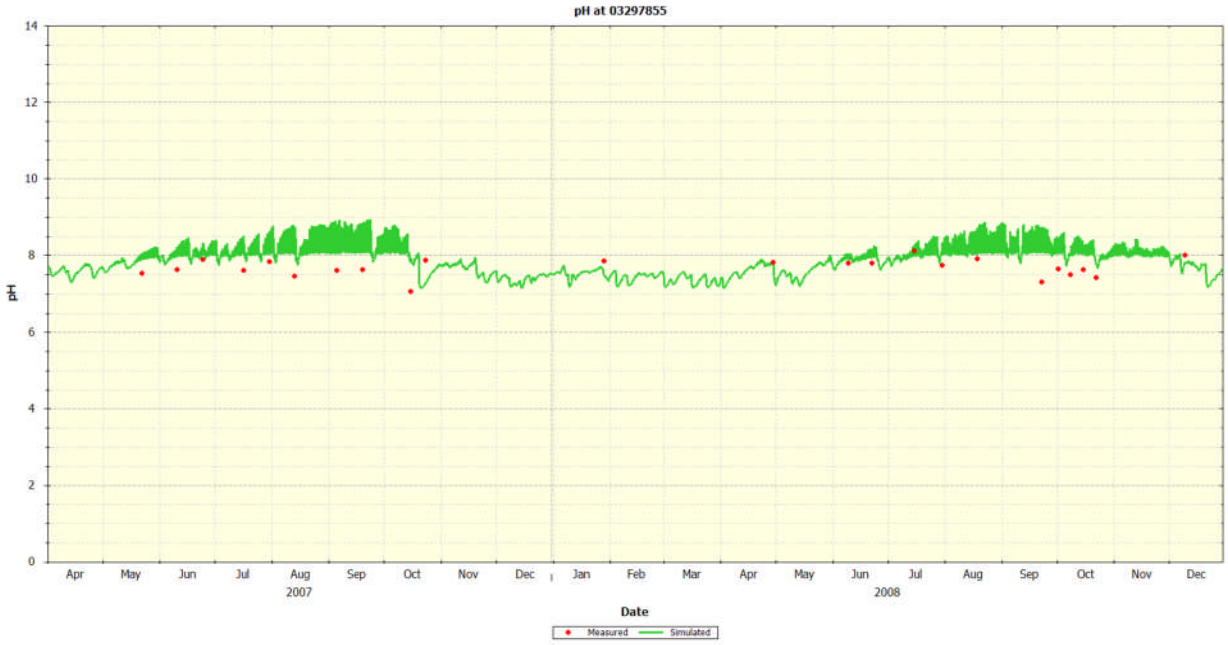


Figure A-291 Modeled vs. Observed pH at 03297855

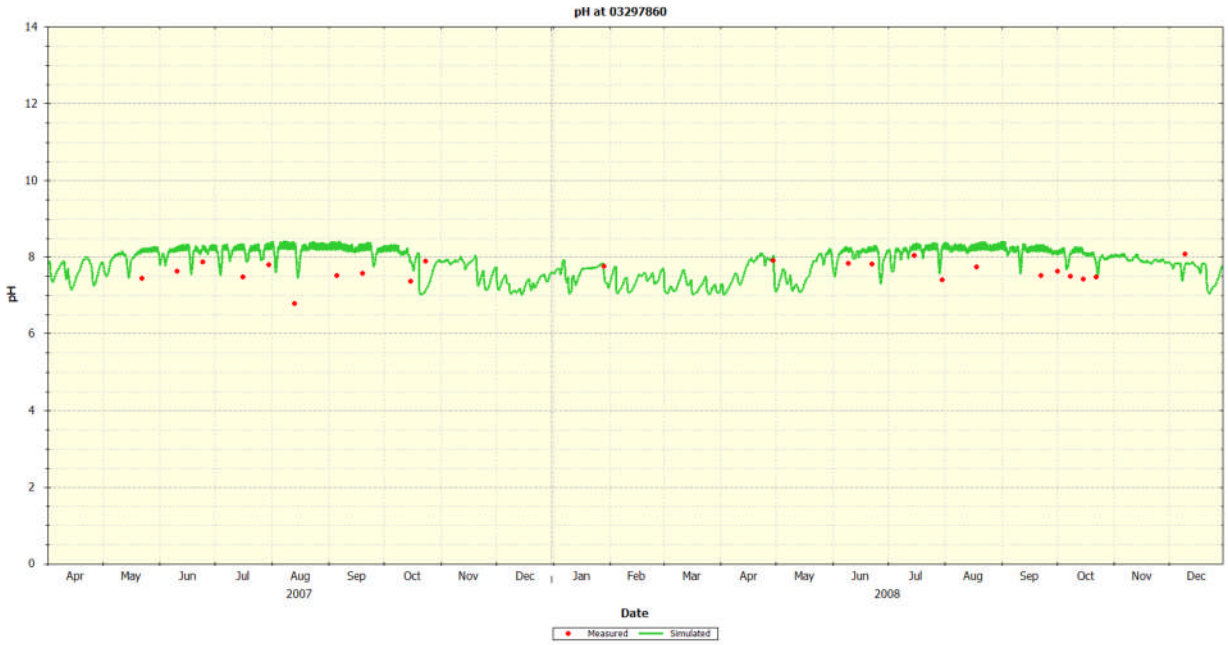


Figure A-292 Modeled vs. Observed pH at 03297860

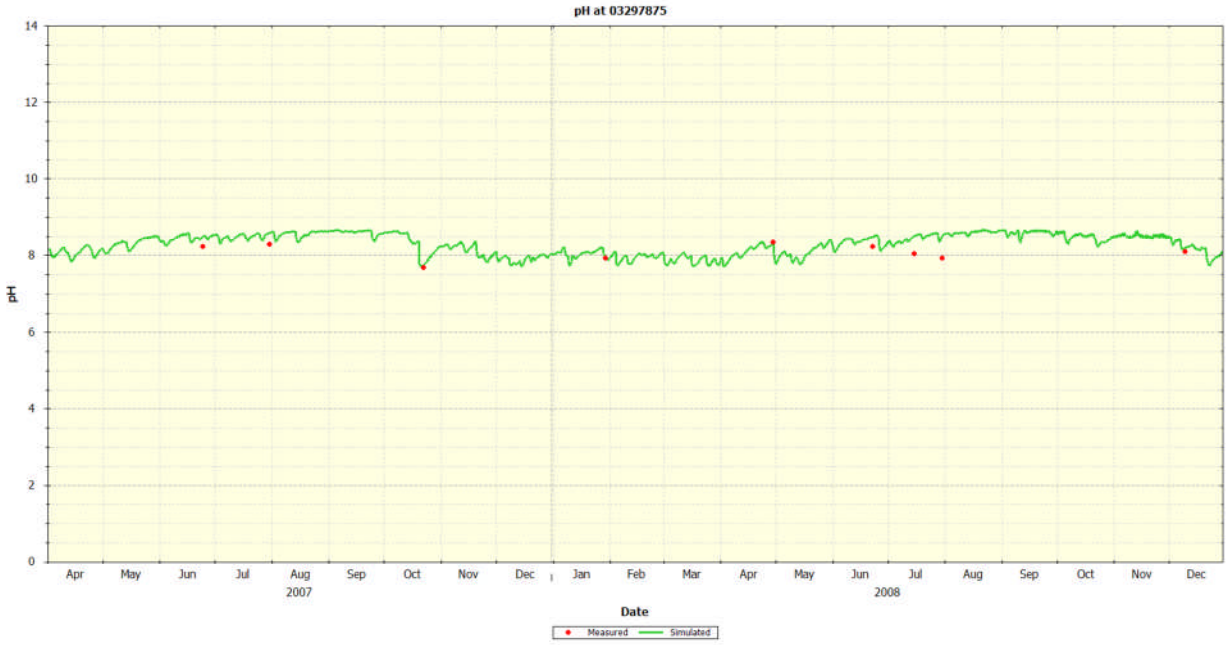


Figure A-293 Modeled vs. Observed pH at 03297875

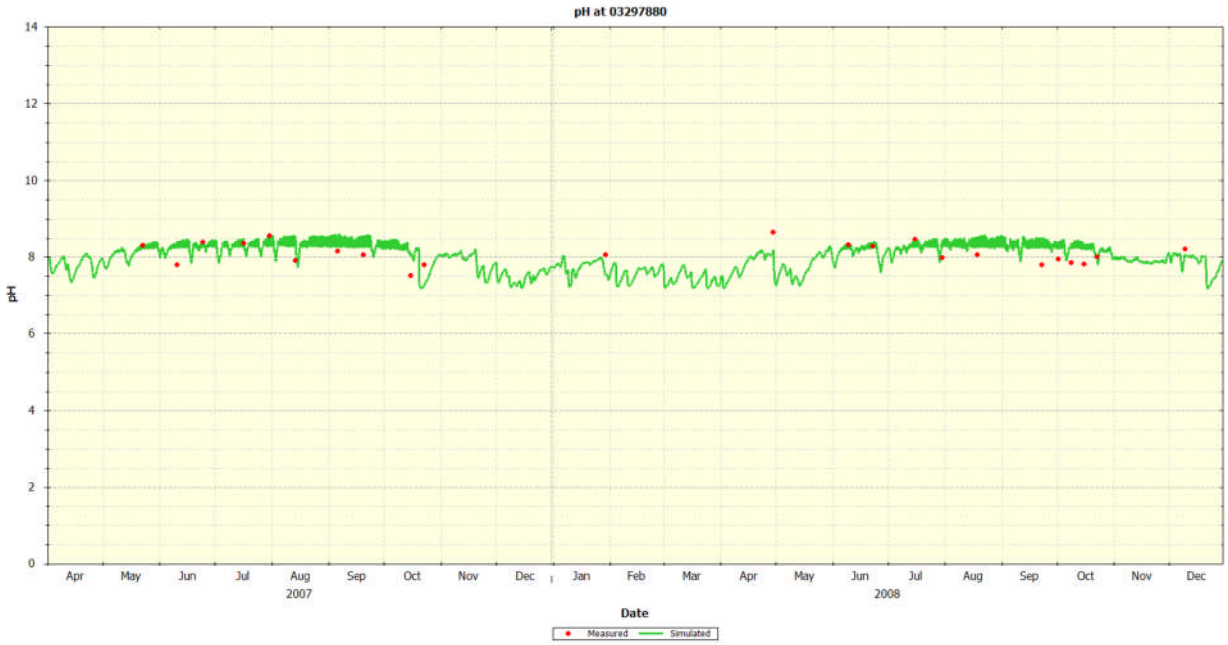


Figure A-294 Modeled vs. Observed pH at 03297880

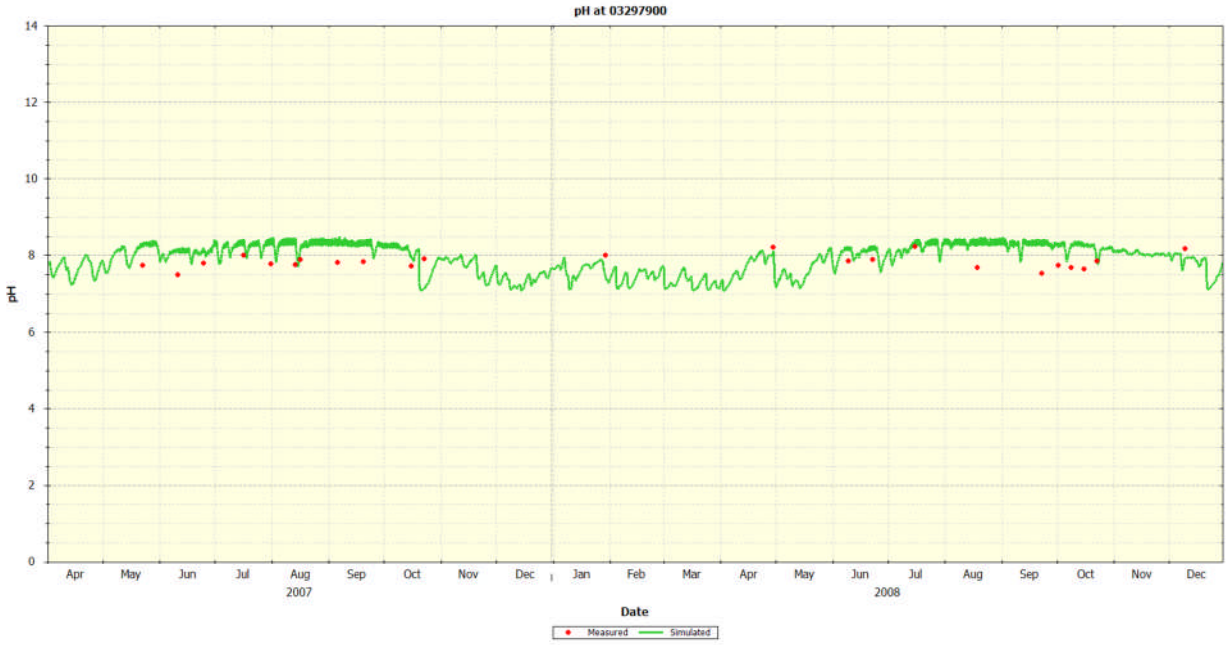


Figure A-295 Modeled vs. Observed pH at 03297900

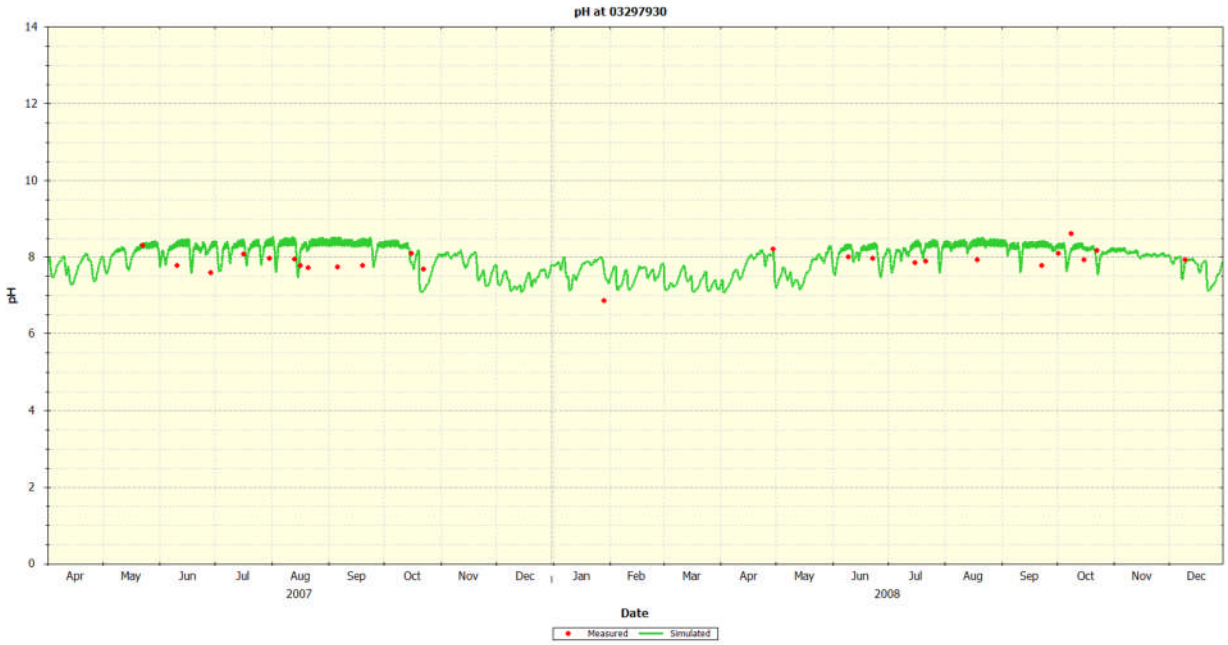


Figure A-296 Modeled vs. Observed pH at 03297930

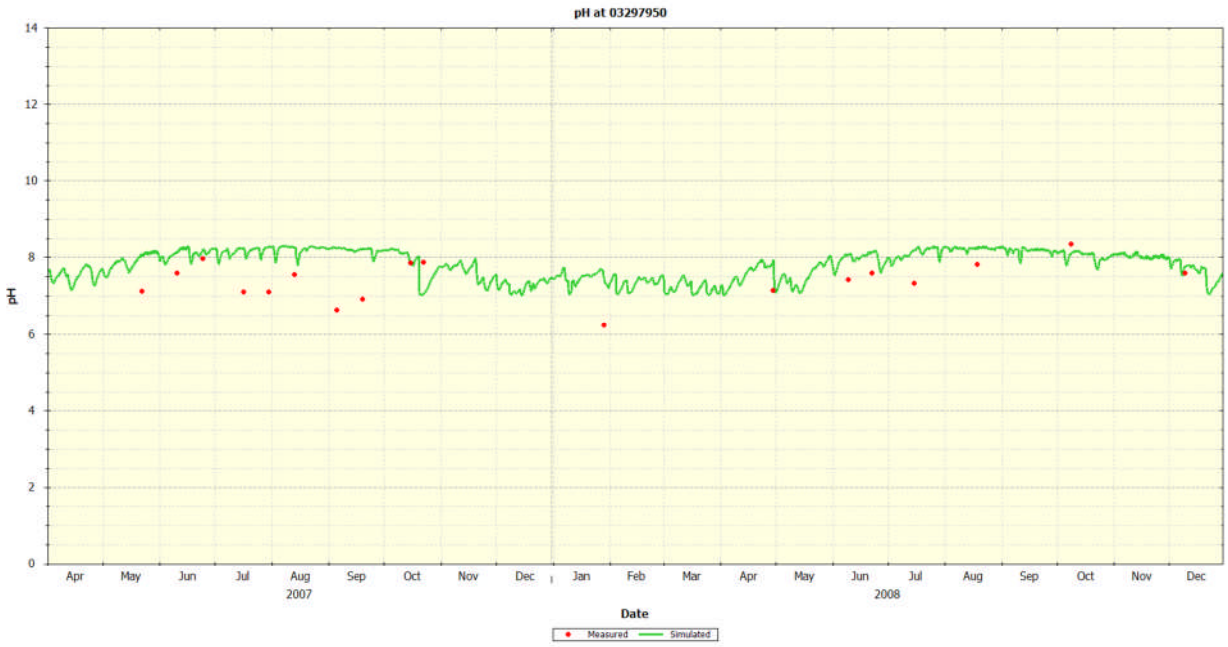


Figure A-297 Modeled vs. Observed pH at 03297950

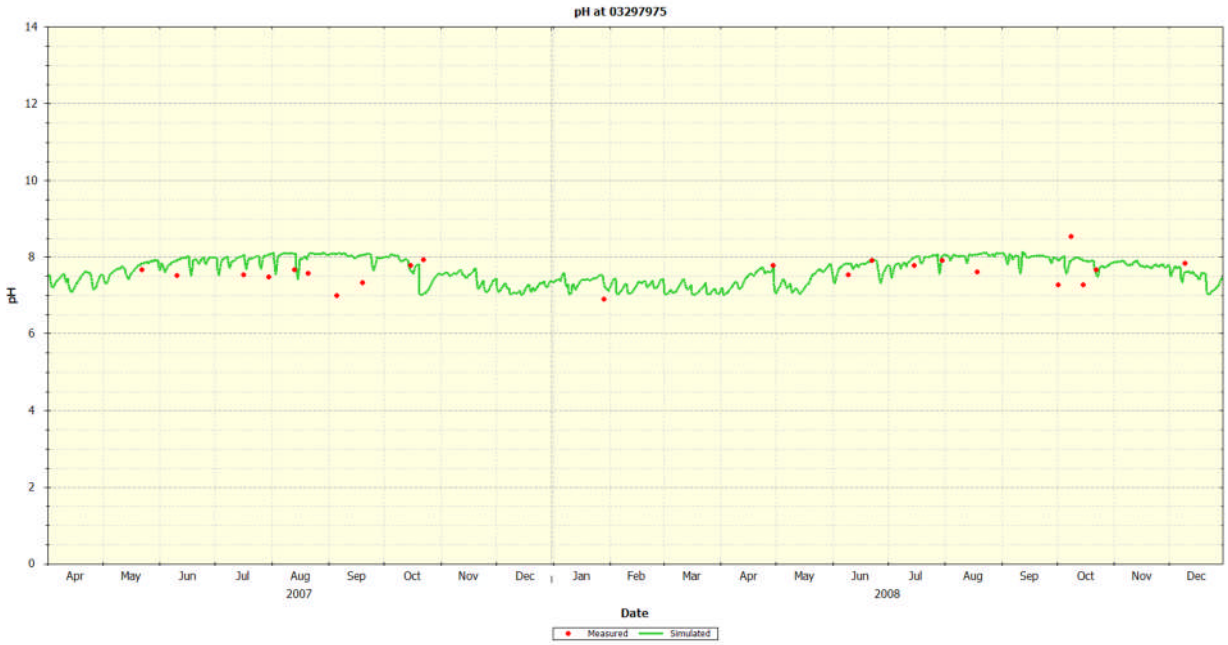


Figure A-298 Modeled vs. Observed pH at 03297975

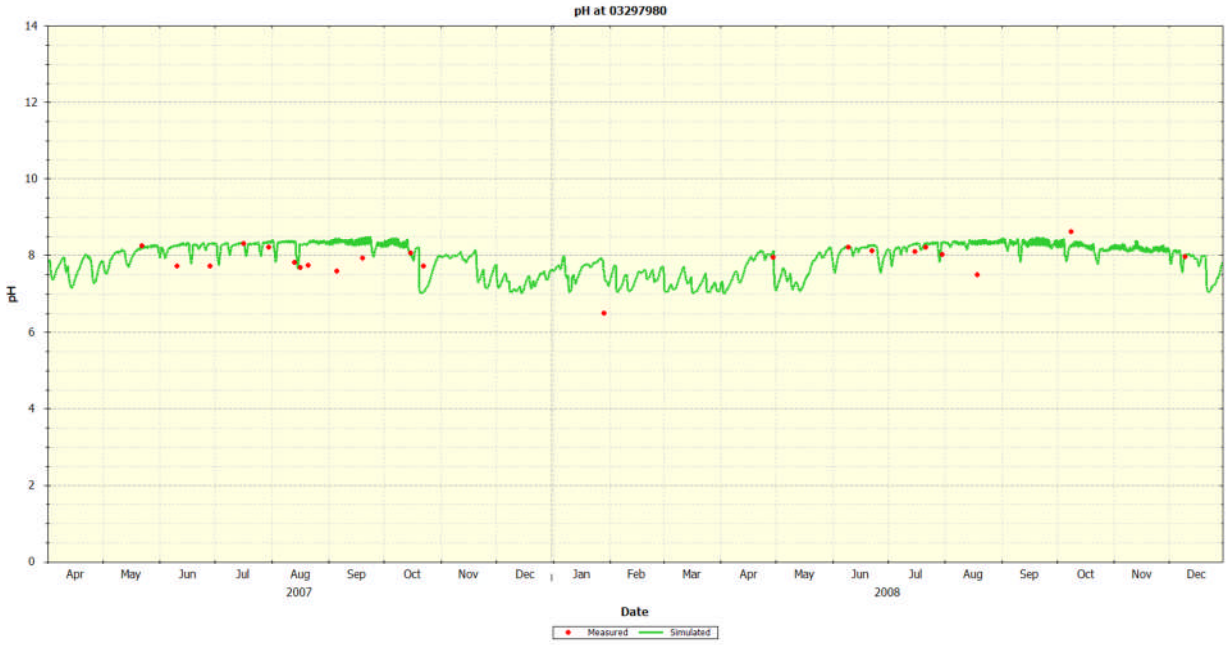


Figure A-299 Modeled vs. Observed pH at 03297980

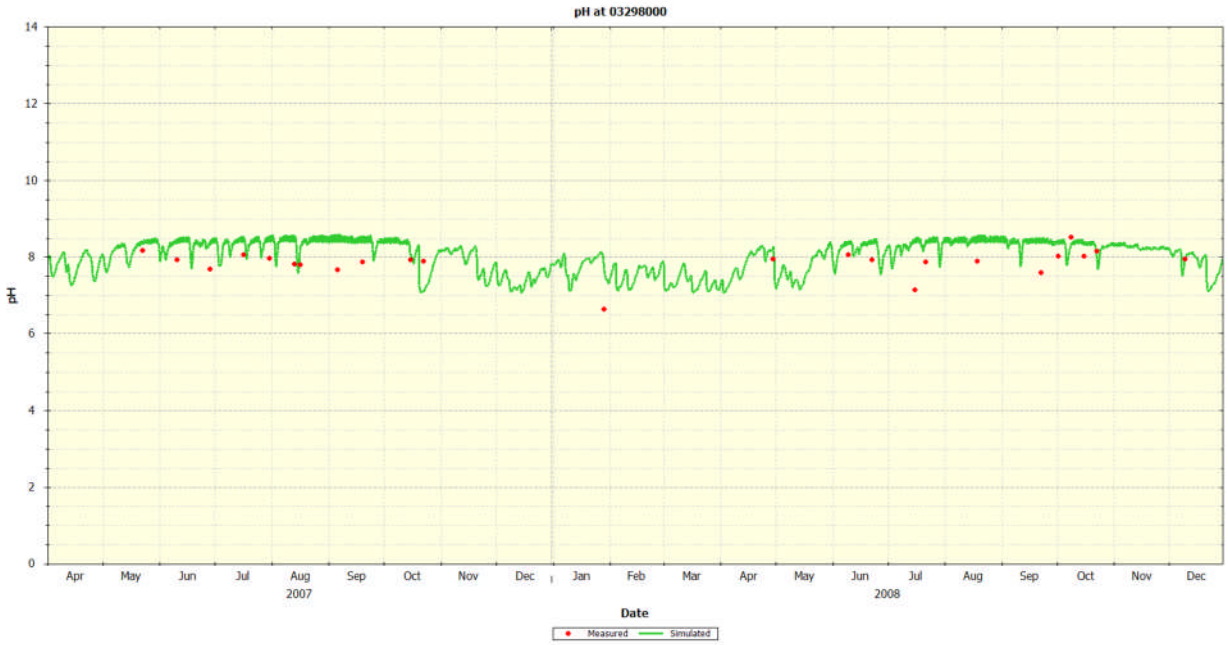


Figure A-300 Modeled vs. Observed pH at 03298000

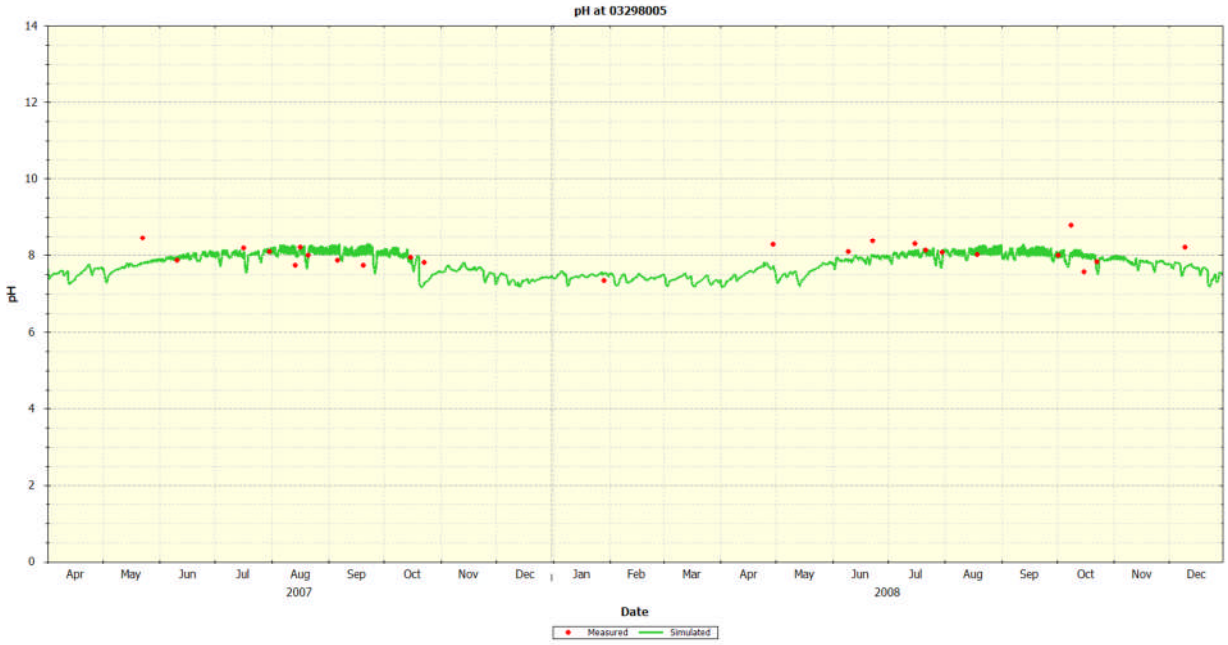


Figure A-301 Modeled vs. Observed pH at 03298005

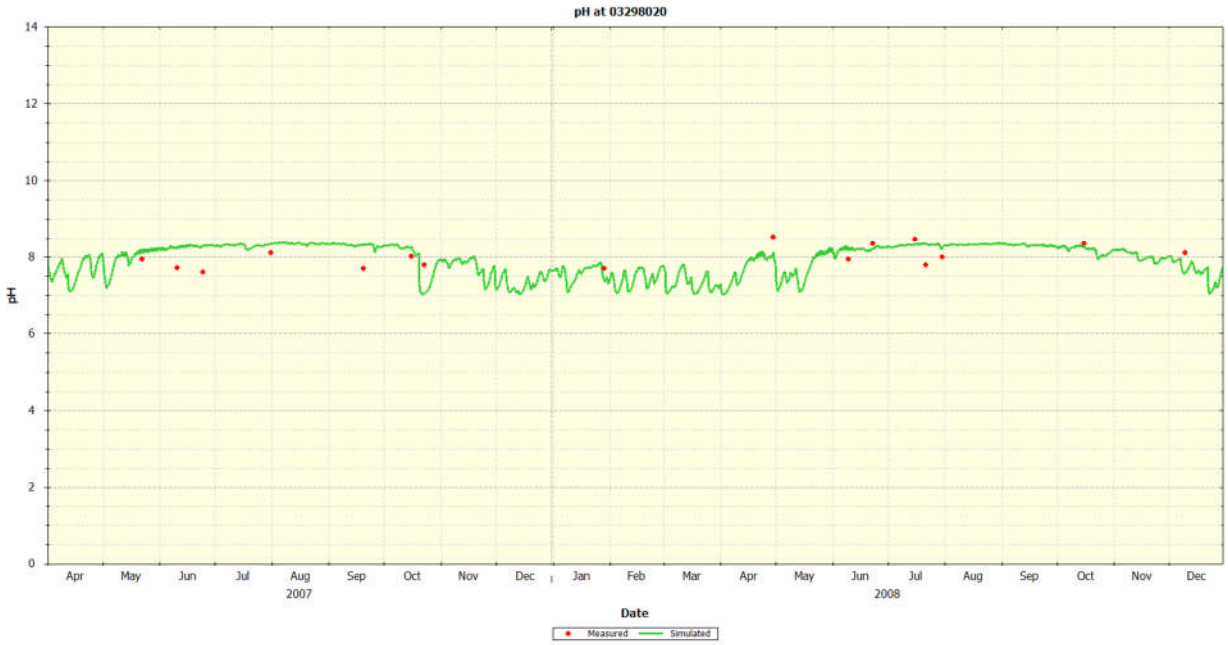


Figure A-302 Modeled vs. Observed pH at 03298020

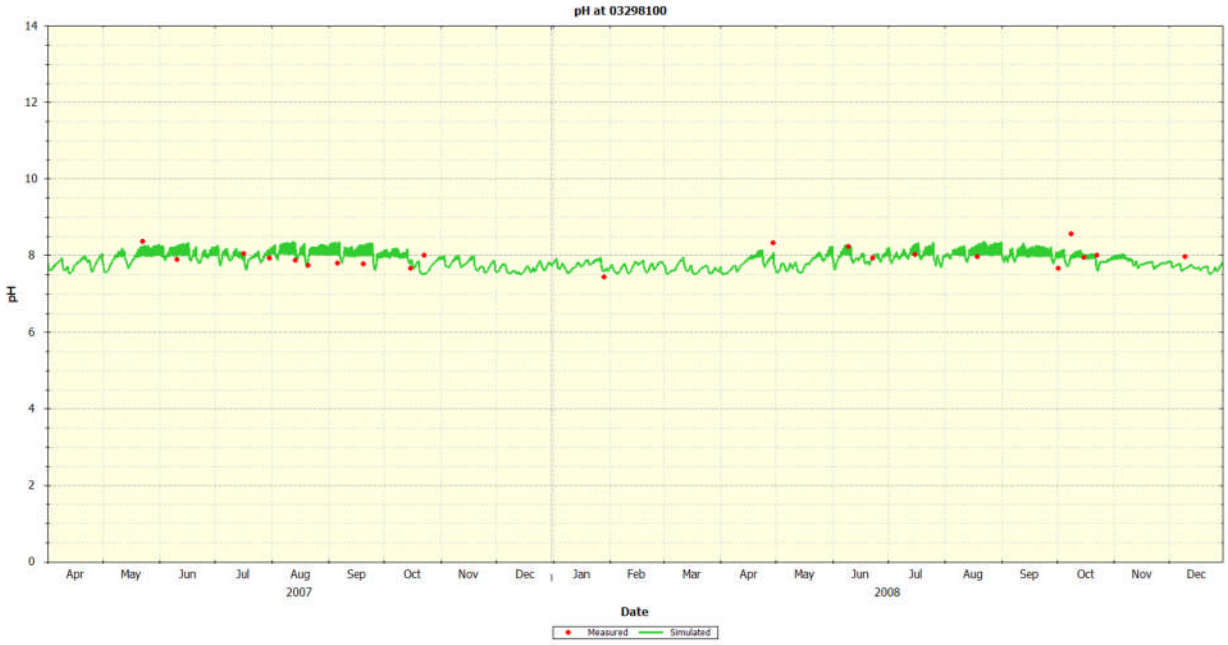


Figure A-303 Modeled vs. Observed pH at 03298100

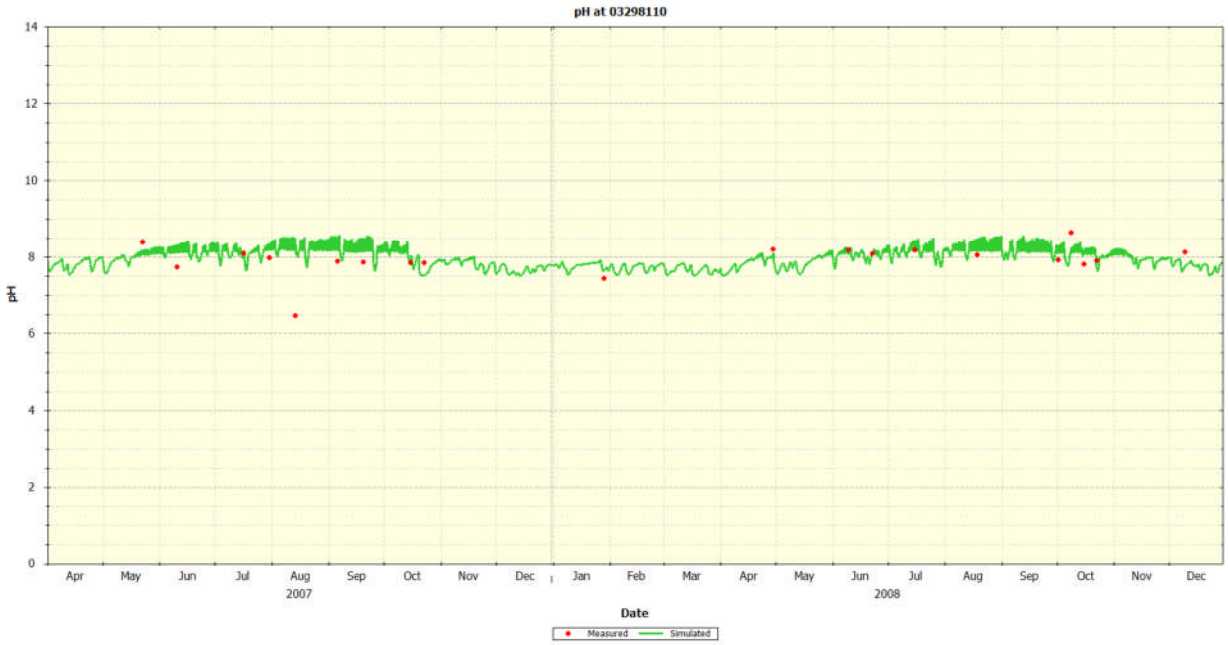


Figure A-304 Modeled vs. Observed pH at 03298110

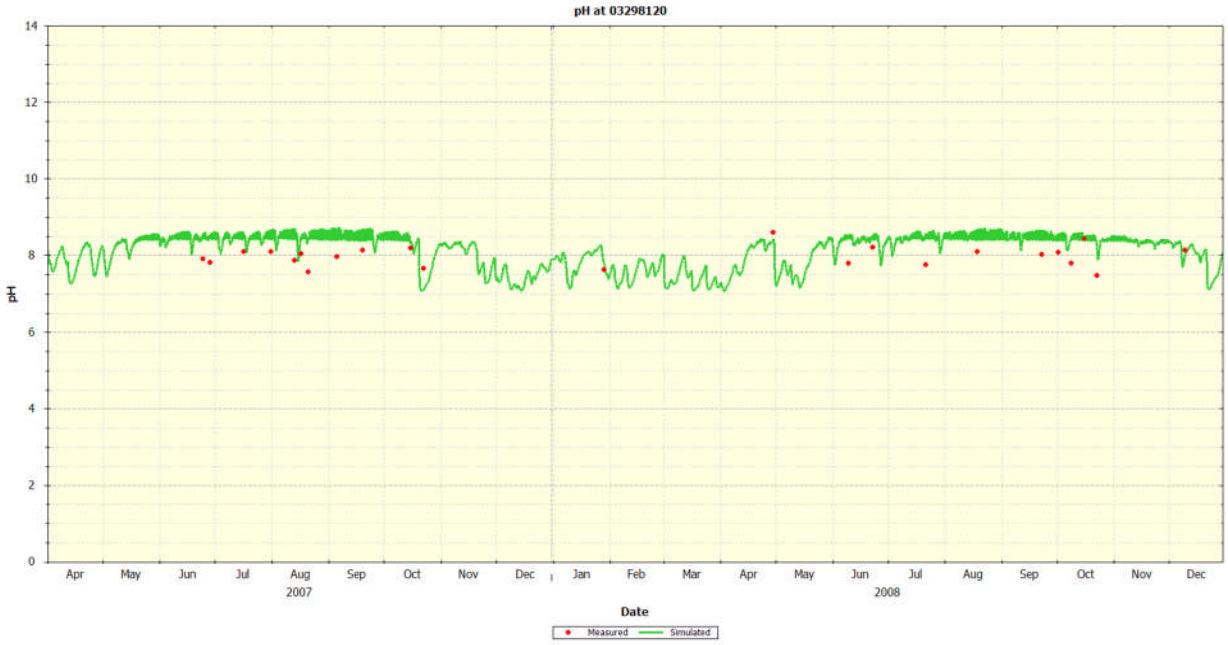


Figure A-305 Modeled vs. Observed pH at 03298120

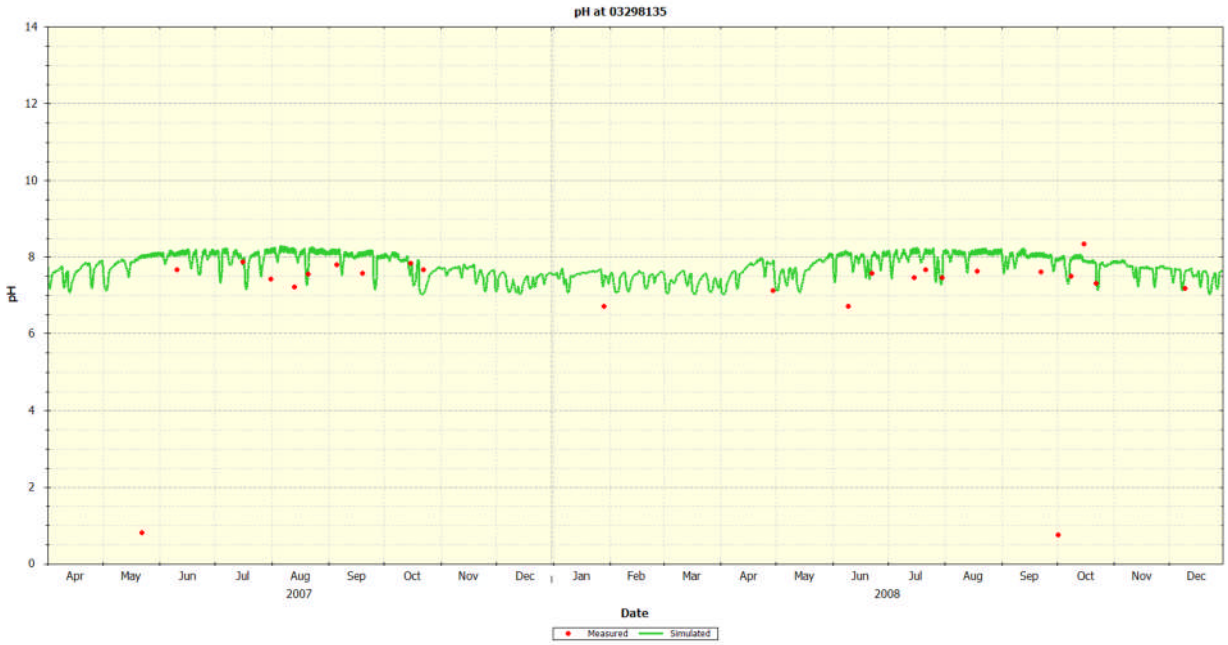


Figure A-306 Modeled vs. Observed pH at 03298135

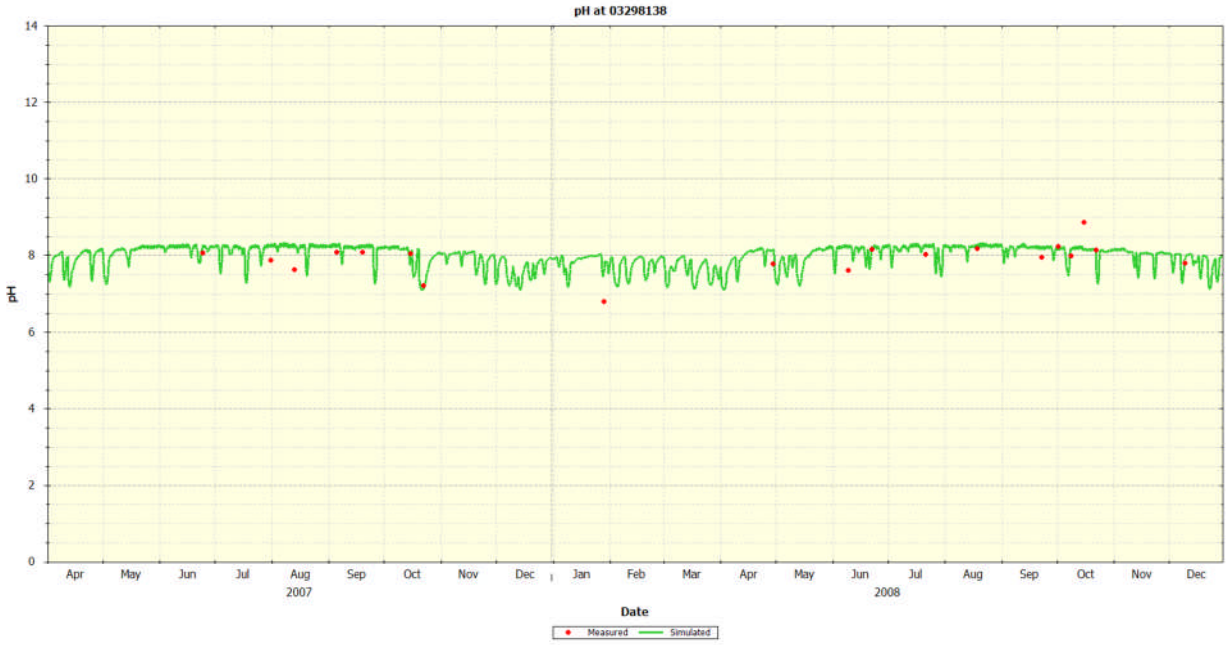


Figure A-307 Modeled vs. Observed pH at 03298138

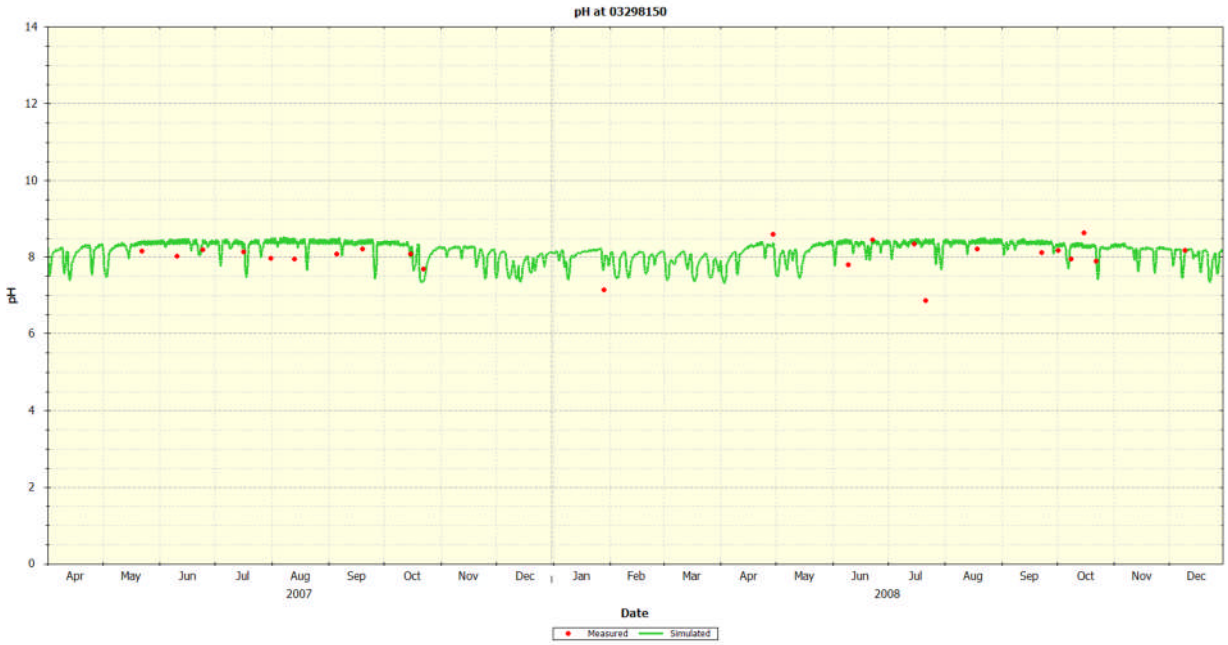


Figure A-308 Modeled vs. Observed pH at 03298150

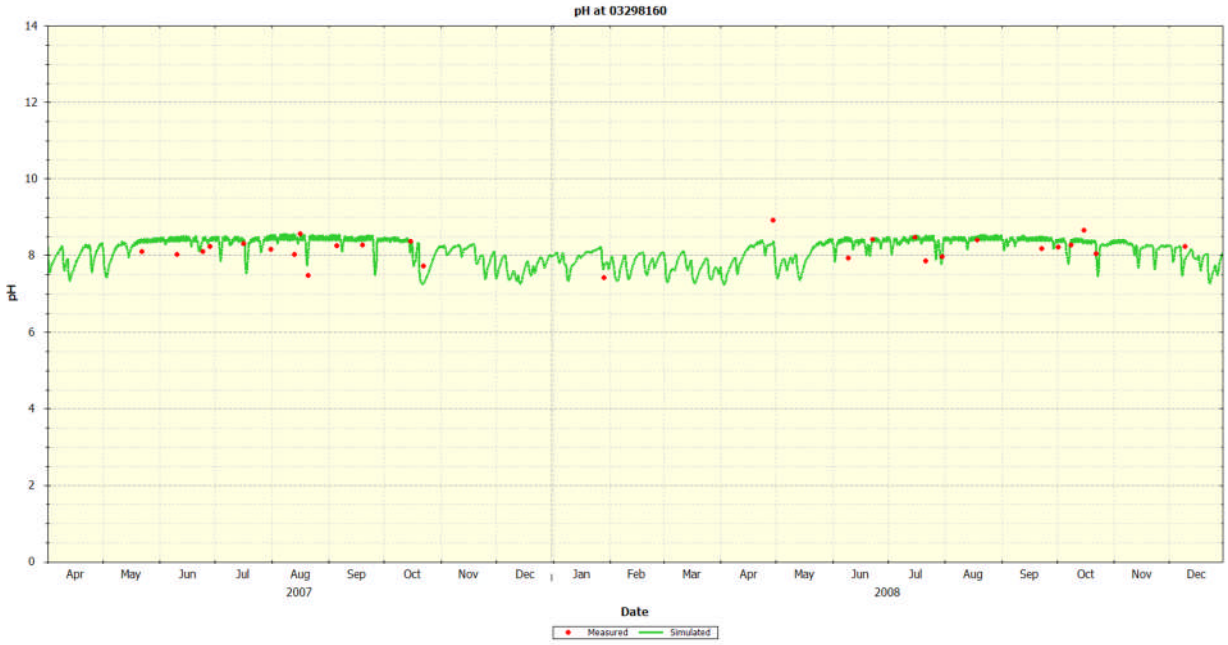


Figure A-309 Modeled vs. Observed pH at 03298160

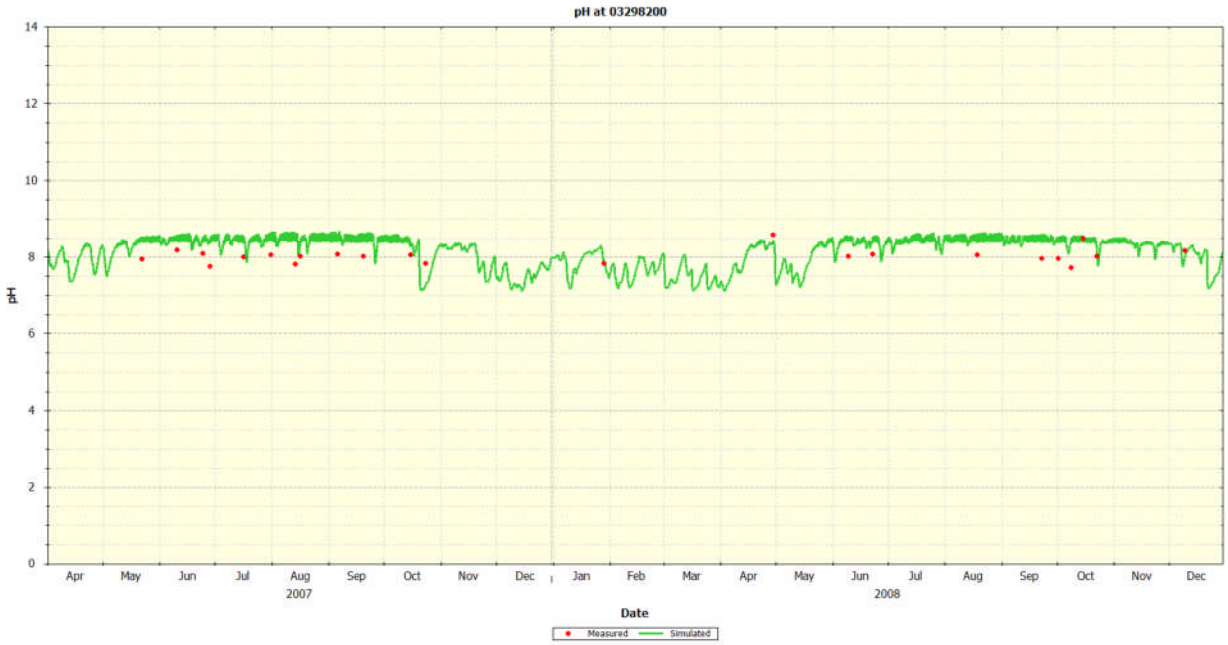


Figure A-310 Modeled vs. Observed pH at 03298200

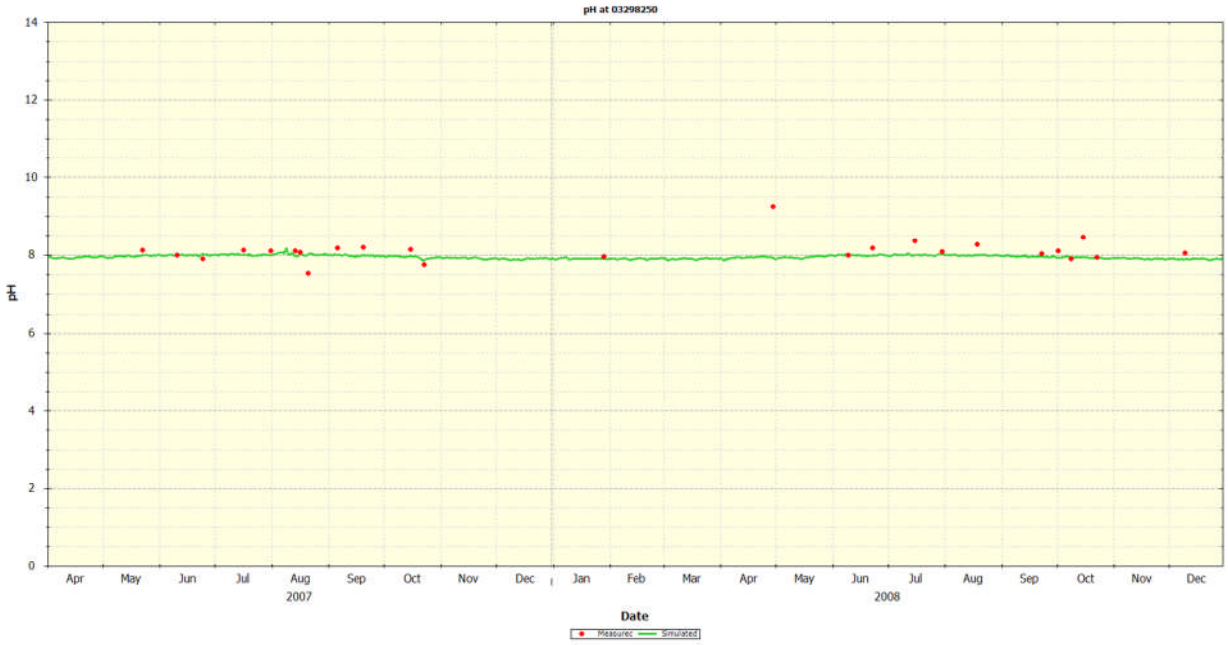


Figure A-311 Modeled vs. Observed pH at 03298250

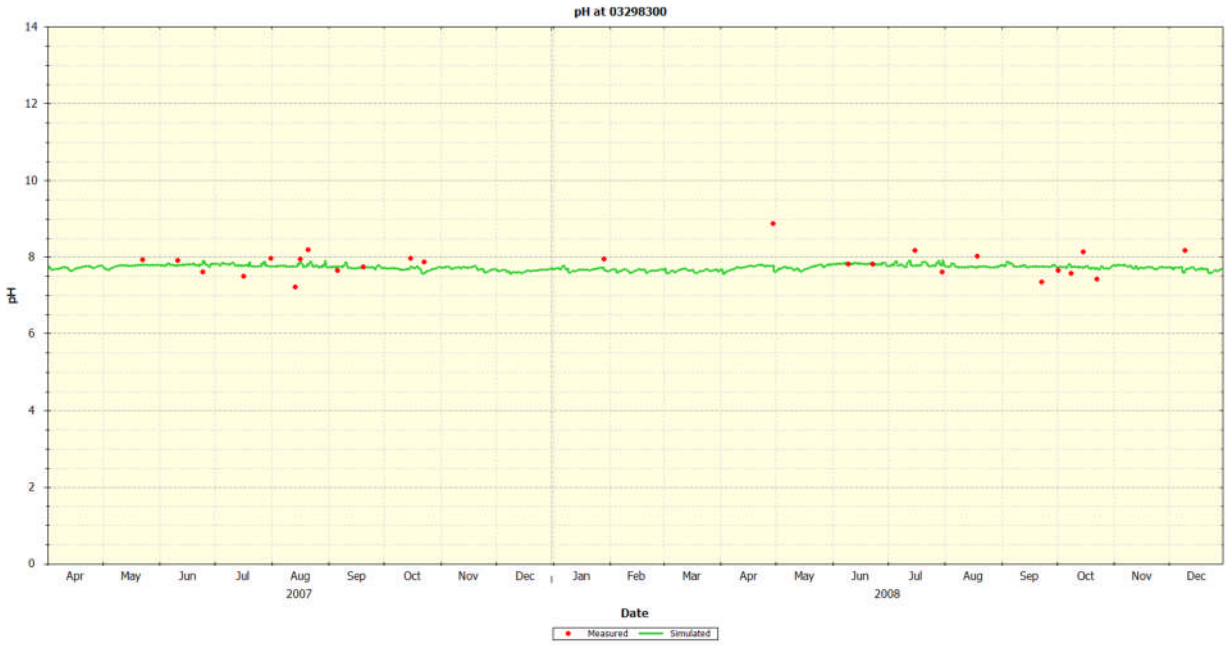


Figure A-312 Modeled vs. Observed pH at 03298300

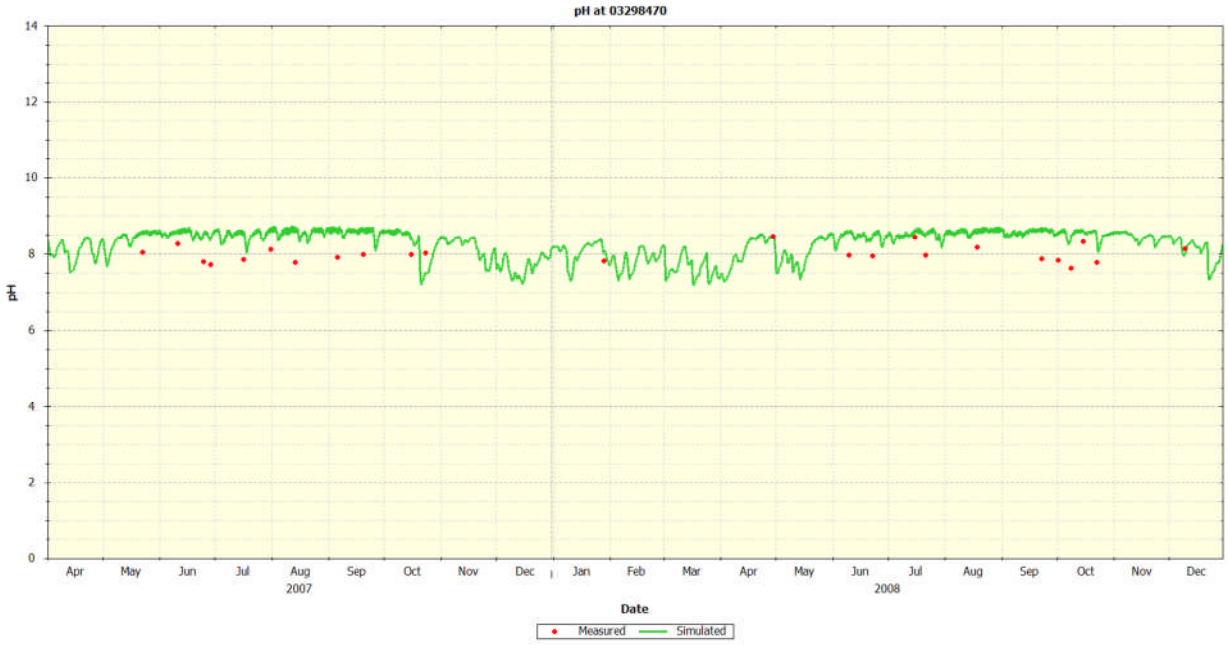


Figure A-313 Modeled vs. Observed pH at 03298470

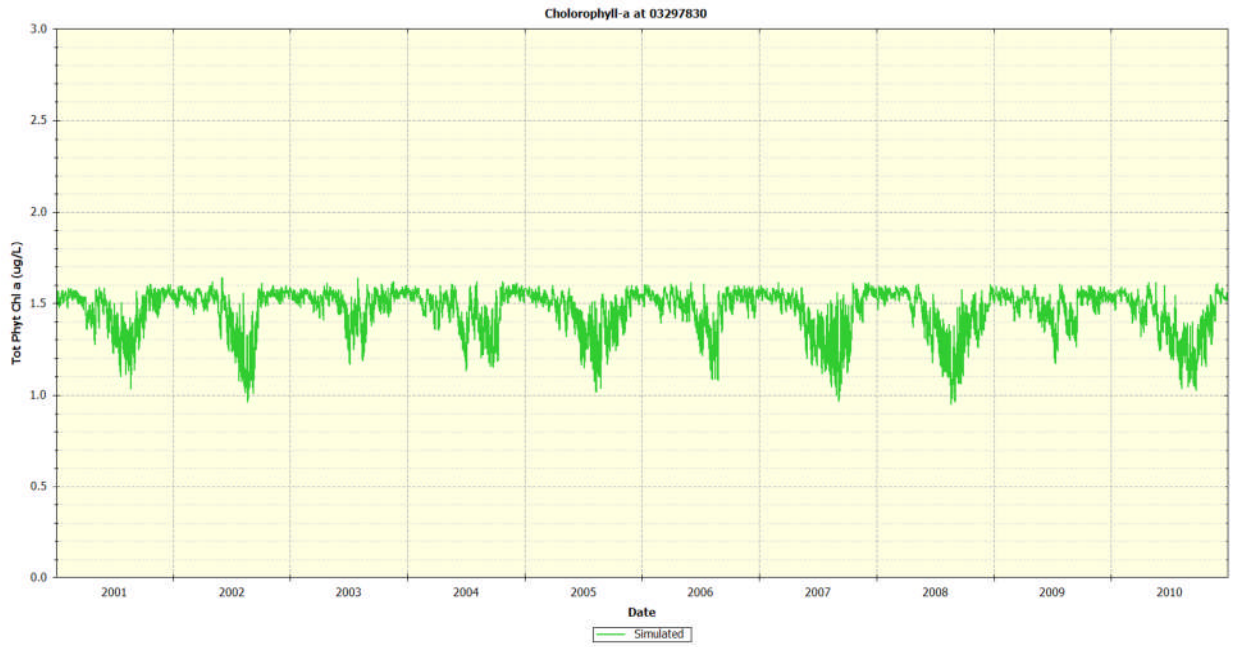


Figure A-314 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297830

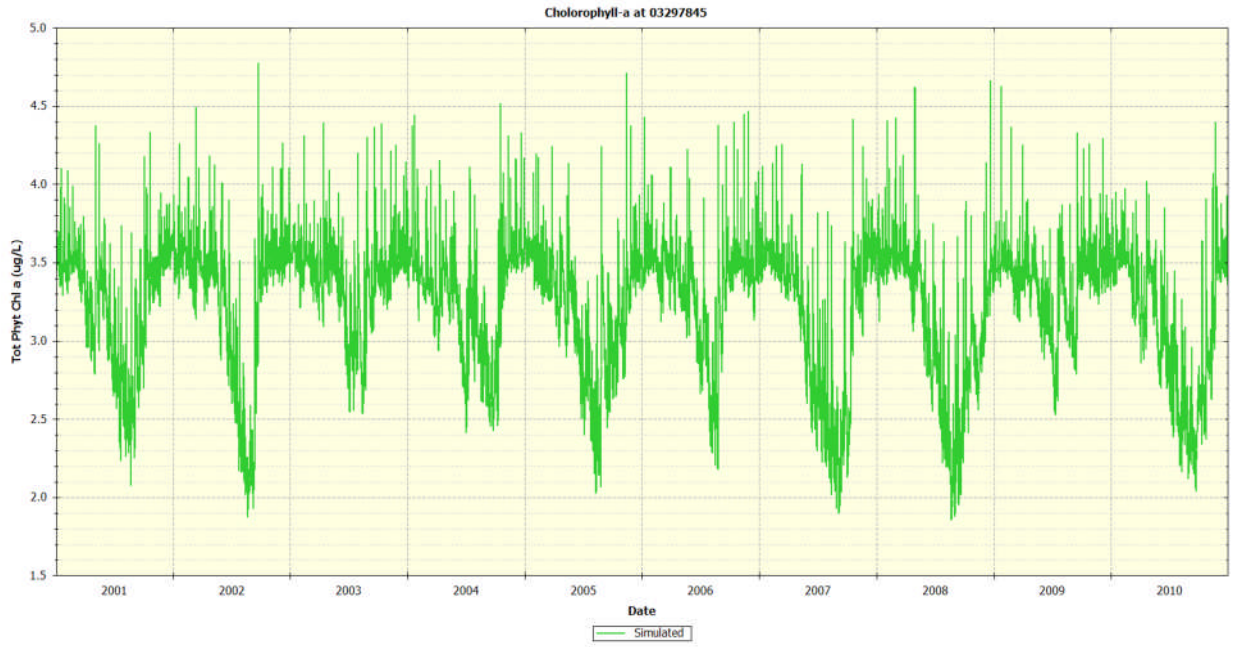


Figure A-315 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297845

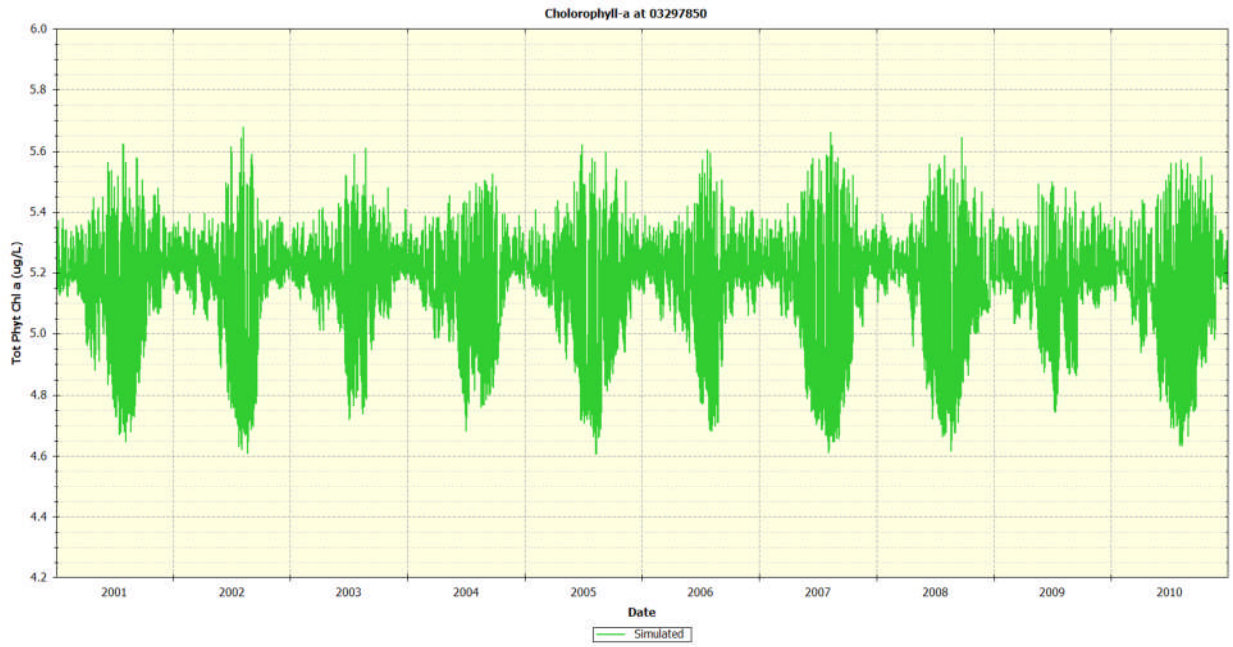


Figure A-316 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297850

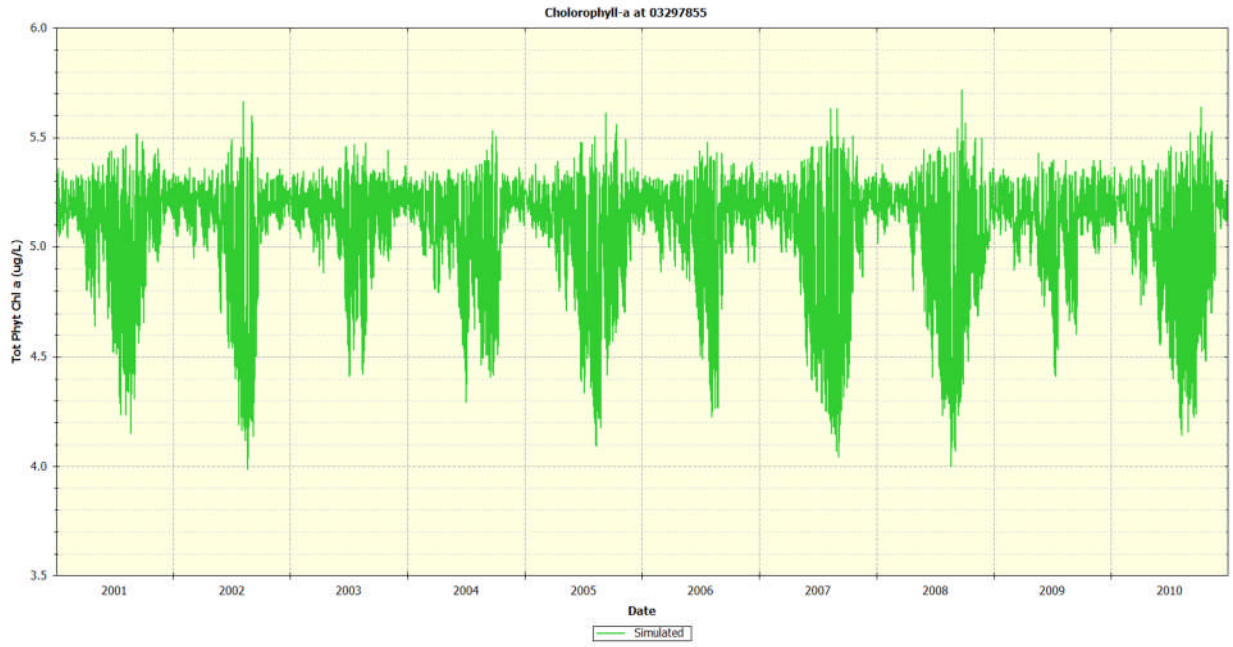


Figure A-317 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297855

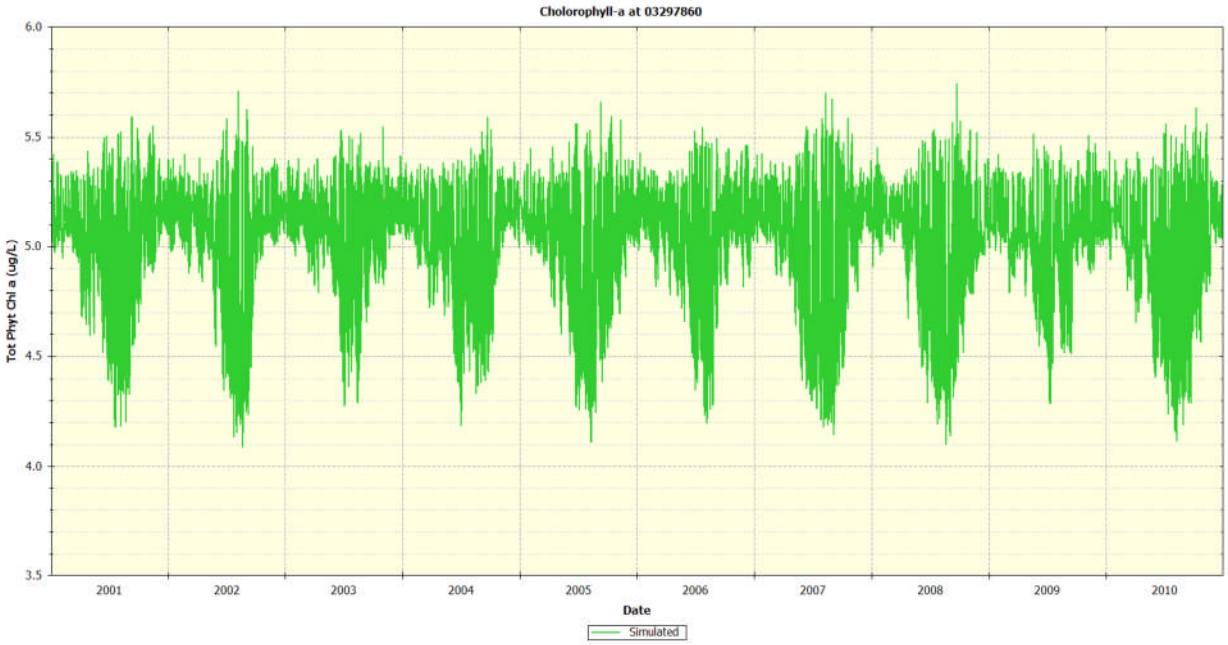


Figure A-318 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297860

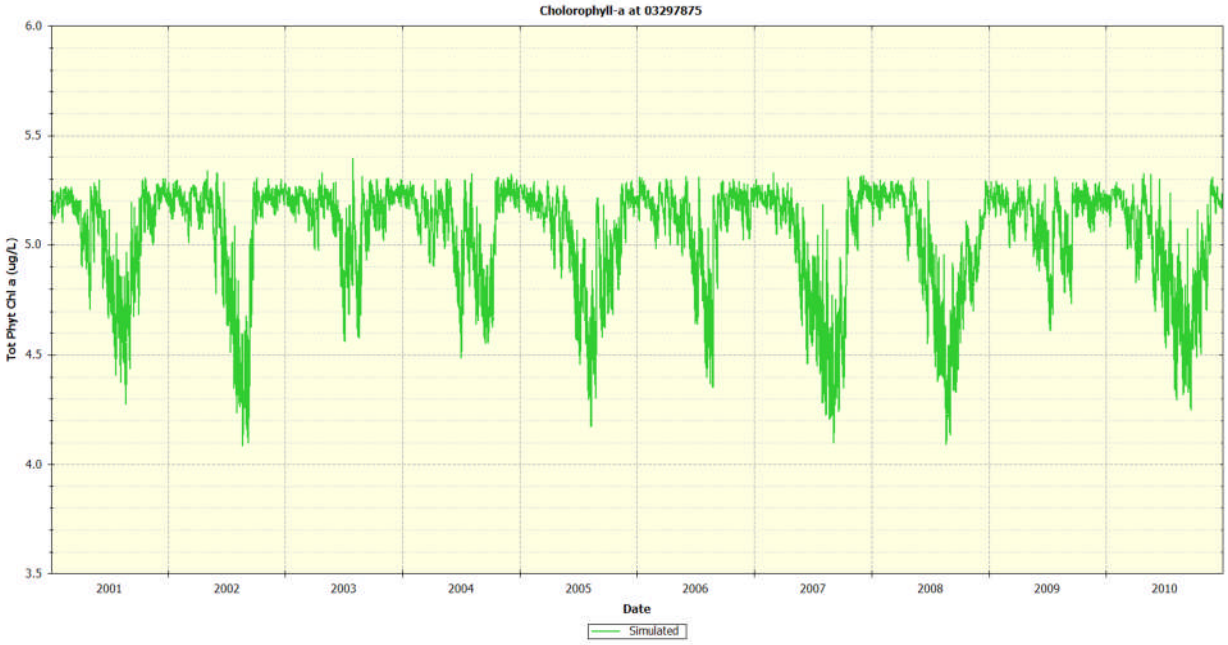


Figure A-319 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297875

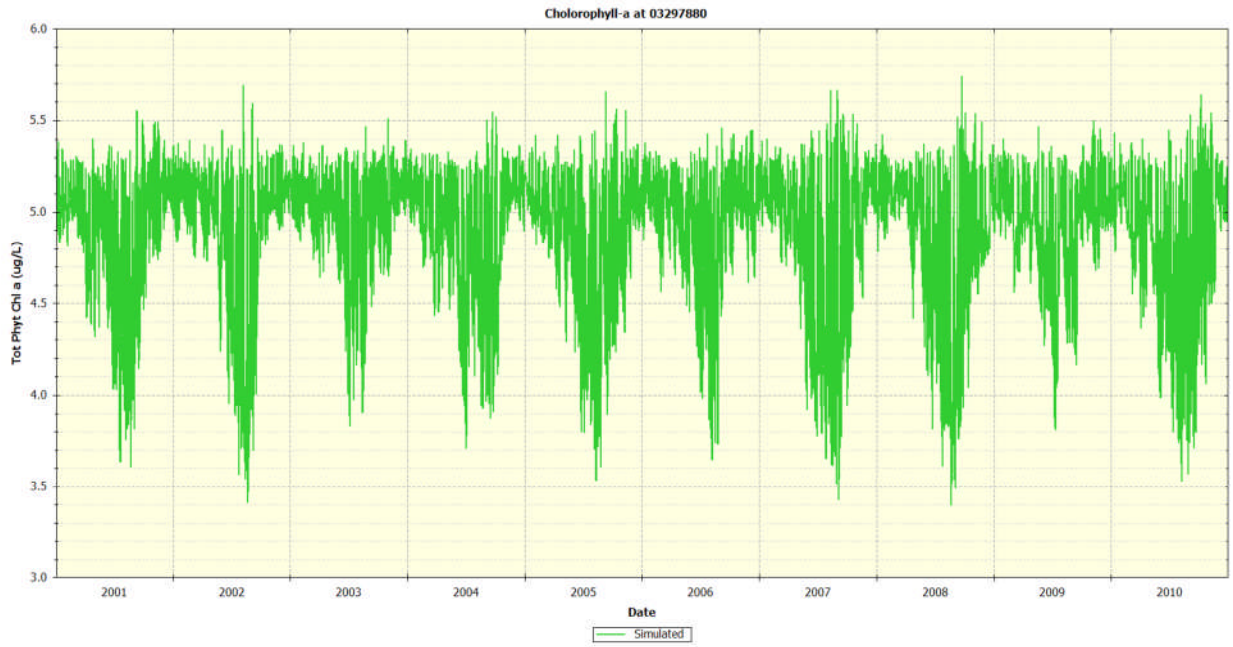


Figure A-320 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297880

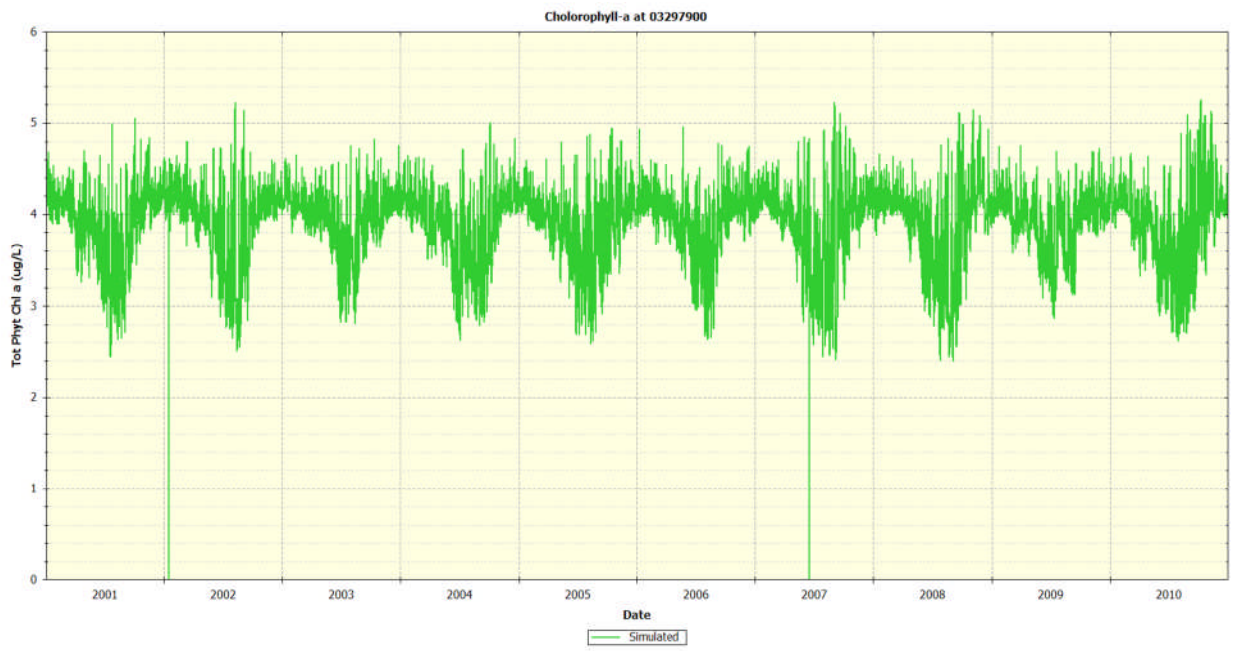


Figure A-321 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297900

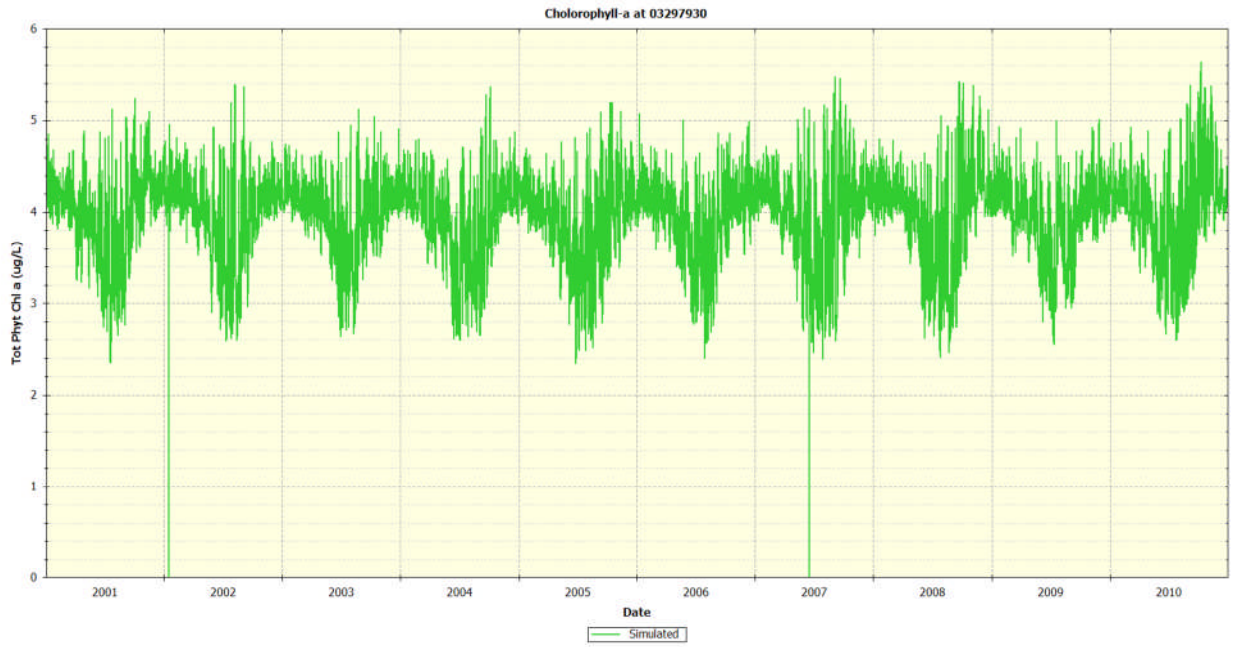


Figure A-322 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297930

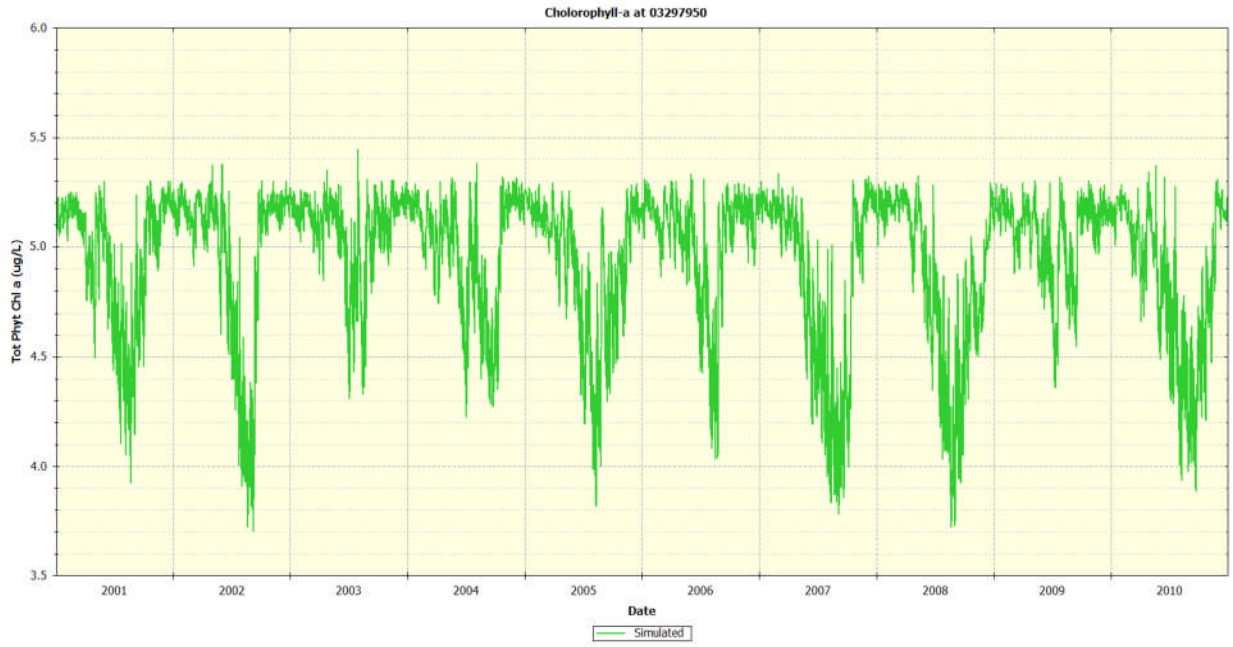


Figure A-323 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297950

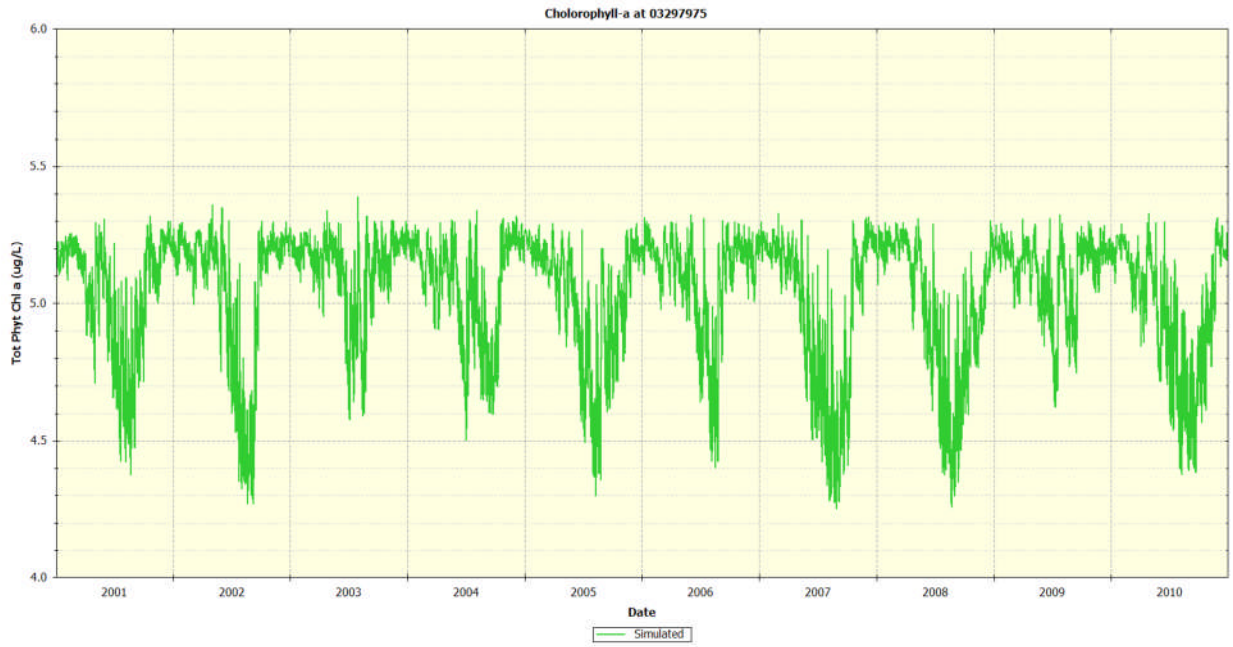


Figure A-324 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297975

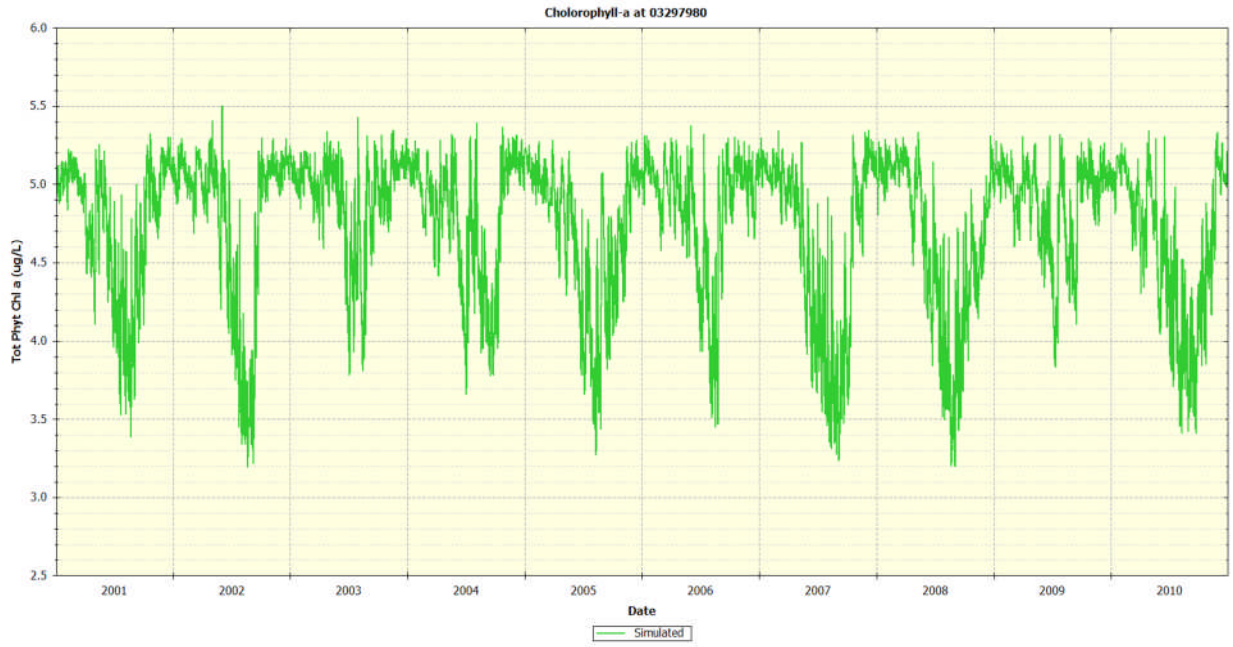


Figure A-325 Modeled vs. Observed Chlorophyll-a (µg/L) at 03297980

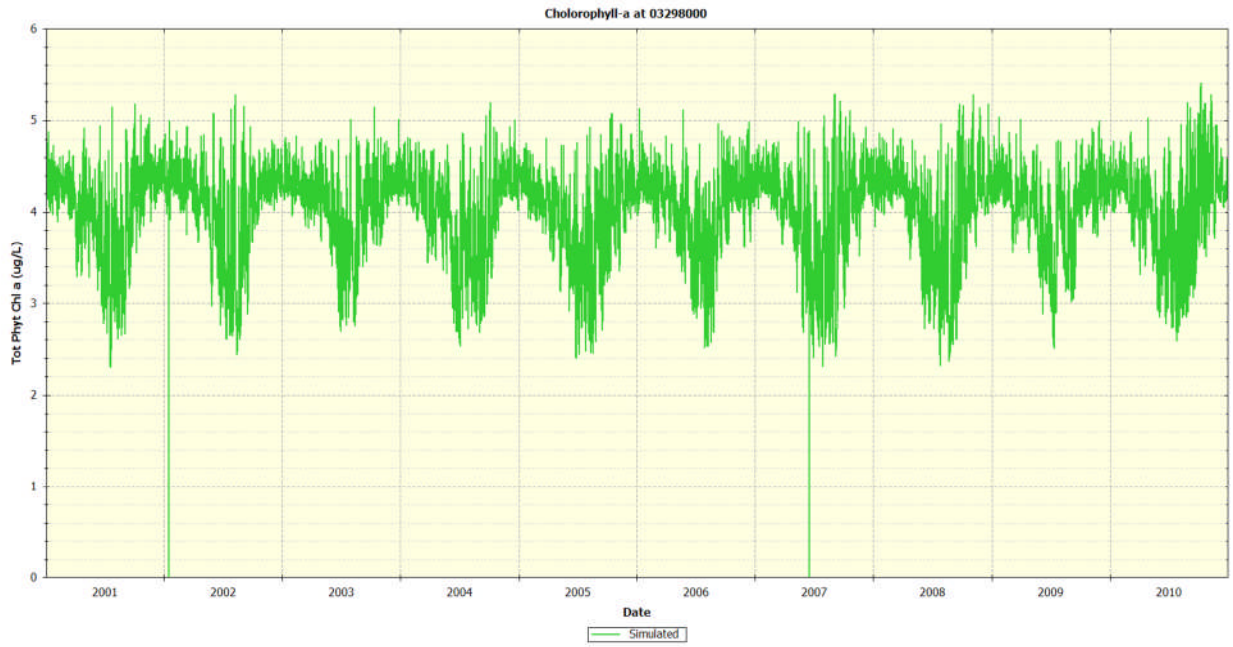


Figure A-326 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298000

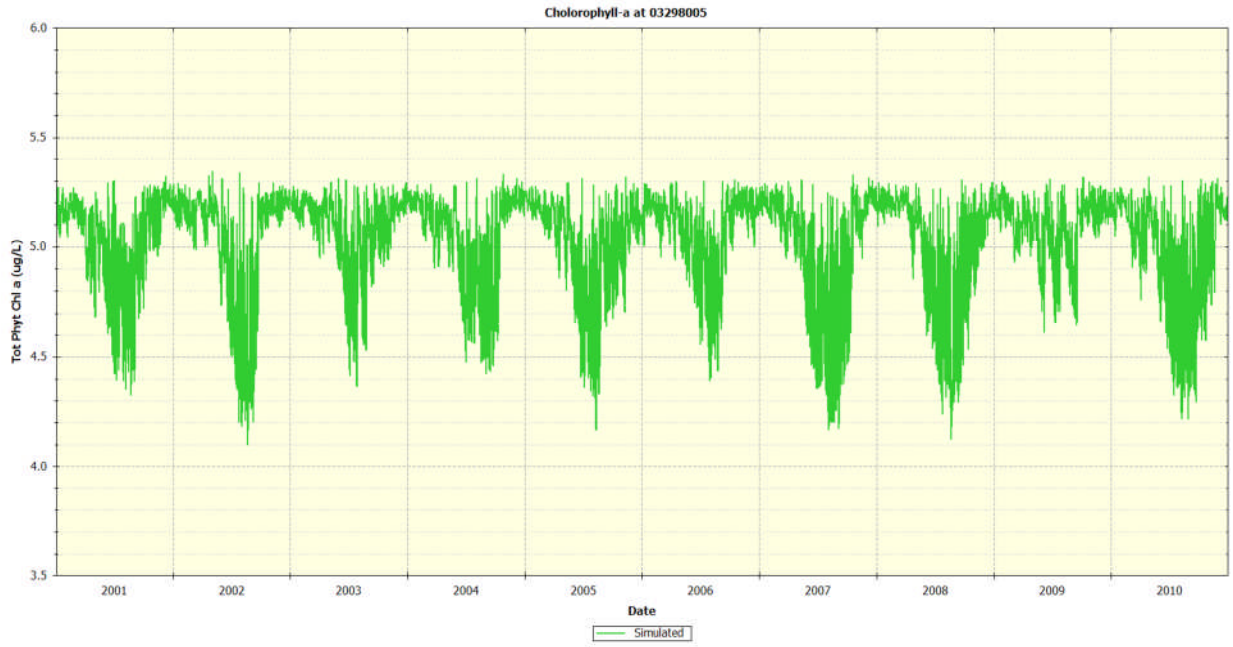


Figure A-327 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298005

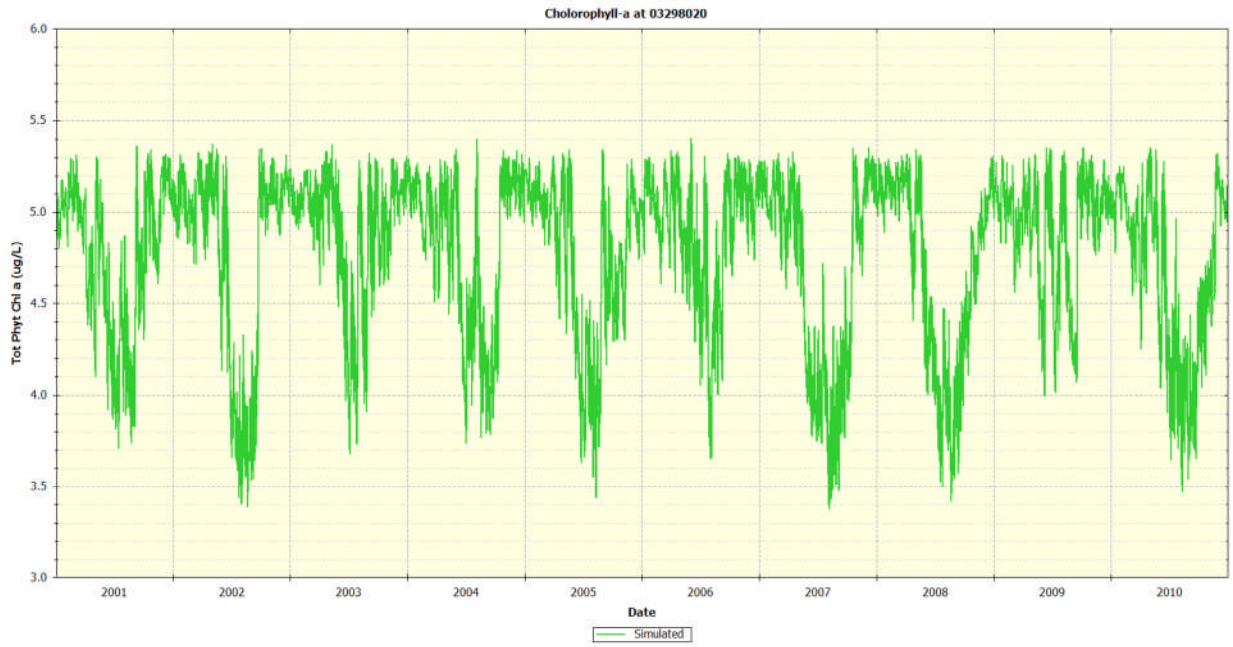


Figure A-328 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298020

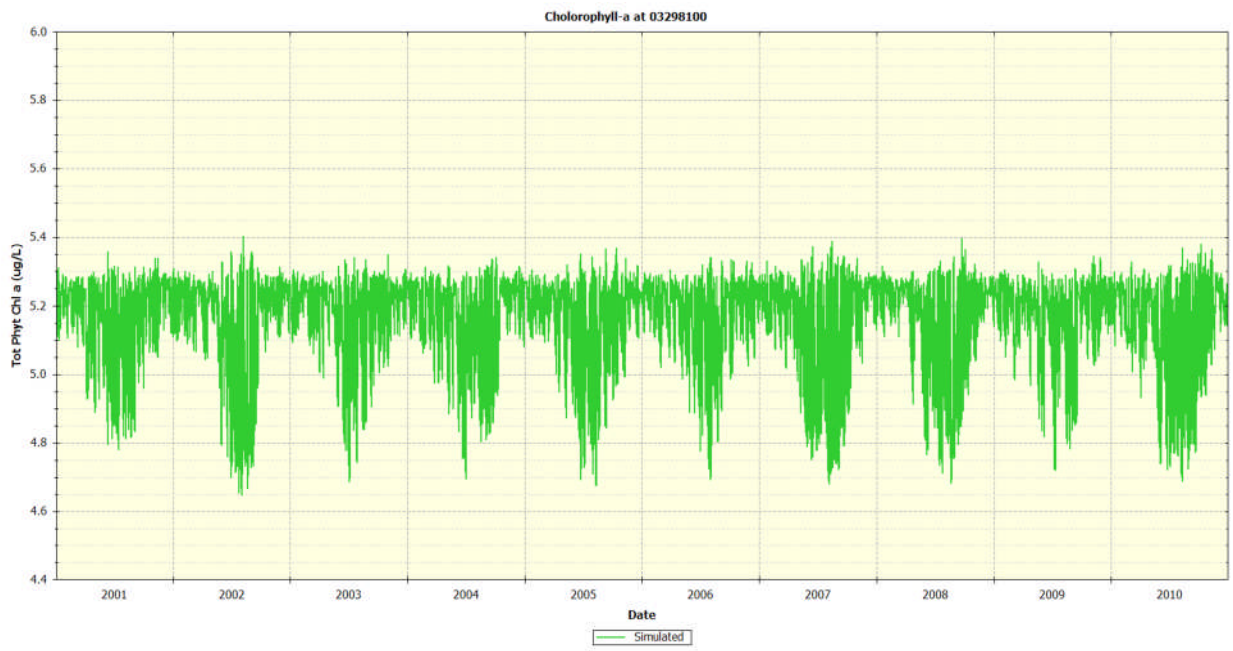


Figure A-329 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298100

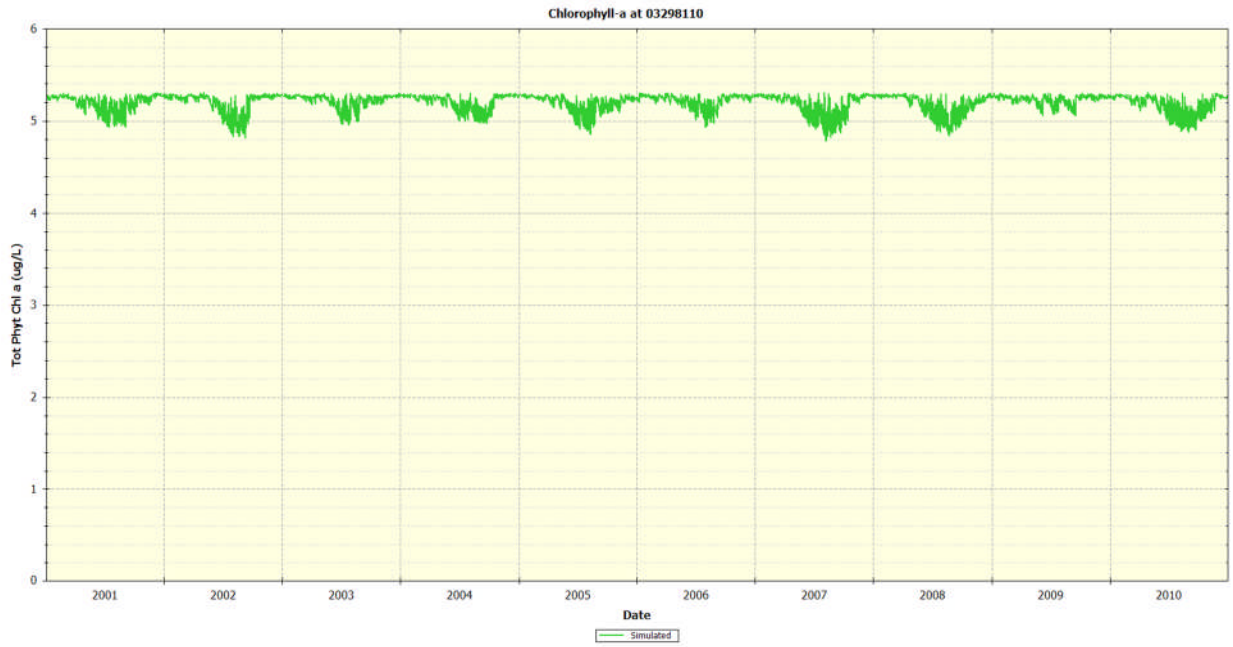


Figure A-330 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298110

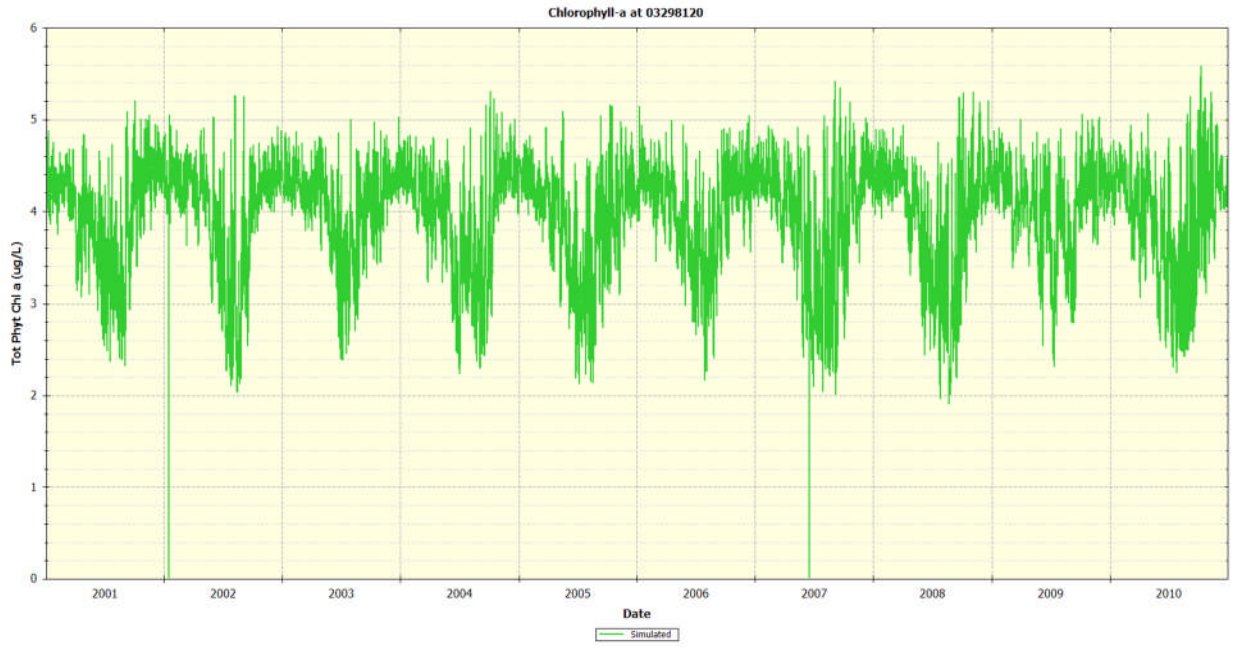


Figure A-331 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298120

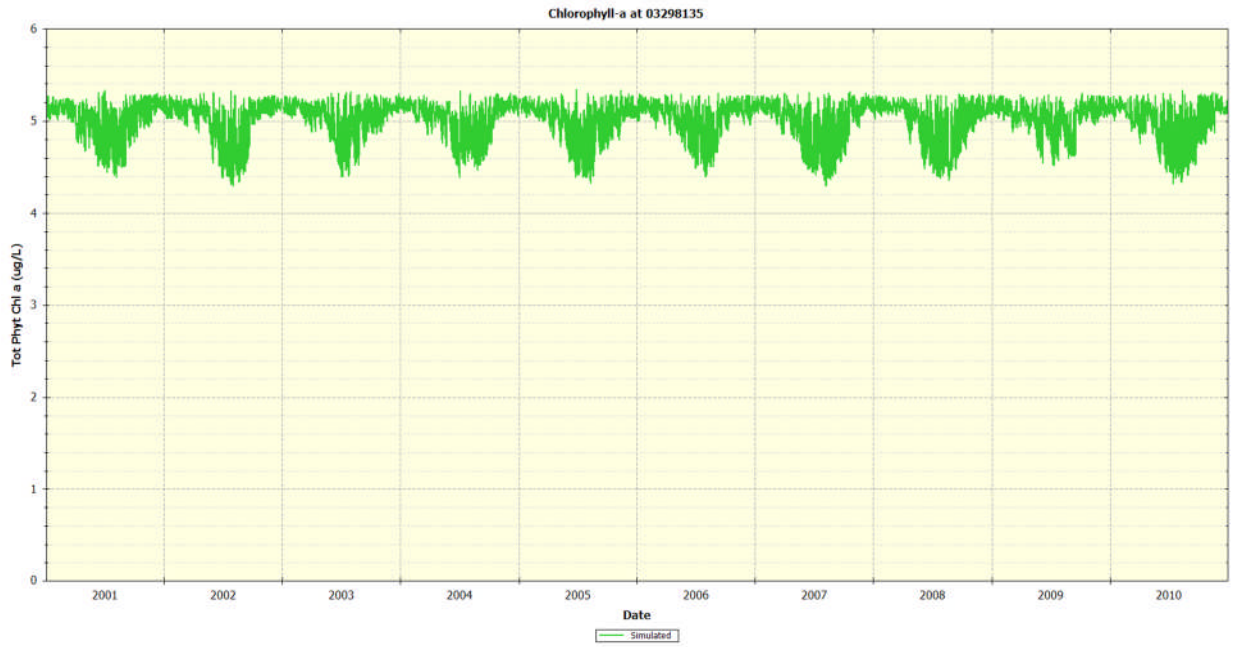


Figure A-332 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298135

Figure A-333 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298138

Figure A-334 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298150

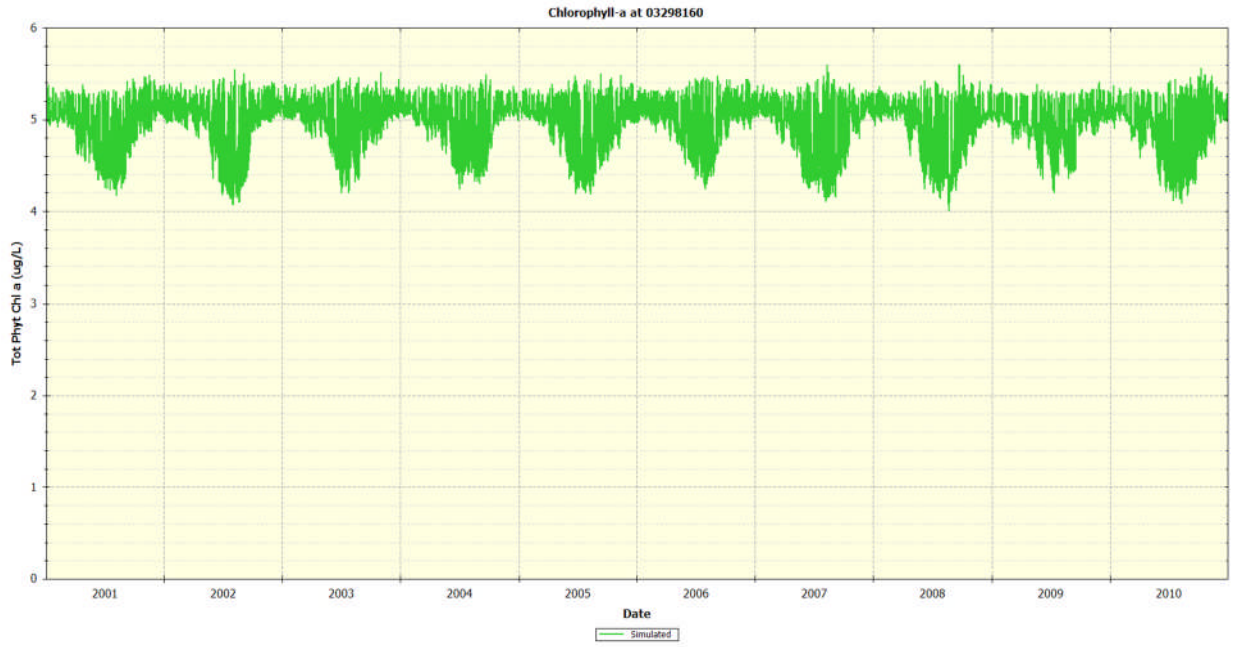


Figure A-335 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298160

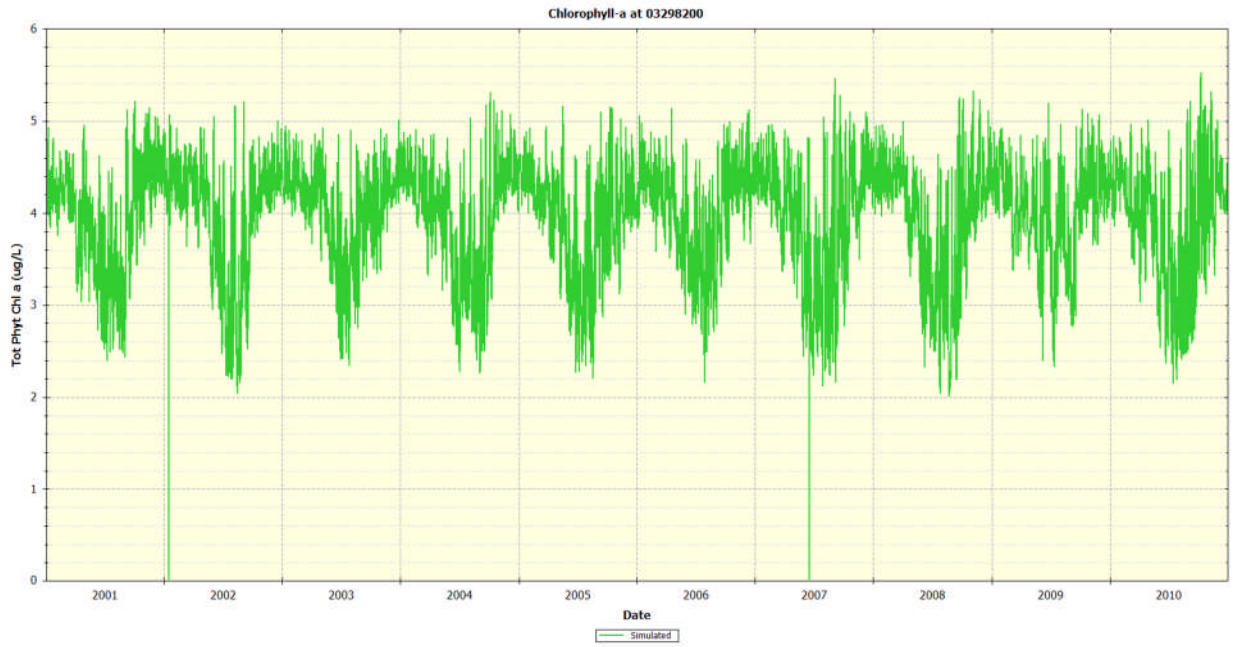


Figure A-336 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298200

Figure A-337 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298250

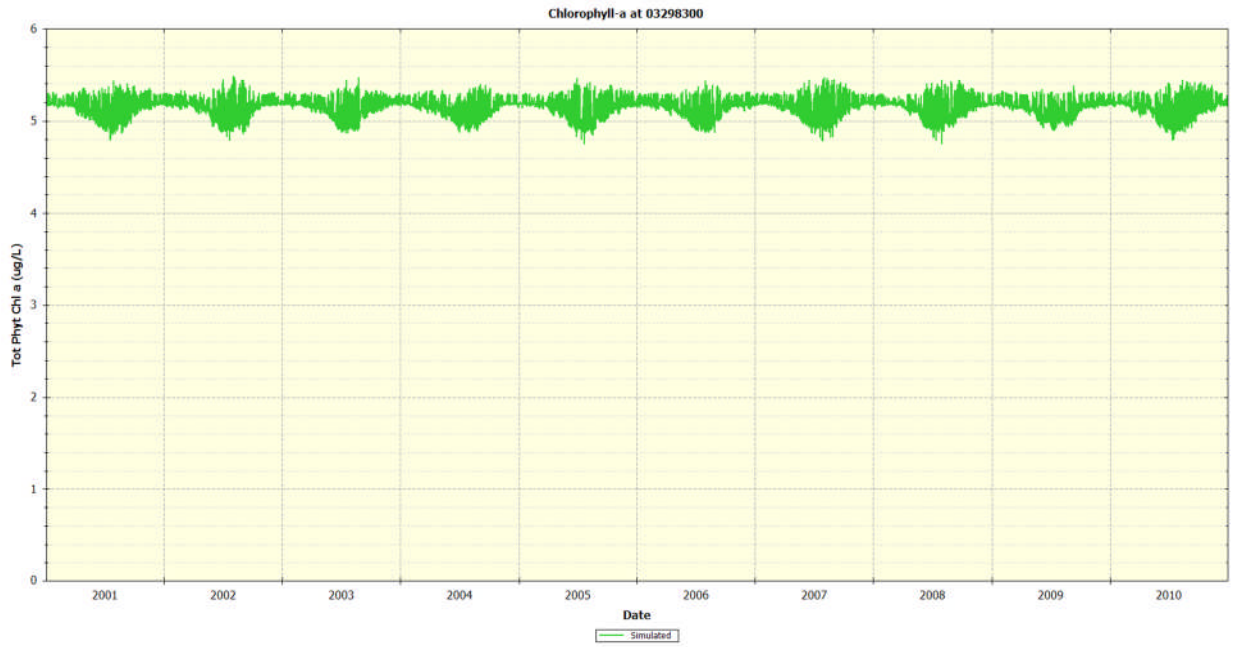


Figure A-338 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298300

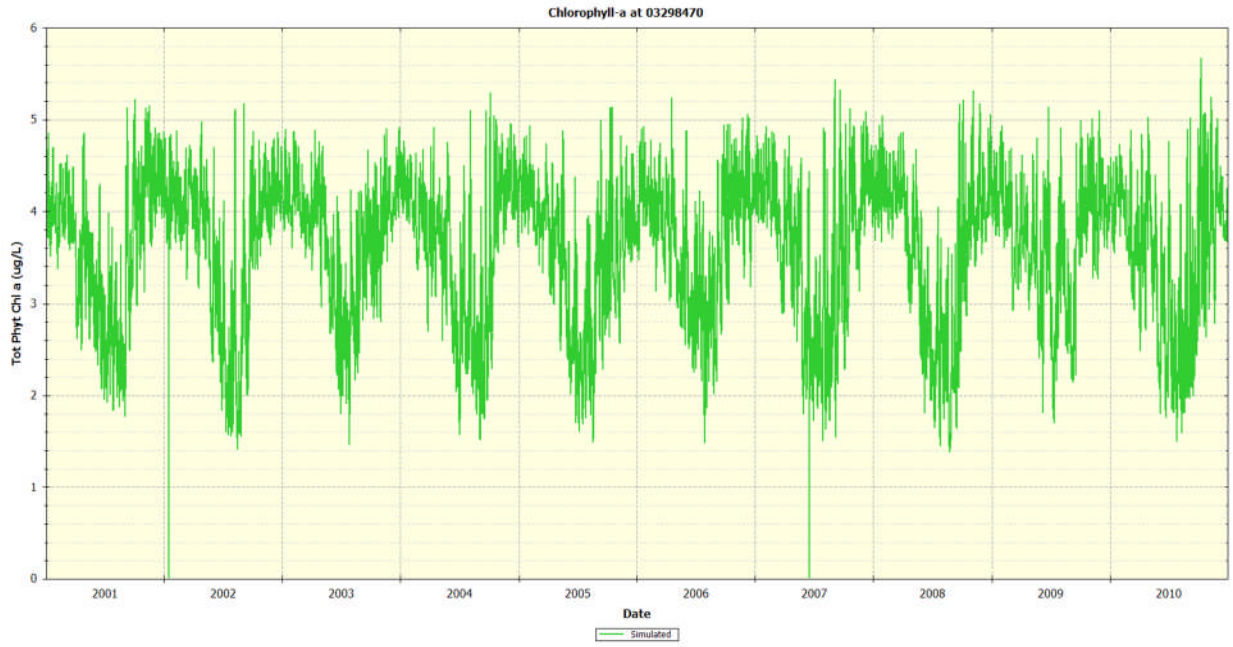


Figure A-339 Modeled vs. Observed Chlorophyll-a (µg/L) at 03298470

Table A-2 Summary Qualitative and Quantitative scores for the USGS Water Quality Calibration Stations

Location: Main Stem, Floyds Fork					
Station	Station Name	Qualitative score		Quantitative score	
		TN	TP	TN	TP
03297830	Floyds Fork at Highway 53	G	VG	44	30
03297845	Floyds Fork near Crestwood	G	F	48	73
03297900	Floyds Fork near Peewee Valley	G	G	43	69
03297930	Floyds Fork at Echo trail bridge	G	F	66	75
03298000	Floyds Fork at Fisherville	G	G	46	44
03298120	Floyds Fork at Seatonville Road	G	G	44	57
03298200	Floyds Fork near Mt. Washington	G	VG	46	1
03298470	Floyds Fork near Shepherdsville	G	VG	40	24
Location: Tributaries					
03297850	South Fork Curry's Fork at Moody Lane	G	F	69	70
03297855	South Fork Curry's Fork at Highway 393	VG	VG	26	10
03297860	North Fork Curry's Fork at Stone Ridge road	G	F	56	77
03297875	Ashers Run at Abbott lane near Crestwood	G	G	48	51
03297880	Currys Fork near Crestwood	VG	G	24	42
03297950	Long Run at Old stage coach road	VG	VG	24	12
03297975	South Long Run at Hobbs Lane	VG	G	15	61
03297980	Long Run near Fisherville	VG	G	20	62
03298005	Pope lick at South poope lick road near Fisherville	VG	G	4	48
03298020	Cane Run at Thurman Road	VG	G	20	49
03298100	Pope lick at pope lick road near Middletown	G	G	37	50
03298110	Pope lick at Rehl road near Fisherville	VG	G	28	36
03298135	Chenoweth Run at Ruckriegal Parkway	VG	G	4	69
03298138	Chenoweth Run at Jeffersontown STP at Jeffersontown	G	G	62	59
03298150	Chenoweth Run at Gelhaus Lane near Fern creek	G	G	59	34
03298160	Chenoweth Run at Seatonville road near Jeffersontown	G	VG	34	20
03298250	Cedar Creek at Thixton Road	G	VG	54	0
03298300	Pennsylvania Run at Mt. Washington	G	G	43	47

Table A-3 Calibration Statistics for TN for USGS Water Quality Calibration Stations utilized in the Floyds Fork model

Station	Station Name	Simulated			Measured			Difference		
		Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile
Location : Main Stem, Floyds Fork										
03297830	Floyds Fork at Highway 53	0.99	0.54	1.65	1.16	0.30	3.73	-0.18	0.24	-2.08
03297845	Floyds Fork near Crestwood	0.90	0.50	1.38	1.37	0.41	4.56	-0.47	0.09	-3.18
03297900	Floyds Fork near Peewee Valley	3.83	1.17	12.29	4.08	0.72	8.51	-0.25	0.45	3.79
03297930	Floyds Fork at Echo trail bridge	3.43	1.17	9.12	3.92	2.12	9.46	-0.49	-0.96	-0.34
03298000	Floyds Fork at Fisherville	3.08	1.13	8.38	2.77	1.49	6.21	0.31	-0.36	2.17
03298120	Floyds Fork at Seatonville Road	2.74	1.09	7.29	1.29	0.41	3.17	1.45	0.69	4.12
03298200	Floyds Fork near Mt. Washington	3.27	1.15	8.10	3.54	1.47	7.86	-0.28	-0.32	0.23
03298470	Floyds Fork near Shepherdsville	3.07	1.16	7.33	2.18	1.03	4.61	0.88	0.13	2.73
Location: Tributaries										
03297850	South Fork Curry's Fork at Moody Lane	3.32	0.96	7.33	8.39	1.76	18.55	-5.07	-0.80	-11.22
03297855	South Fork Curry's Fork at Highway 393	1.97	0.96	5.23	1.05	0.41	2.42	0.92	0.55	2.81
03297860	North Fork Curry's Fork at Stone Ridge road	8.58	1.56	20.10	15.26	2.63	30.05	-6.69	-1.08	-9.95
03297875	Ashers Run at Abbott lane near Crestwood	0.80	0.44	1.26	1.31	0.00	0.00	-0.51	0.44	1.26
03297880	Currys Fork near Crestwood	5.66	1.29	15.76	5.99	1.18	17.24	-0.33	0.11	-1.48
03297950	Long Run at Old stage coach road	0.72	0.40	1.16	0.67	0.00	0.00	0.05	0.40	1.16
03297975	South Long Run at Hobbs Lane	0.82	0.46	1.33	0.83	0.24	2.10	-0.01	0.22	-0.77
03297980	Long Run near Fisherville	0.81	0.47	1.28	1.01	0.27	3.05	-0.21	0.20	-1.77
03298005	Pope lick at South poope lick road near Fisherville	1.05	0.66	2.01	0.59	0.24	1.80	0.46	0.42	0.21
03298020	Cane Run at Thurman Road	0.86	0.51	1.10	1.07	0.00	0.00	-0.21	0.51	1.10
03298100	Pope lick at pope lick road near Middletown	1.85	0.56	3.80	0.77	0.23	1.82	1.08	0.33	1.98
03298110	Pope lick at Rehl road near Fisherville	0.66	0.46	0.91	0.59	0.24	1.72	0.08	0.22	-0.81
03298135	Chenoweth Run at Ruckriegal Parkway	2.14	0.99	3.43	0.95	0.32	2.12	1.19	0.67	1.31
03298138	Chenoweth Run at Jeffersontown STP at Jeffersontown	8.29	1.79	15.98	18.62	10.26	34.30	-10.33	-8.48	-18.32
03298150	Chenoweth Run at Gelhaus Lane near Fern creek	7.12	1.58	13.93	12.46	2.55	20.72	-5.34	-0.97	-6.79
03298160	Chenoweth Run at Seatonville road near Jeffersontown	6.68	1.49	13.17	10.03	2.08	18.96	-3.35	-0.59	-5.80
03298250	Cedar Creek at Thixton Road	4.05	1.03	7.34	4.58	2.06	7.66	-0.53	-1.03	-0.31
03298300	Pennsylvania Run at Mt. Washington	2.26	0.90	5.42	4.09	0.54	14.60	-1.83	0.36	-9.19

Table A-4 Calibration Statistics for TP for USGS Water Quality Calibration Stations utilized in the Floyds Fork model

Station	Station Name	Simulated			Measured			Difference		
		Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile
Location : Main Stem, Floyds Fork										
03297830	Floyds Fork at Highway 53	0.16	0.02	0.49	0.15	0.04	0.37	0.01	-0.02	0.12
03297845	Floyds Fork near Crestwood	0.10	0.02	0.26	0.38	0.05	2.05	-0.28	-0.02	-1.79
03297900	Floyds Fork near Peewee Valley	0.56	0.06	1.48	0.58	0.13	1.29	-0.03	-0.07	0.18
03297930	Floyds Fork at Echo trail bridge	0.55	0.07	1.46	0.29	0.11	1.90	0.27	-0.04	-0.44
03298000	Floyds Fork at Fisherville	0.50	0.06	1.36	0.18	0.08	0.65	0.32	-0.02	0.71
03298120	Floyds Fork at Seatonville Road	0.44	0.07	1.20	0.14	0.04	1.03	0.31	0.03	0.17
03298200	Floyds Fork near Mt. Washington	0.39	0.08	0.90	0.14	0.04	0.41	0.24	0.04	0.49
03298470	Floyds Fork near Shepherdsville	0.43	0.08	1.06	0.19	0.06	0.45	0.24	0.02	0.61
Location: Tributaries										
03297850	South Fork Curry's Fork at Moody Lane	1.48	0.12	2.77	2.25	0.27	3.41	-0.77	-0.15	-0.64
03297855	South Fork Curry's Fork at Highway 393	0.83	0.07	2.19	0.20	0.03	0.66	0.63	0.04	1.54
03297860	North Fork Curry's Fork at Stone Ridge road	0.54	0.08	1.04	1.95	0.25	3.80	-1.41	-0.17	-2.76
03297875	Ashers Run at Abbott lane near Crestwood	0.06	0.02	0.11	0.13	0.00	0.00	-0.07	0.02	0.11
03297880	Currys Fork near Crestwood	0.56	0.07	1.24	0.72	0.15	2.09	-0.16	-0.08	-0.85
03297950	Long Run at Old stage coach road	0.06	0.02	0.13	0.07	0.00	0.00	-0.01	0.02	0.13
03297975	South Long Run at Hobbs Lane	0.06	0.02	0.14	0.20	0.06	0.74	-0.13	-0.04	-0.60
03297980	Long Run near Fisherville	0.07	0.02	0.14	0.17	0.03	0.79	-0.10	0.00	-0.64
03298005	Pope lick at South poope lick road near Fisherville	0.11	0.02	0.21	0.05	0.01	0.24	0.06	0.01	-0.03
03298020	Cane Run at Thurman Road	0.10	0.04	0.18	0.20	0.00	0.00	-0.10	0.04	0.18
03298100	Pope lick at pope lick road near Middletown	0.13	0.02	0.24	0.07	0.02	0.30	0.06	0.01	-0.06
03298110	Pope lick at Rehl road near Fisherville	0.07	0.02	0.14	0.05	0.01	0.23	0.02	0.01	-0.09
03298135	Chenoweth Run at Ruckriegal Parkway	0.09	0.03	0.14	0.03	0.01	0.14	0.06	0.02	0.00
03298138	Chenoweth Run at Jeffersontown STP at Jeffersontown	0.41	0.17	0.69	0.88	0.20	2.18	-0.46	-0.02	-1.49
03298150	Chenoweth Run at Gelhaus Lane near Fern creek	0.42	0.14	0.74	0.44	0.09	1.56	-0.02	0.05	-0.82
03298160	Chenoweth Run at Seatonville road near Jeffersontown	0.41	0.14	0.72	0.36	0.06	1.09	0.04	0.08	-0.37
03298250	Cedar Creek at Thixton Road	0.38	0.08	0.92	0.34	0.03	1.17	0.04	0.05	-0.25
03298300	Pennsylvania Run at Mt. Washington	0.70	0.04	2.04	0.87	0.06	2.24	-0.17	-0.02	-0.20

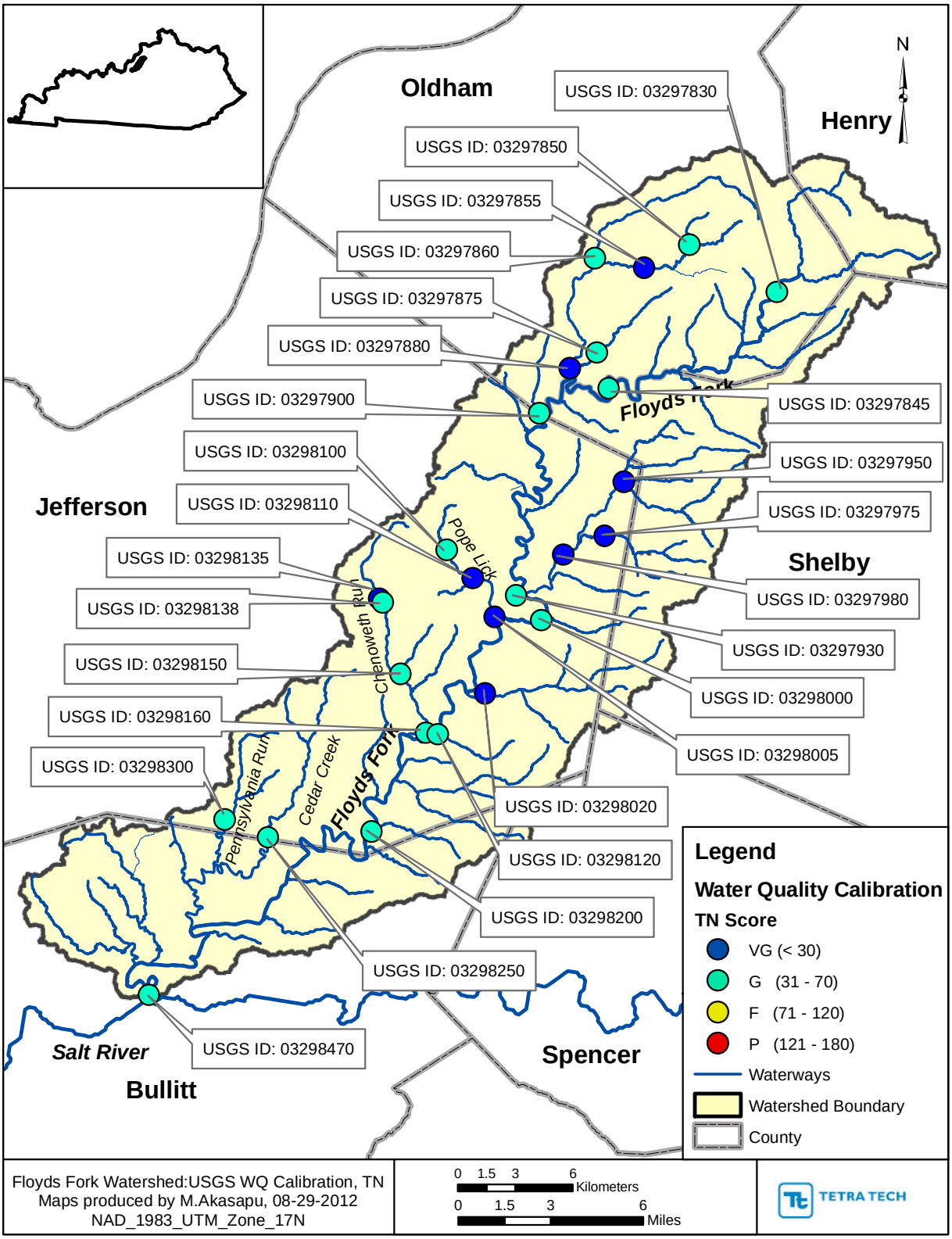


Figure A-340 USGS Water Quality for TN in the Floyds Fork Watershed

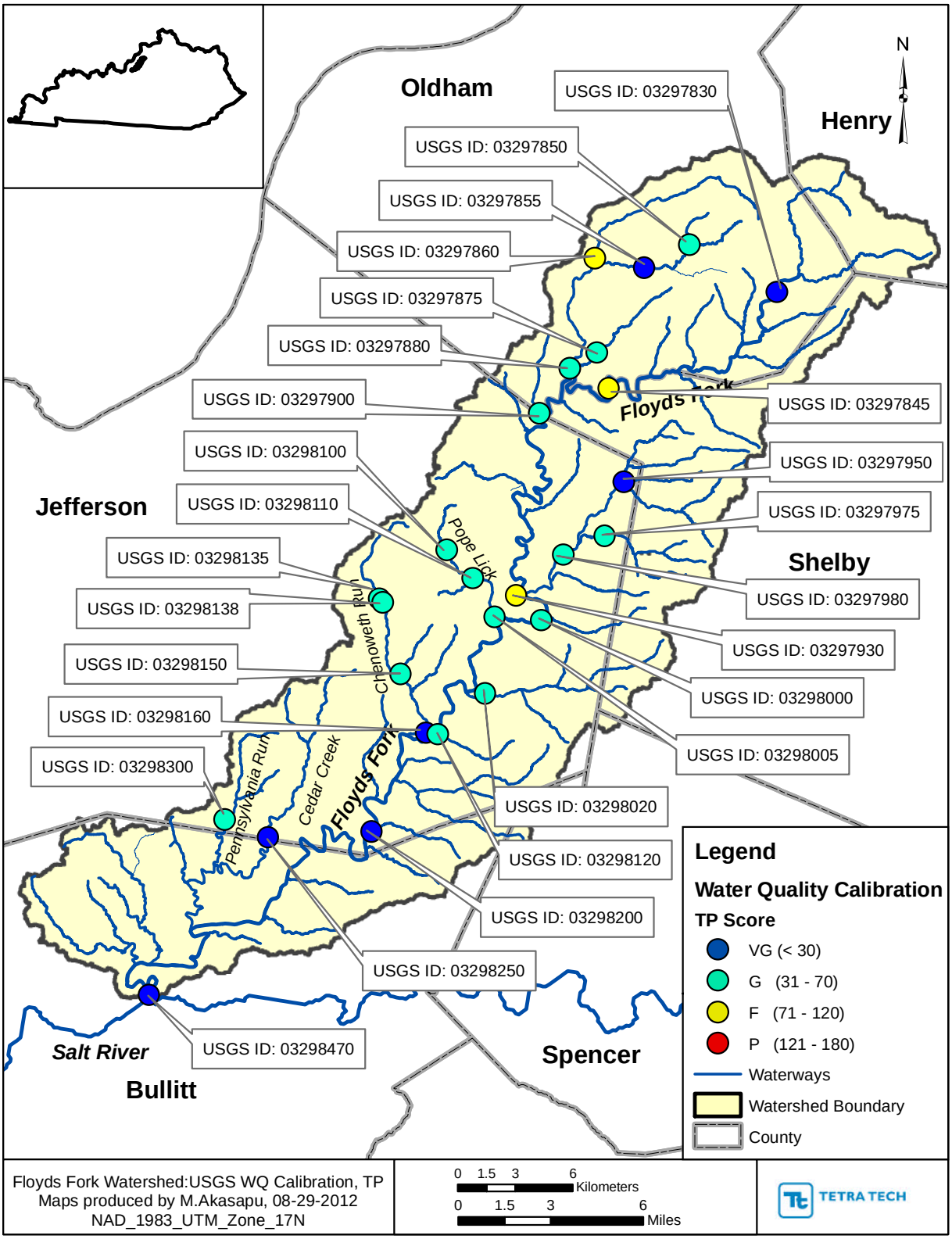


Figure A-341 USGS Water Quality for TP in the Floyds Fork Watershed

Table A-5 MSD Water Quality Validation Stations

Station	Agency	Site Name	USGS Drainage Area (mi^2)	USGS Drainage Area (acres)	WASP Segment	Type	Parameter
EFFFF001	MSD	Floyds Fork at Ash Avenue	80	51136	208	Validation	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
EFFFF002	MSD	Floyds Fork at BardStown Road	213	136320	210	Validation	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
EFFFF003	MSD	Floyds Fork at Old Taylorsville Road	138	88320	209	Validation	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
EFFCR001	MSD	Chenoweth Run # 1 at Gelhaus Lane	12	7424	211	Validation	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a
EFFCR002	MSD	Chenoweth Run # 1 at Rickriegal Parkway	5	3501	140	Validation	TEMP, DO,CBOD,TN, NH_3, NO_X, ORGN, TP, PO_4, ORGP, TSS, pH, Chlorophyll-a

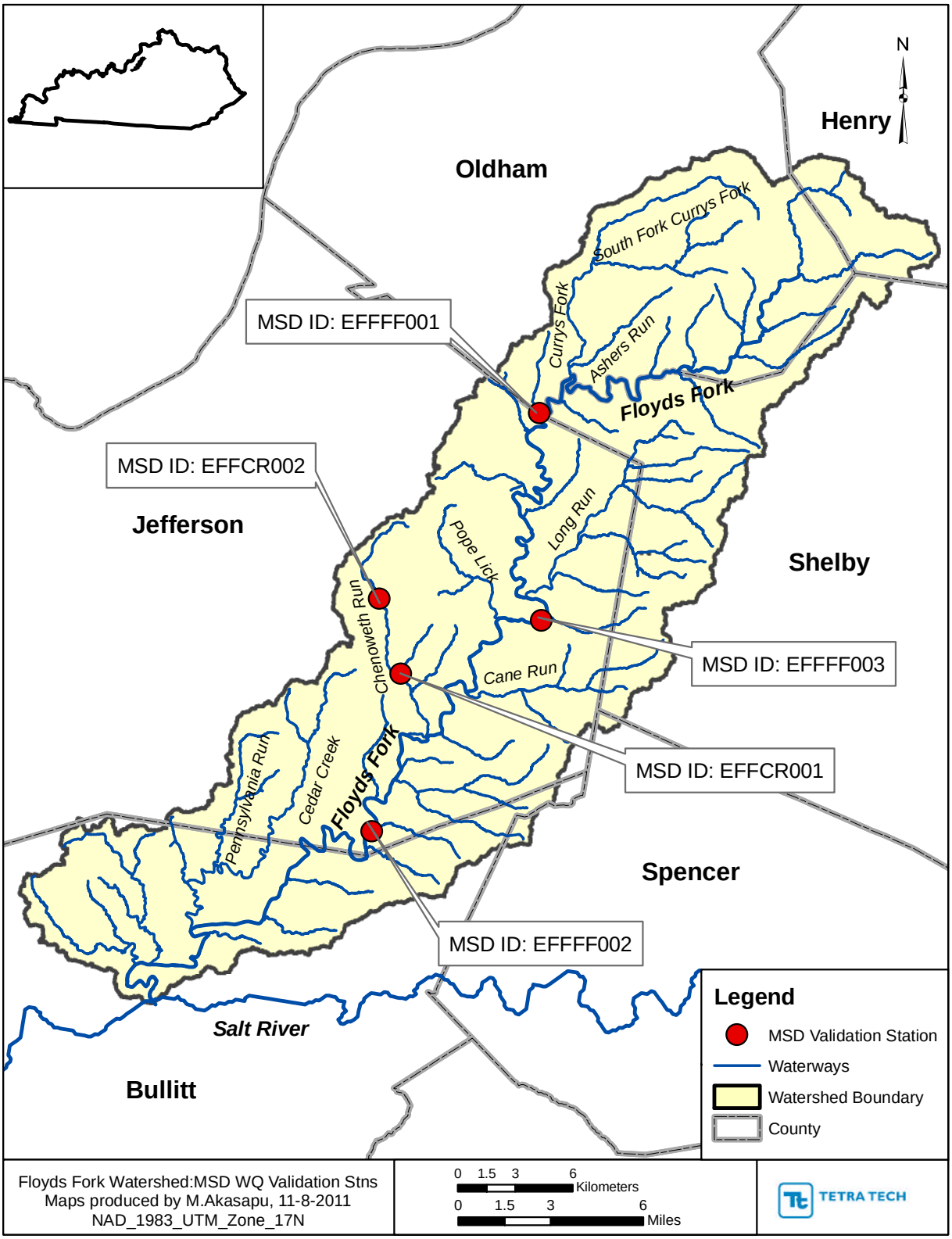


Figure A-342 MSD Water Quality Validation Stations Utilized in the Floyds Fork Watershed Model

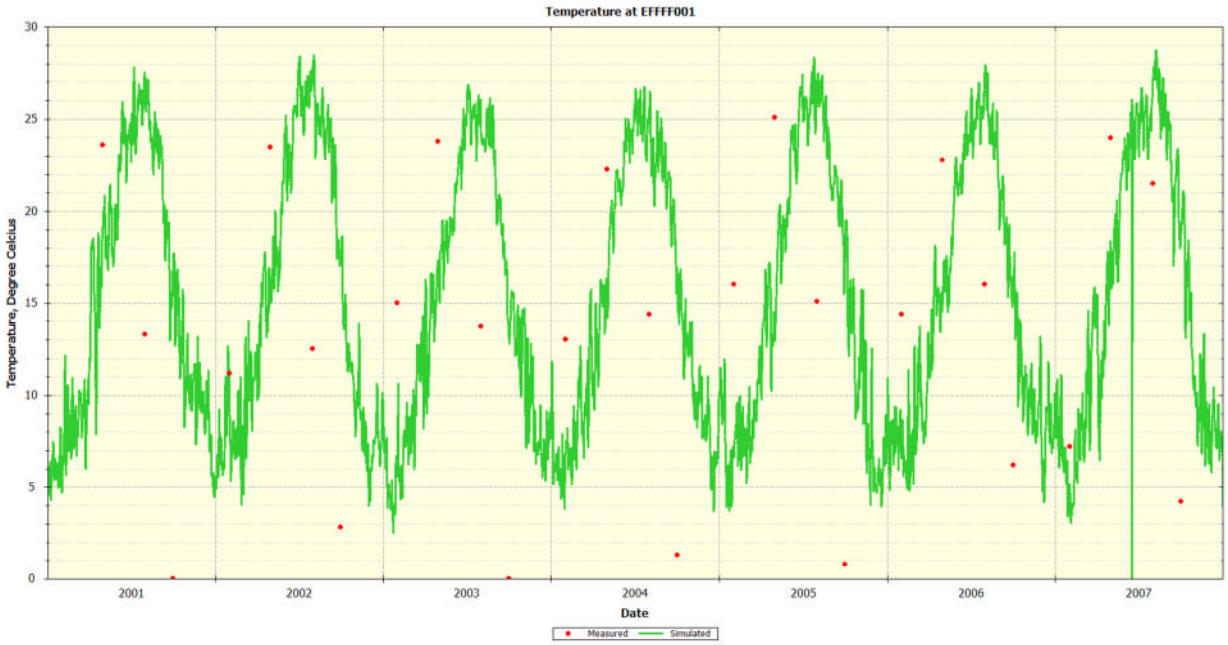


Figure A-343 Modeled vs. Observed TEMP (° C) at EFFFF001

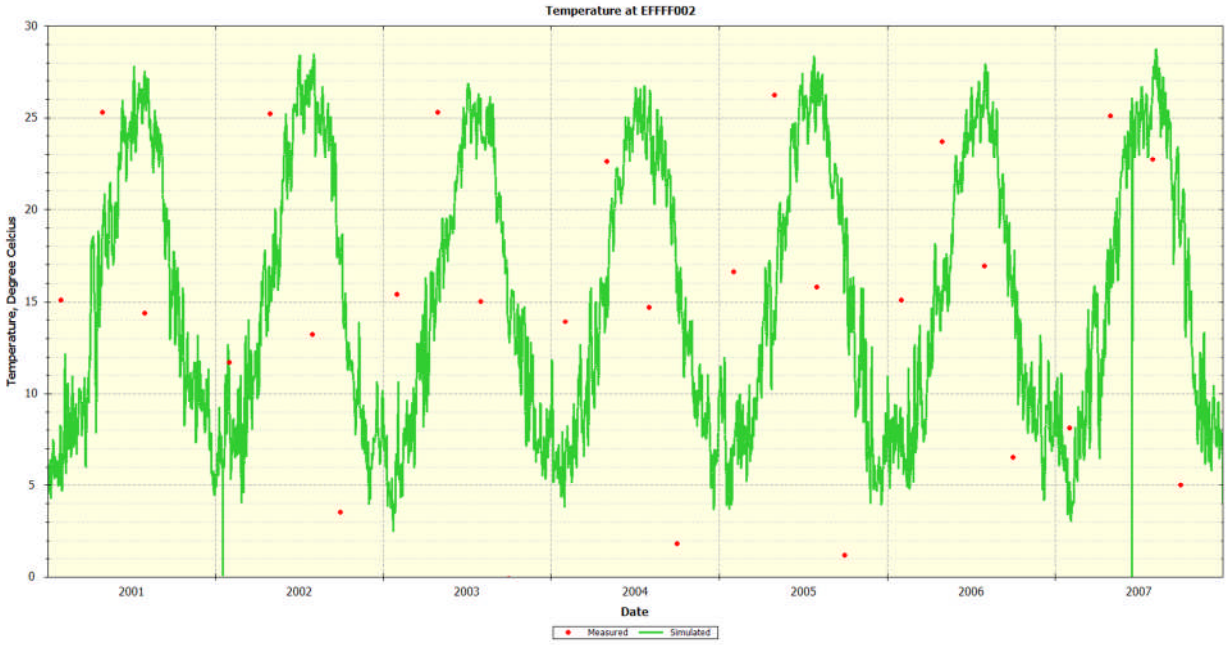


Figure A-344 Modeled vs. Observed TEMP (° C) at EFFFF002

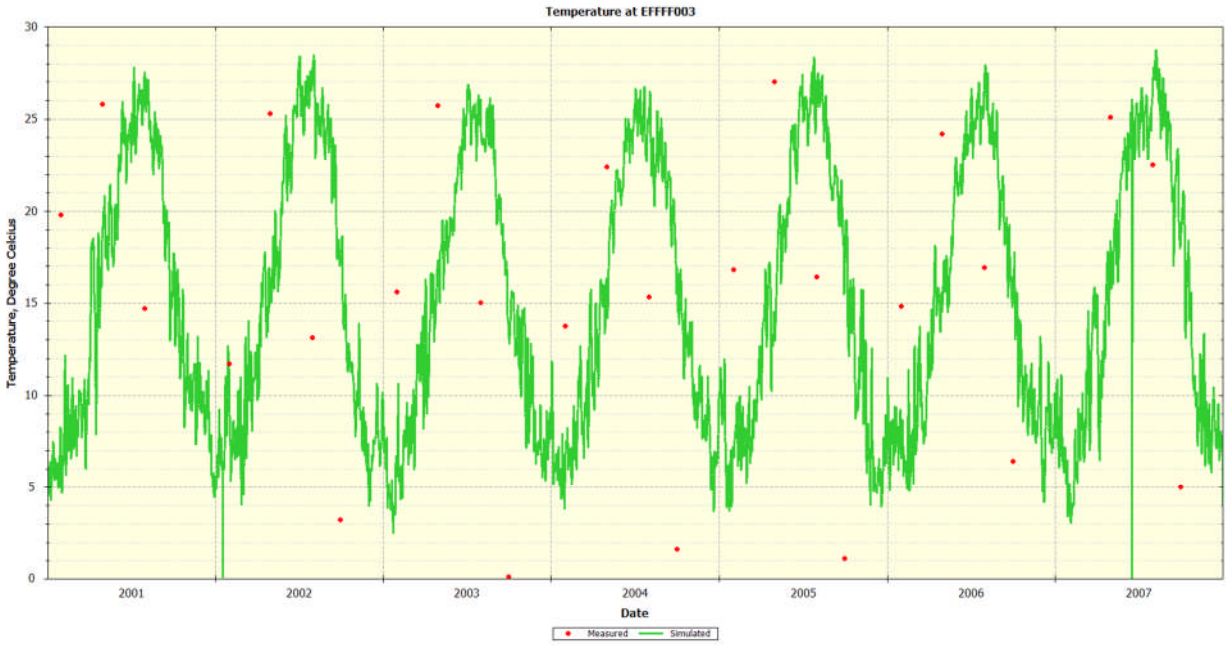


Figure A-345 Modeled vs. Observed TEMP (° C) at EFFFF003

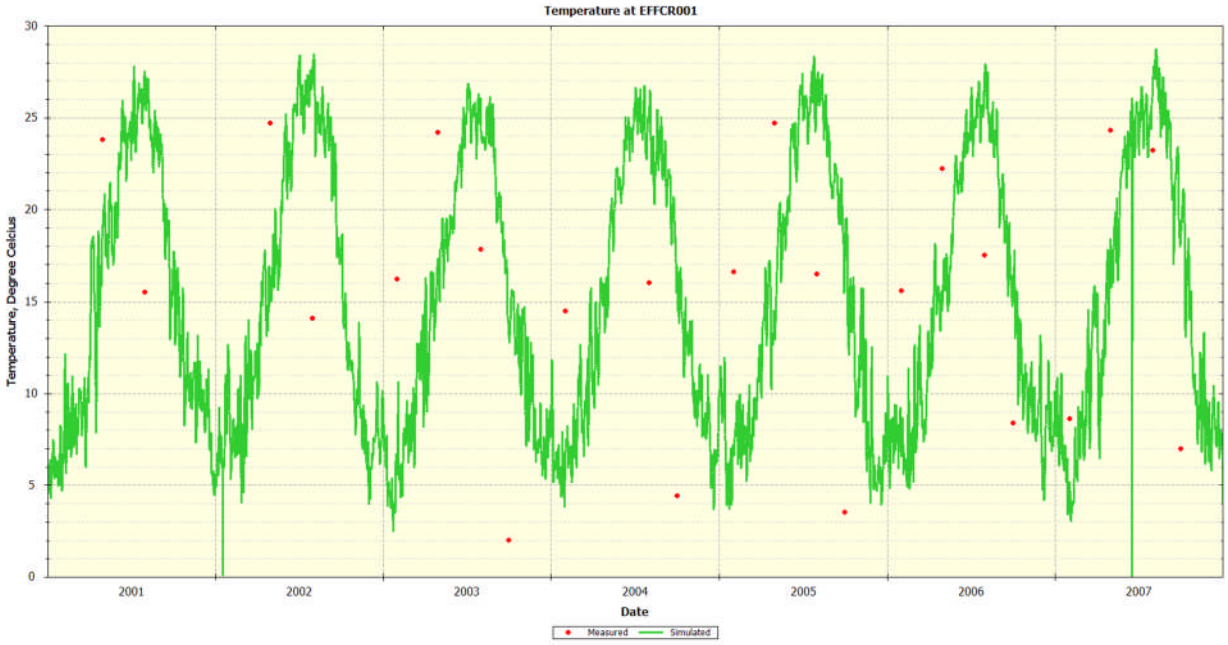


Figure A-346 Modeled vs. Observed TEMP (° C) at EFFCR001

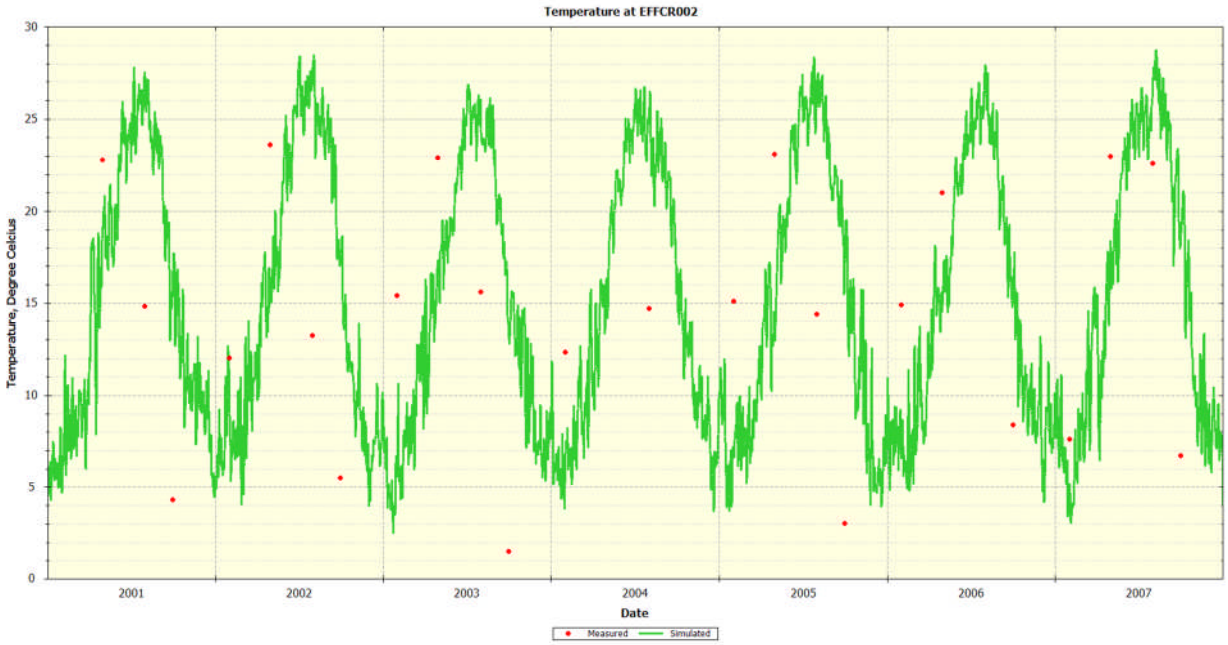


Figure A-347 Modeled vs. Observed TEMP (° C) at EFFCR002

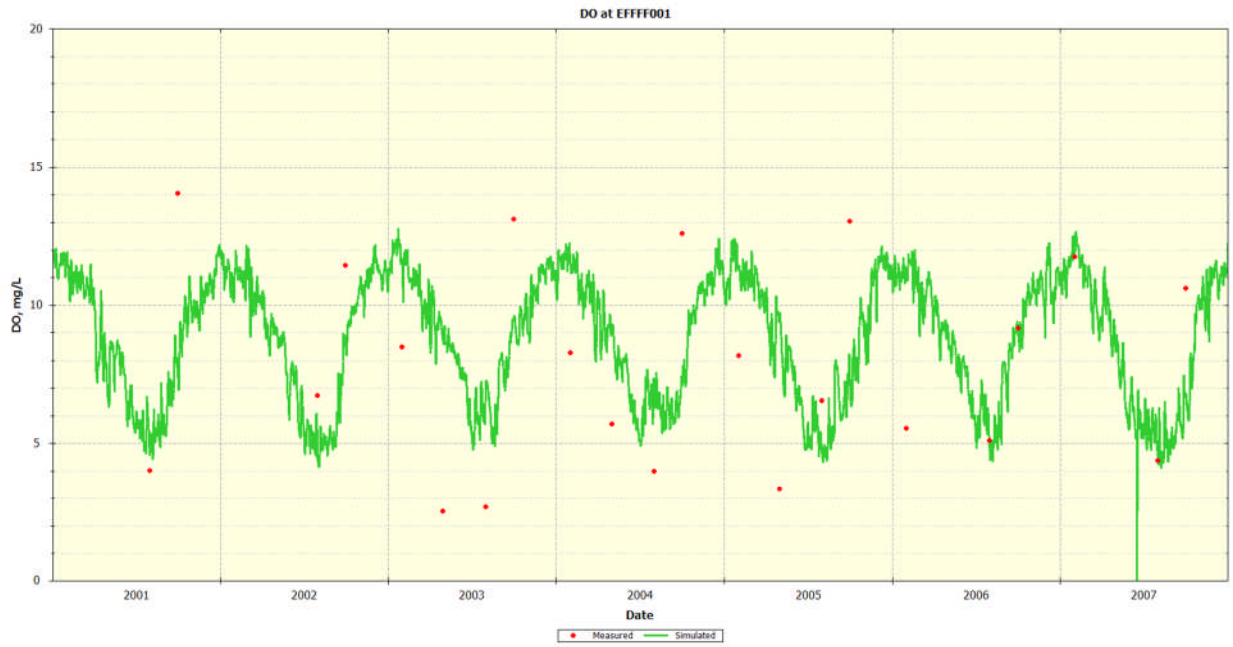


Figure A-348 Modeled vs. Observed DO (mg/L) at EFFFF001

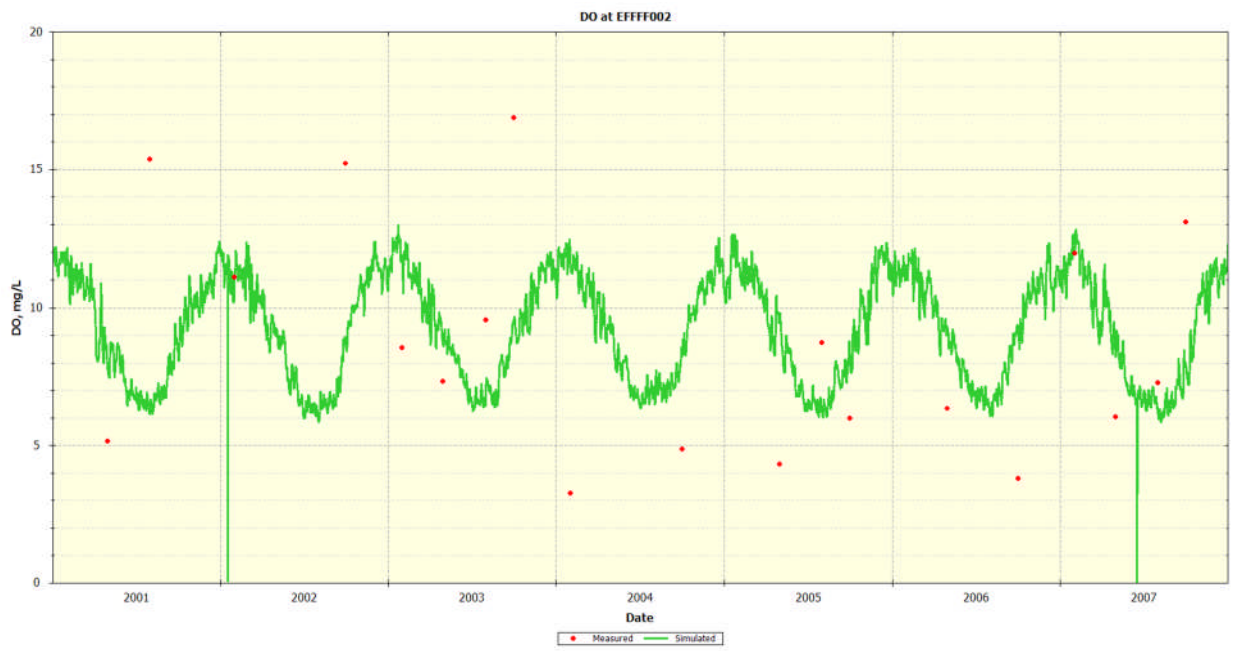


Figure A-349 Modeled vs. Observed DO (mg/L) at EFFFF002

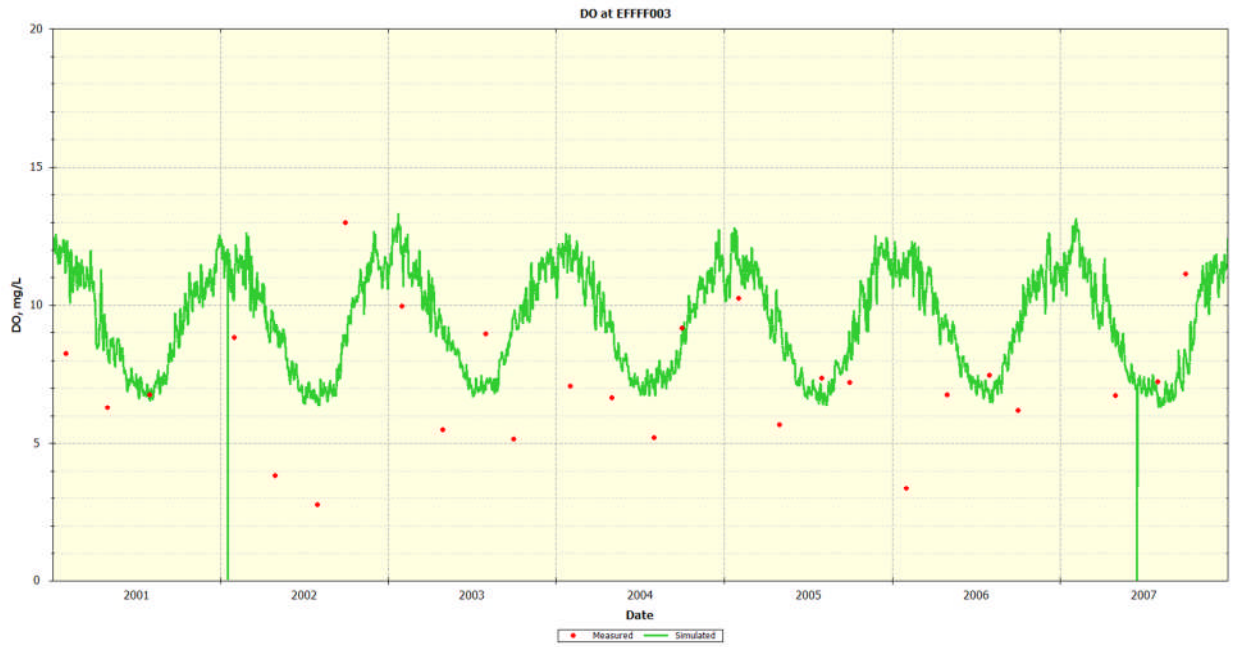


Figure A-350 Modeled vs. Observed DO (mg/L) at EFFFF003

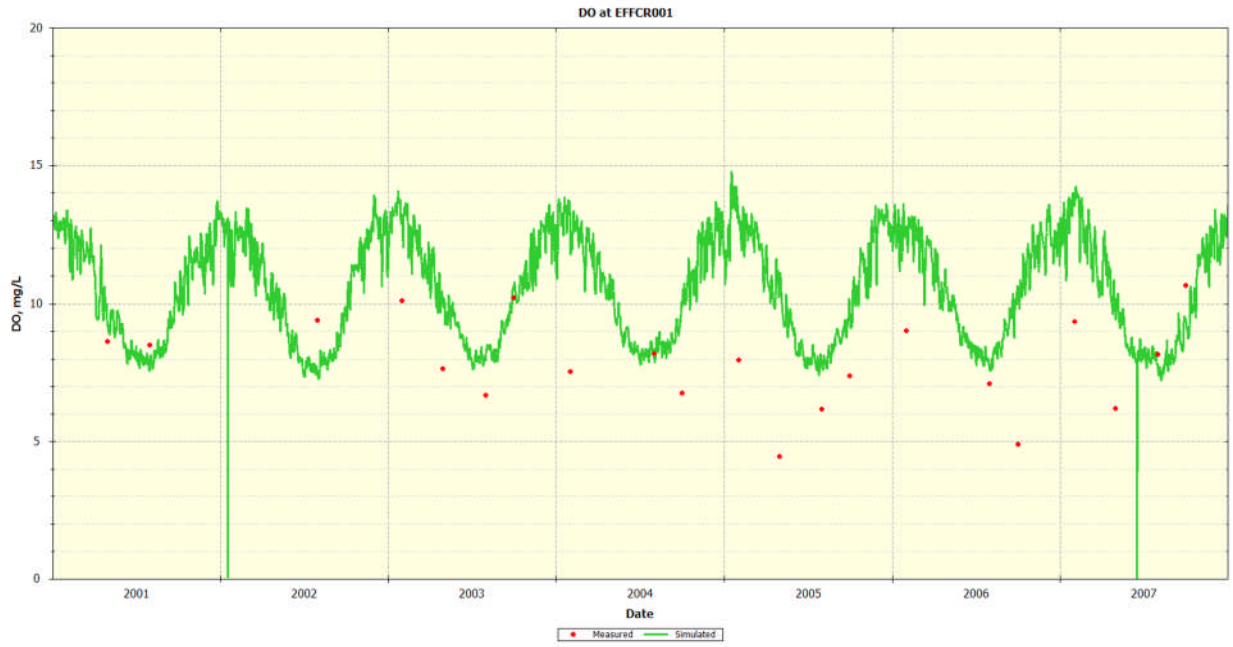


Figure A-351 Modeled vs. Observed DO (mg/L) at EFFCR001

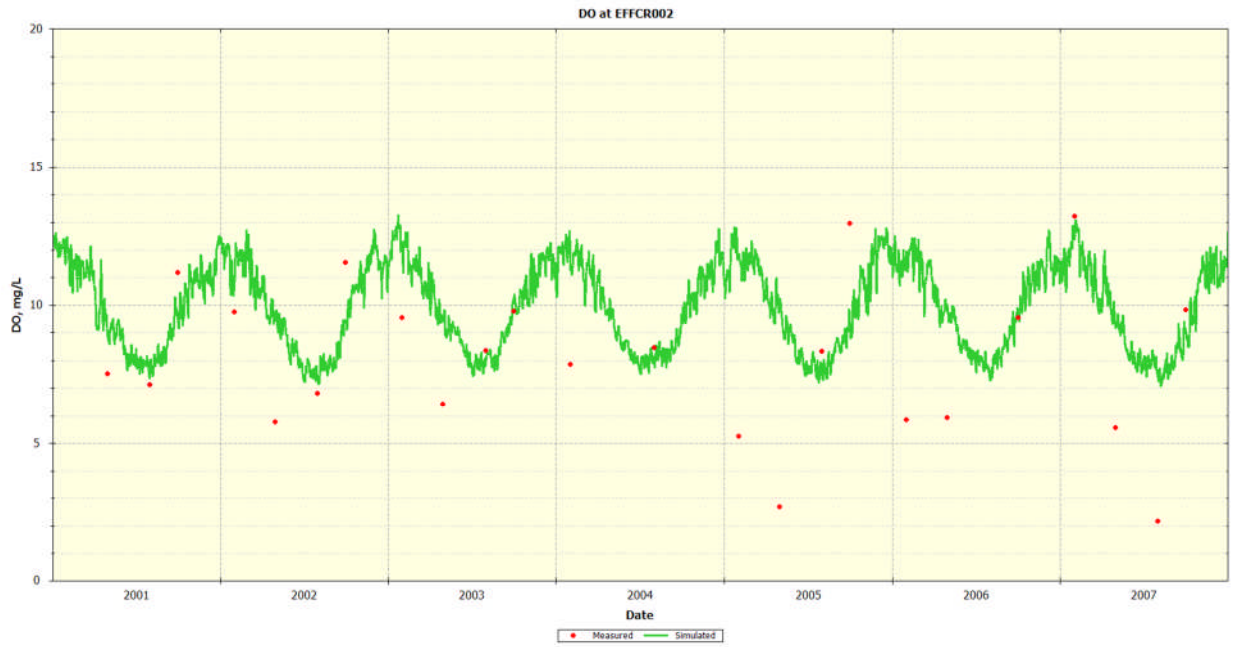


Figure A-352 Modeled vs. Observed DO (mg/L) at EFFCR002

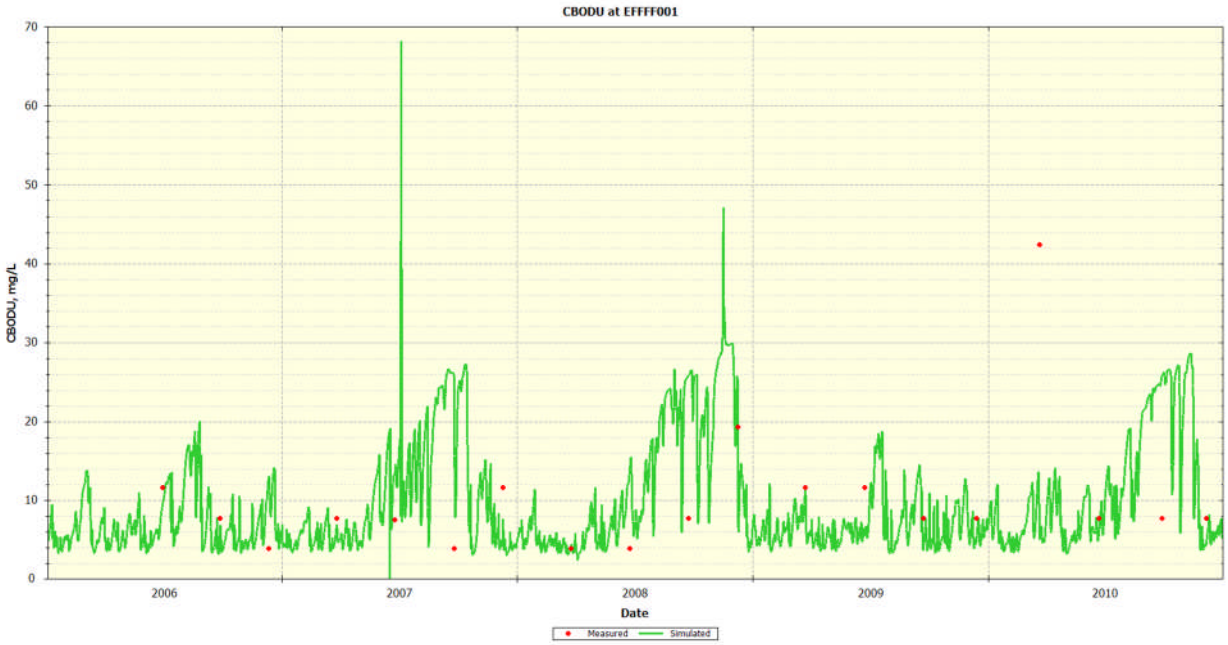


Figure A-353 Modeled vs. Observed CBOD (mg/L) at EFFFF001

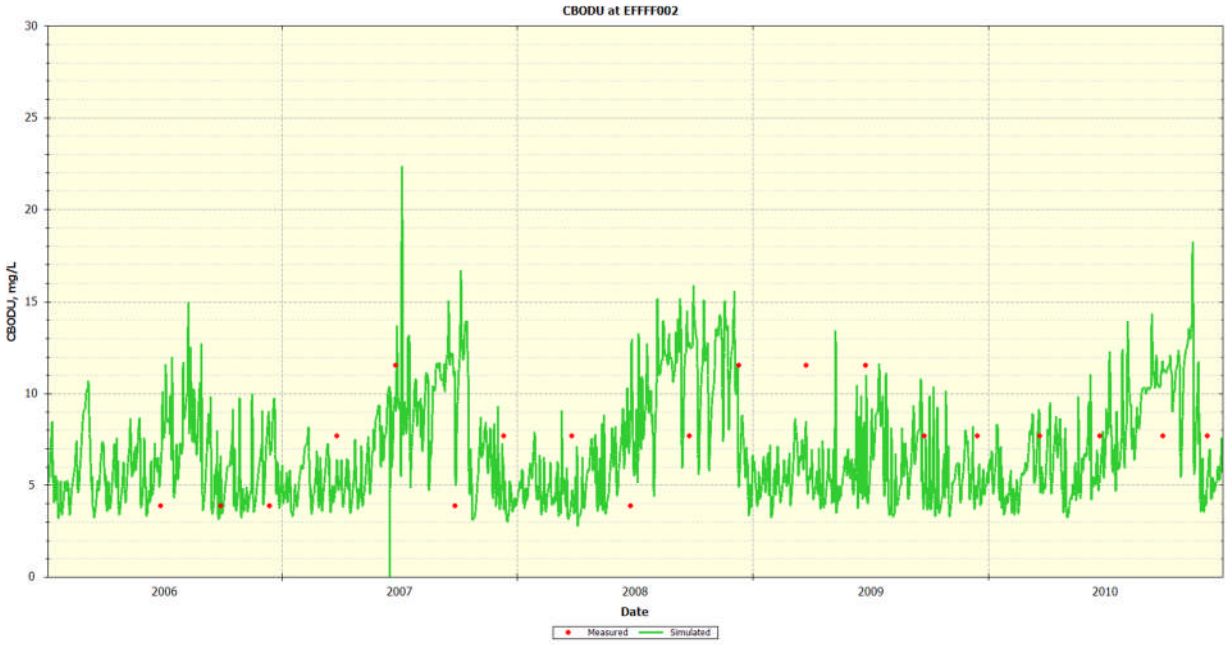


Figure A-354 Modeled vs. Observed CBOD (mg/L) at EFFFF002

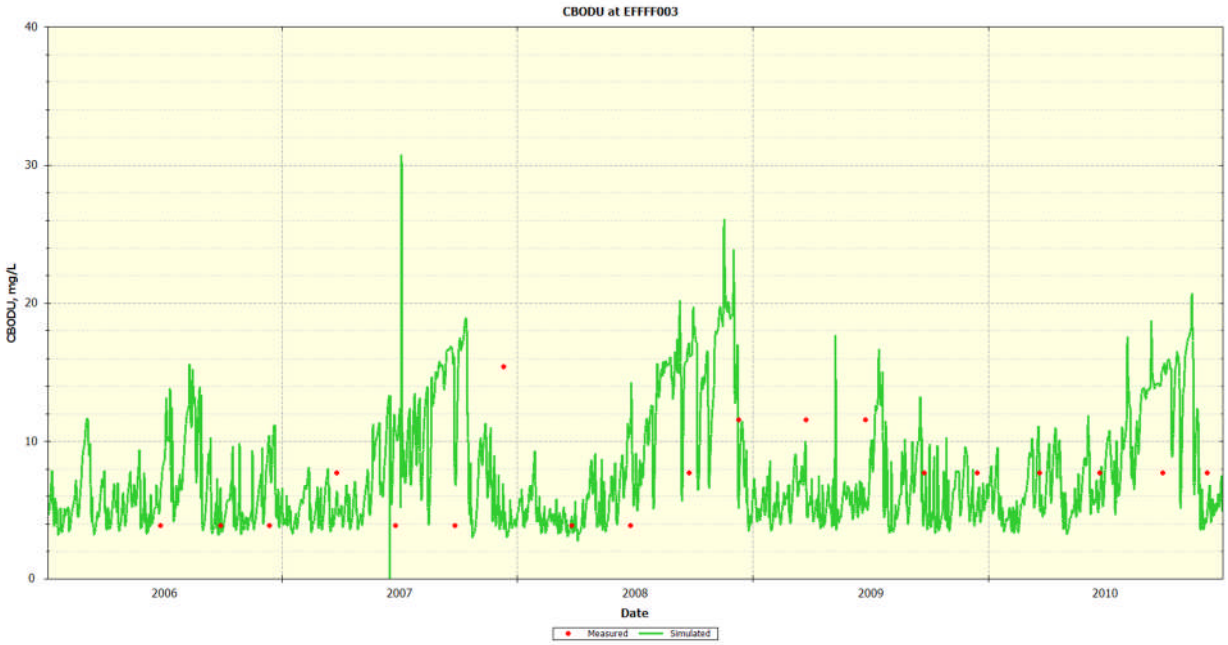


Figure A-355 Modeled vs. Observed CBOD (mg/L) at EFFFF003

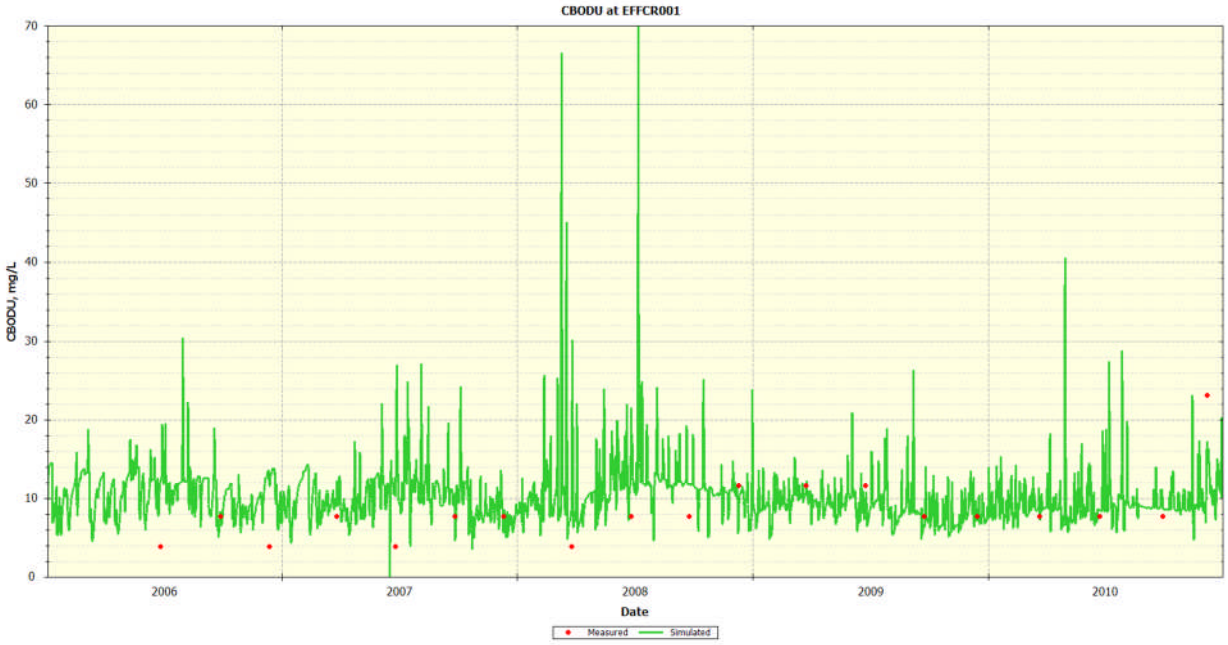


Figure A-356 Modeled vs. Observed CBOD (mg/L) at EFFCR001

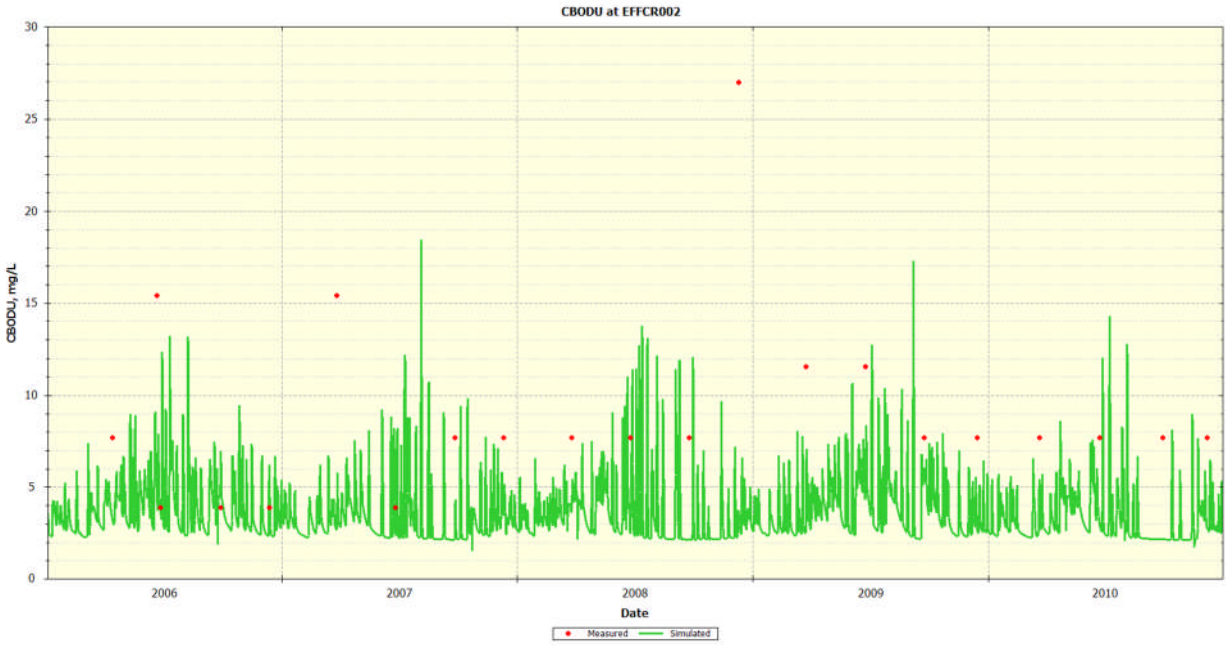


Figure A-357 Modeled vs. Observed CBOD (mg/L) at EFFCR002

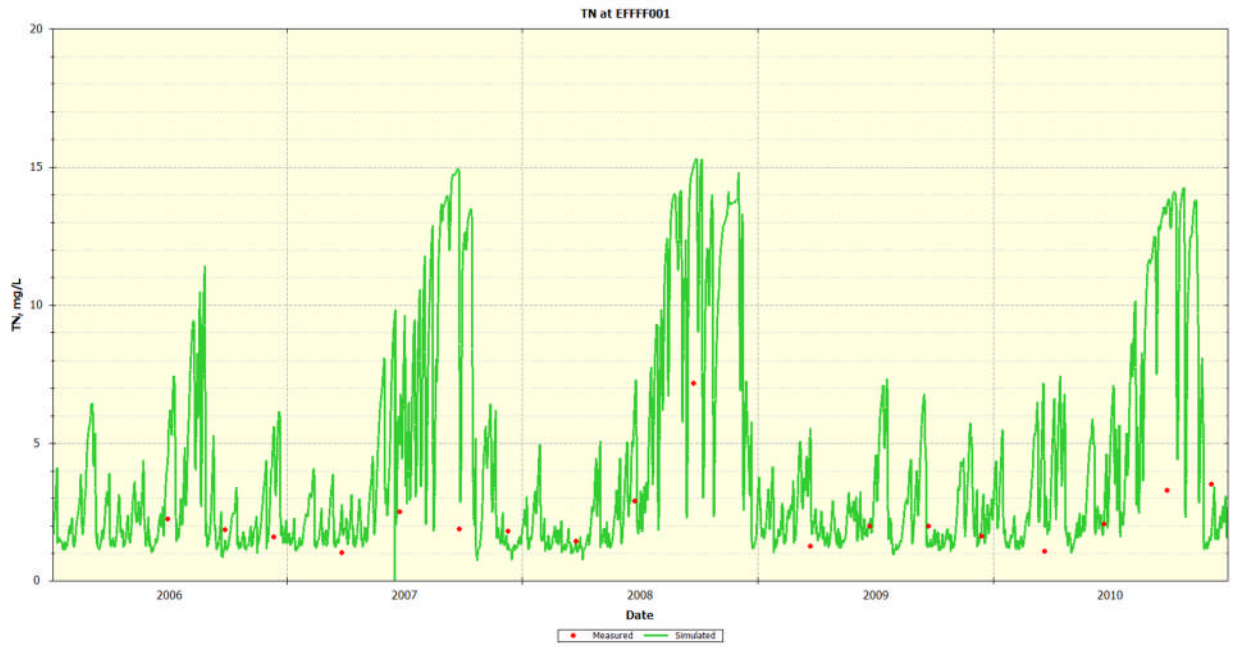


Figure A-358 Modeled vs. Observed TN (mg/L) at EFFFF001

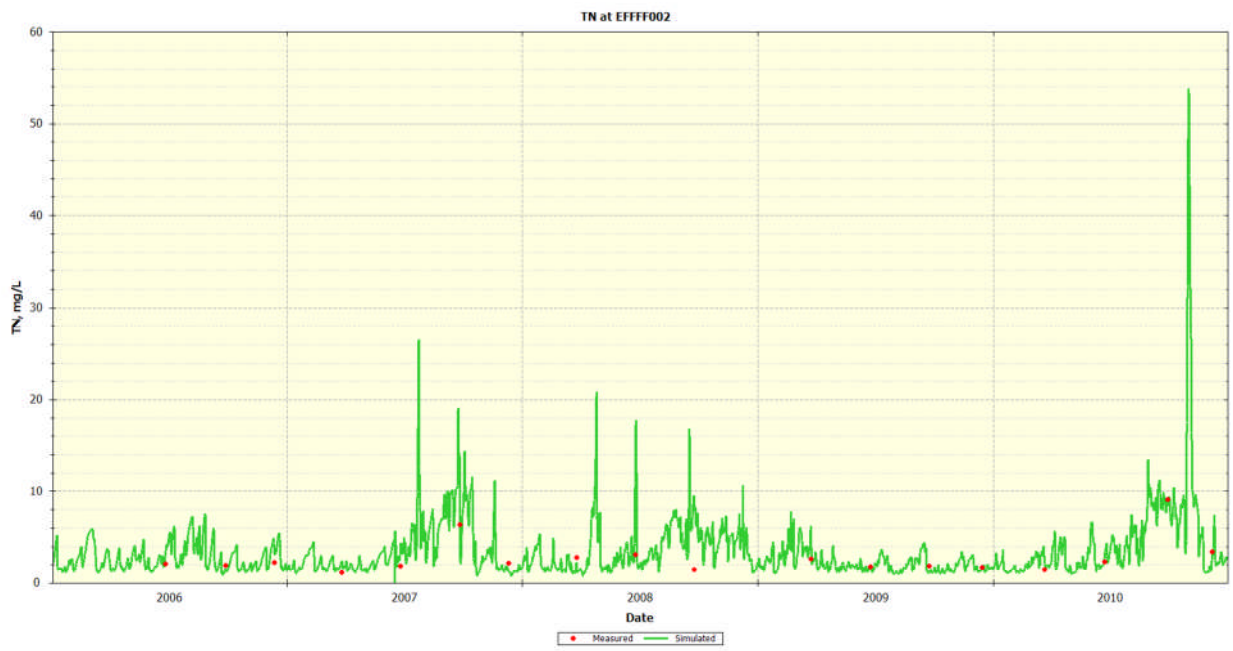


Figure A-359 Modeled vs. Observed TN (mg/L) at EFFFF002

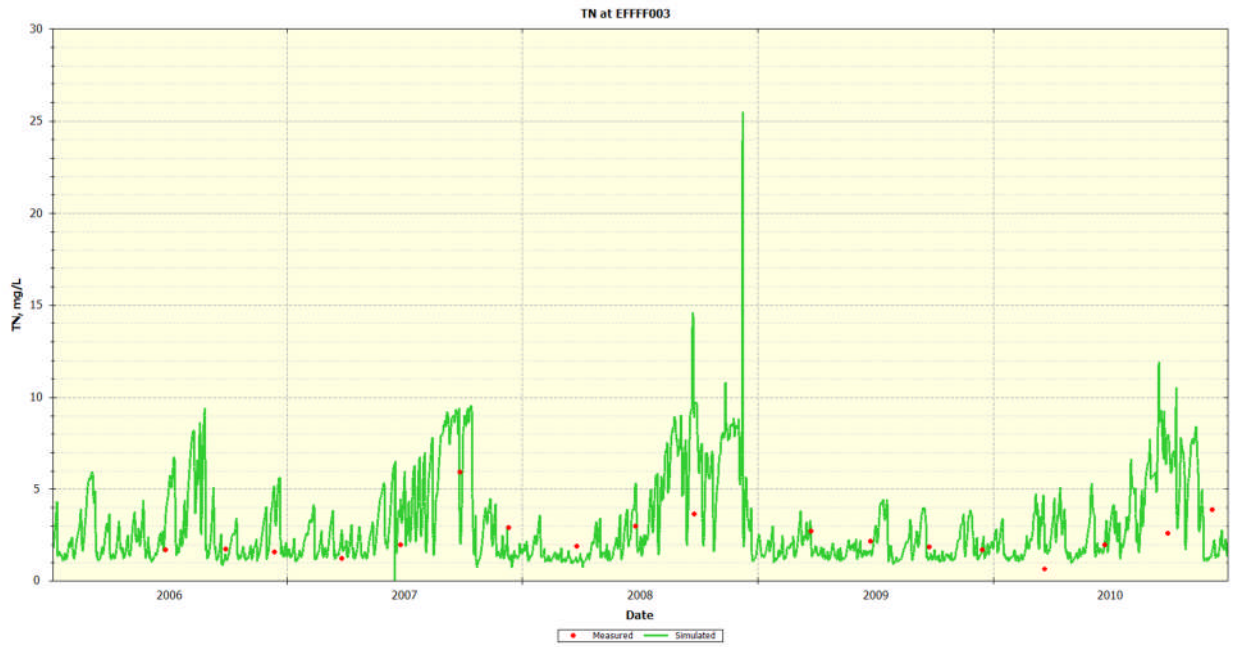


Figure A-360 Modeled vs. Observed TN (mg/L) at EFFFF003

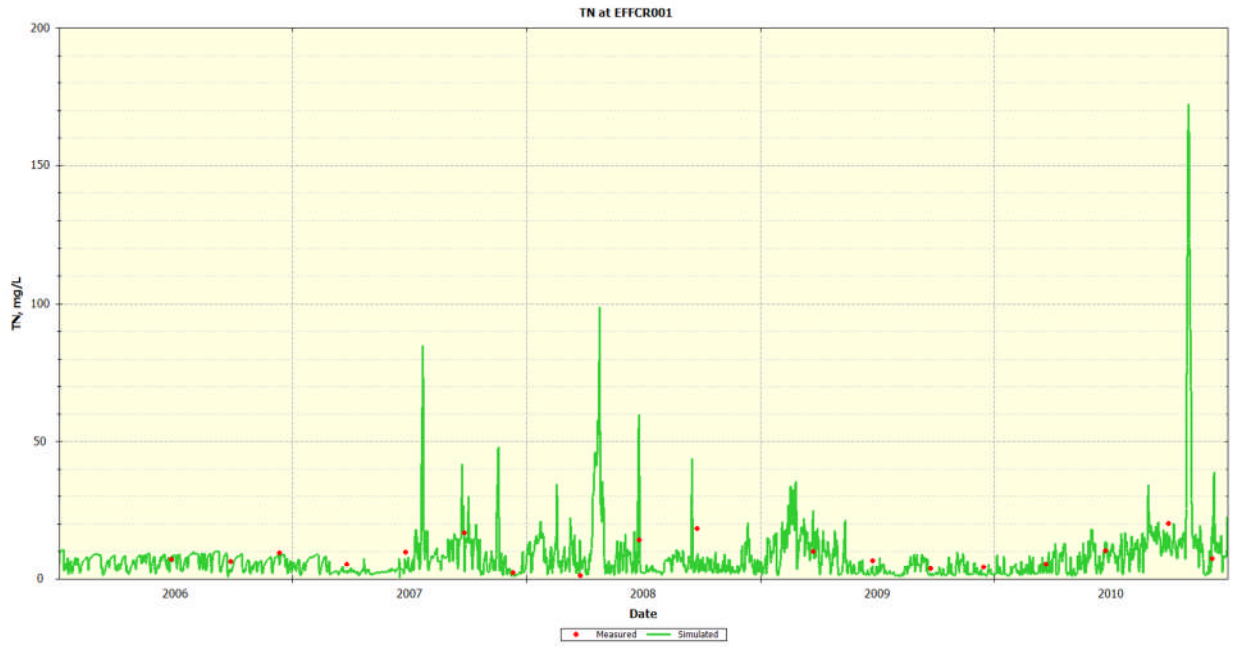


Figure A-361 Modeled vs. Observed TN (mg/L) at EFFCR001

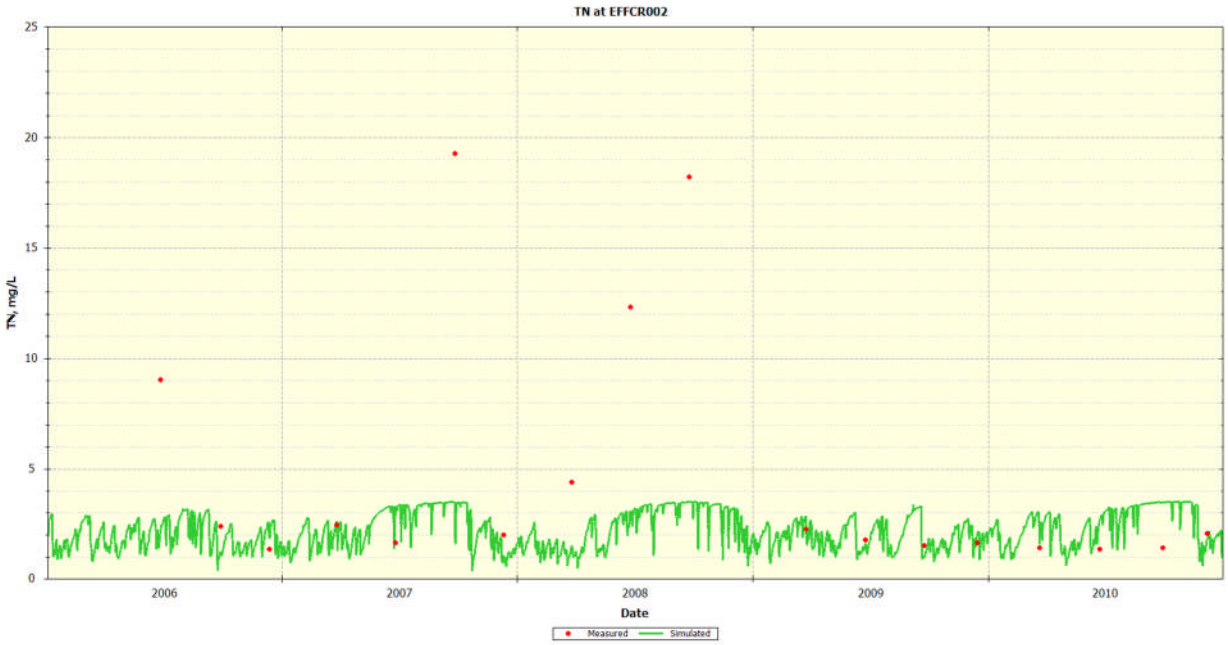


Figure A-362 Modeled vs. Observed TN (mg/L) at EFFCR002

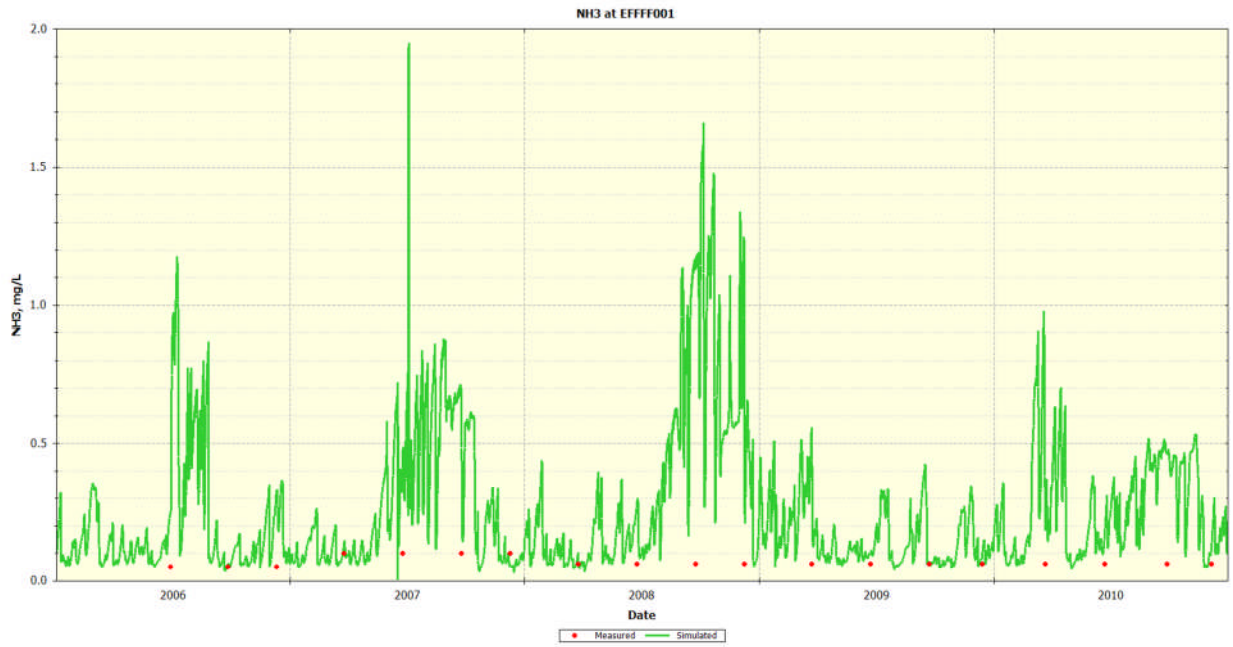


Figure A-363 Modeled vs. Observed NH_3 (mg/L) at EFFFF001

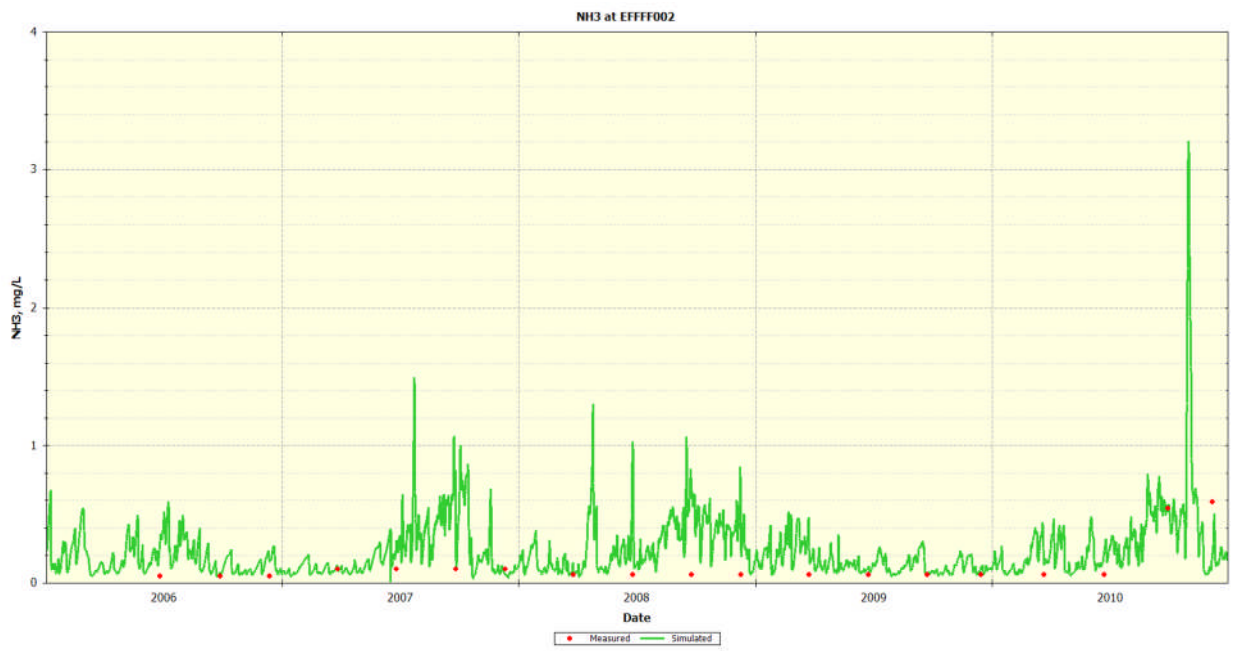


Figure A-364 Modeled vs. Observed NH_3 (mg/L) at EFFFF002

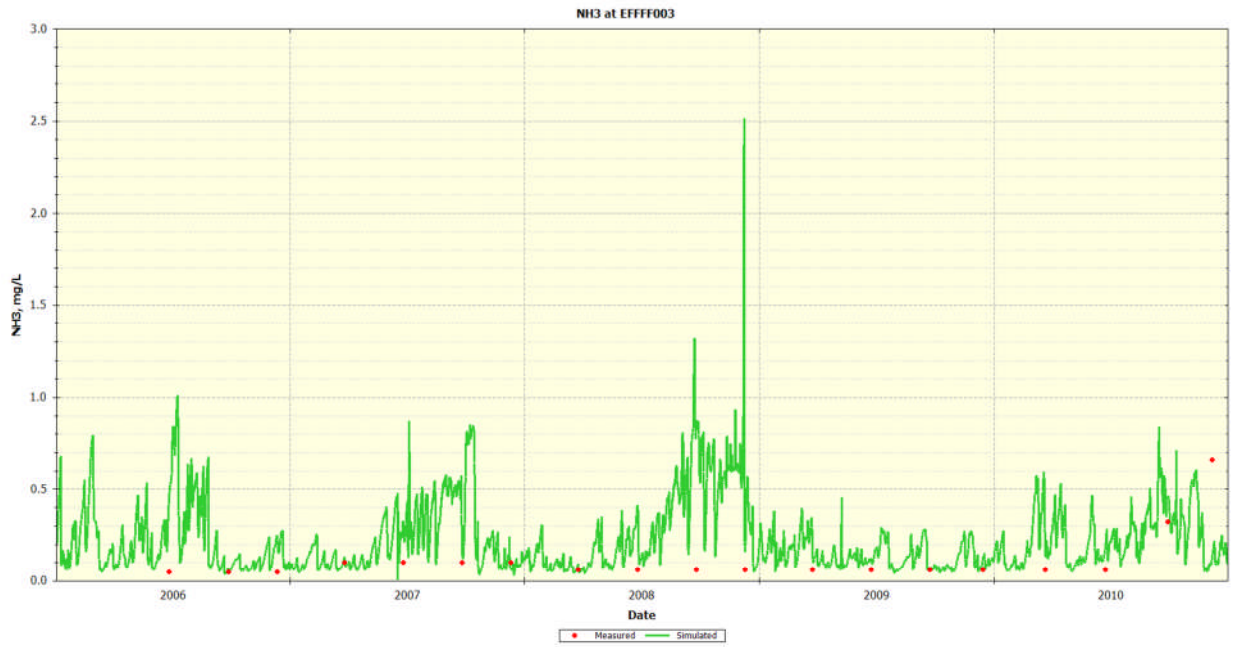


Figure A-365 Modeled vs. Observed NH_3 (mg/L) at EFFFF003

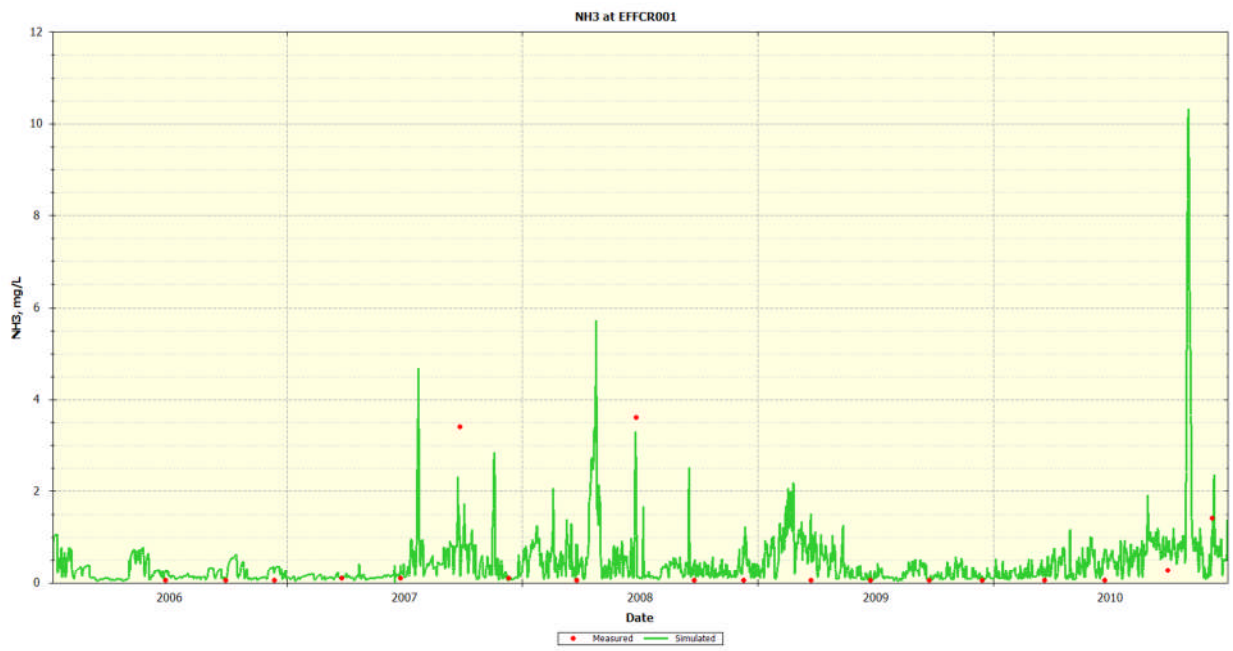


Figure A-366 Modeled vs. Observed NH_3 (mg/L) at EFFCR001

Figure A-367 Modeled vs. Observed NH_3 (mg/L) at EFFCR002

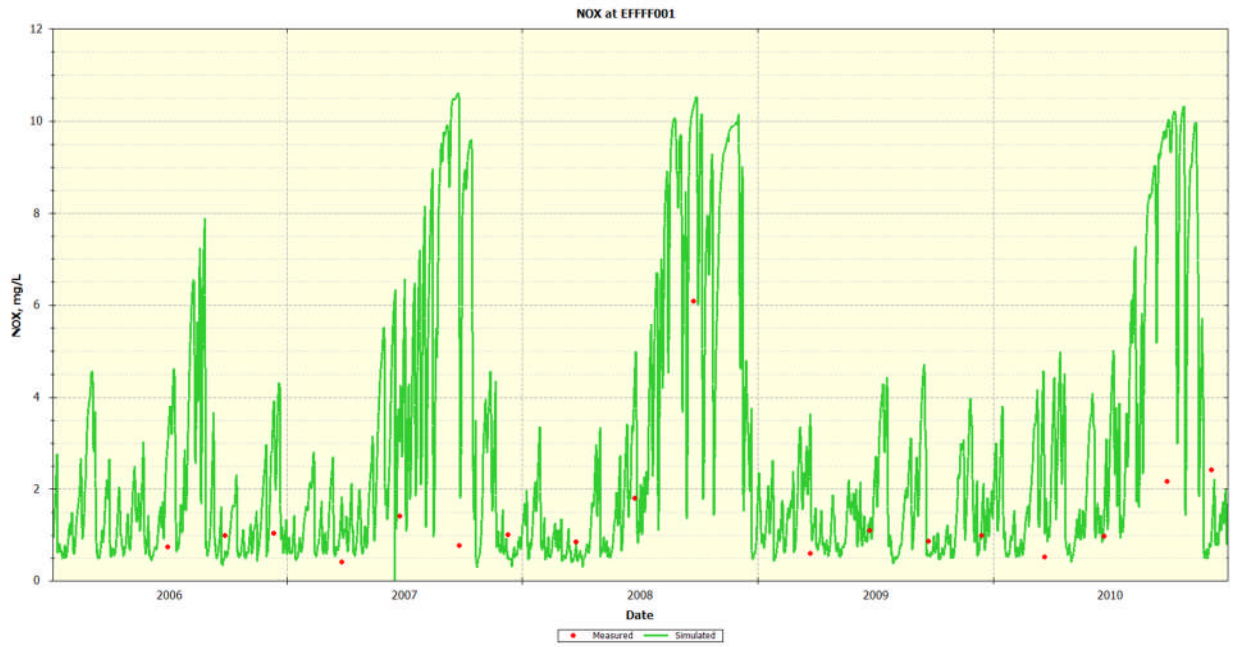


Figure A-368 Modeled vs. Observed NO_X (mg/L) at EFFFF001

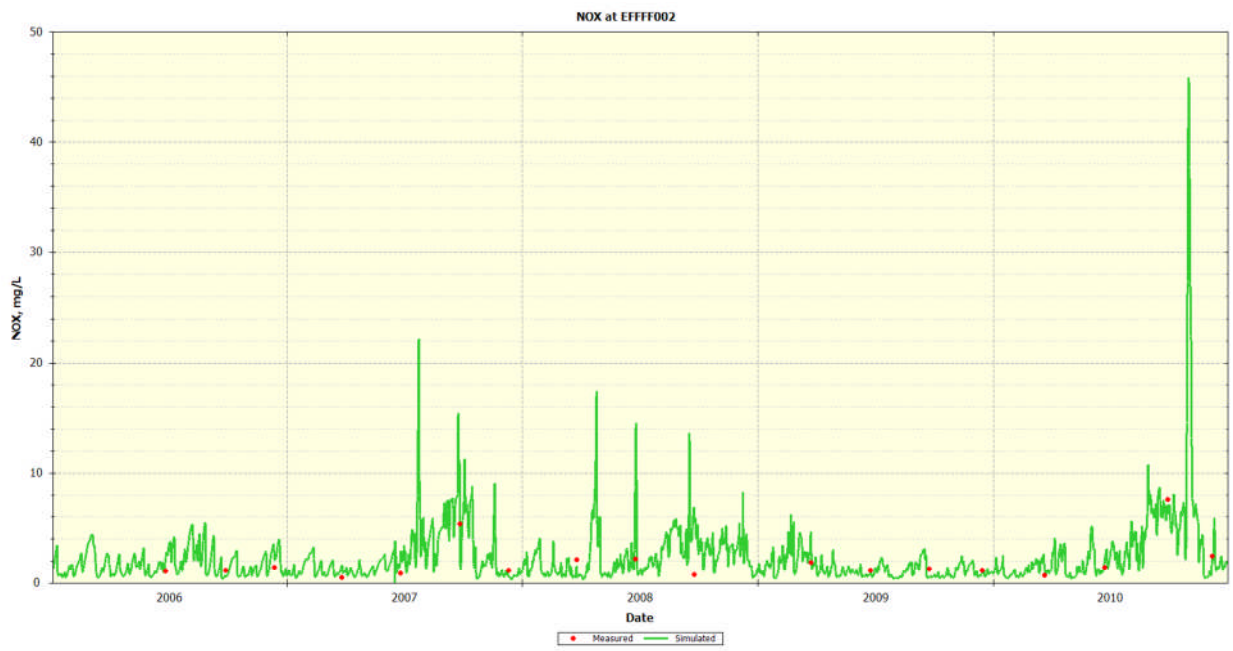


Figure A-369 Modeled vs. Observed NO_X (mg/L) at EFFFF002

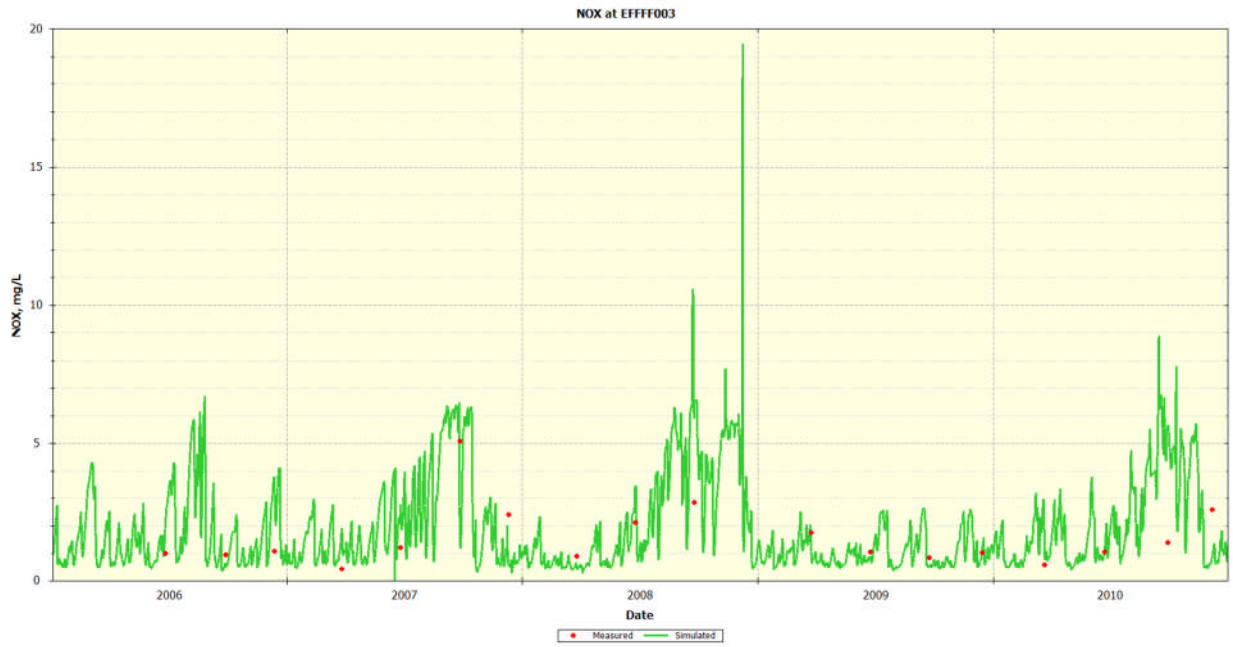


Figure A-370 Modeled vs. Observed NO_X (mg/L) at EFFFF003

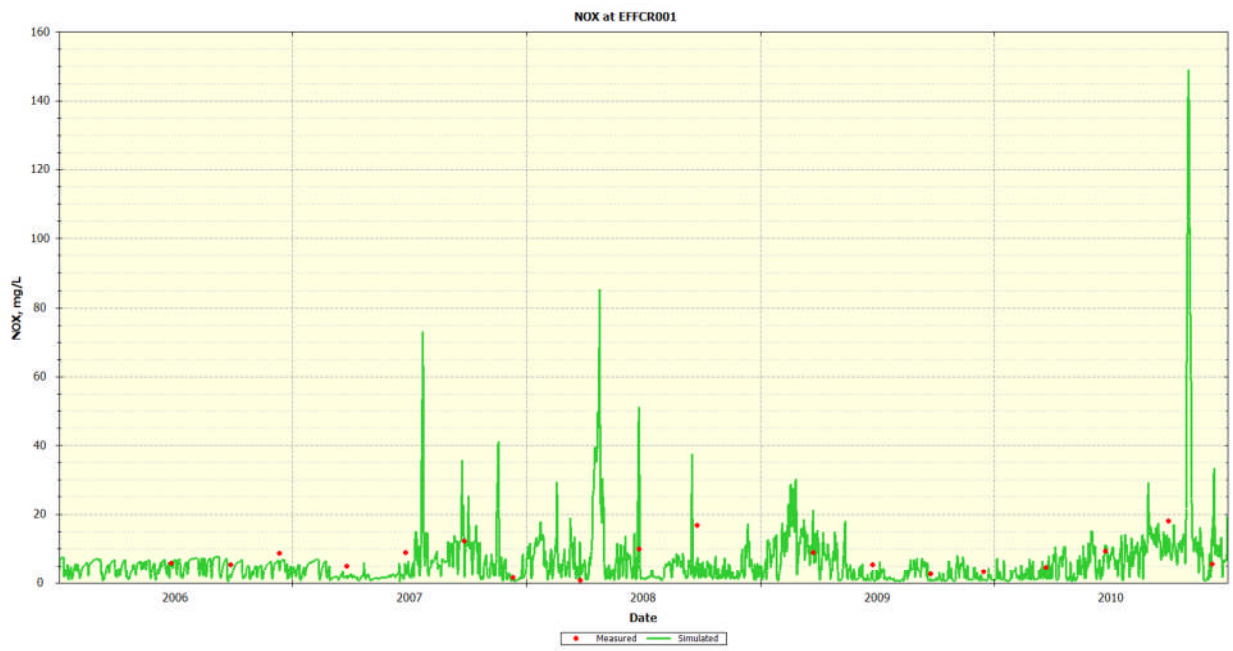


Figure A-371 Modeled vs. Observed NO_X (mg/L) at EFFCR001

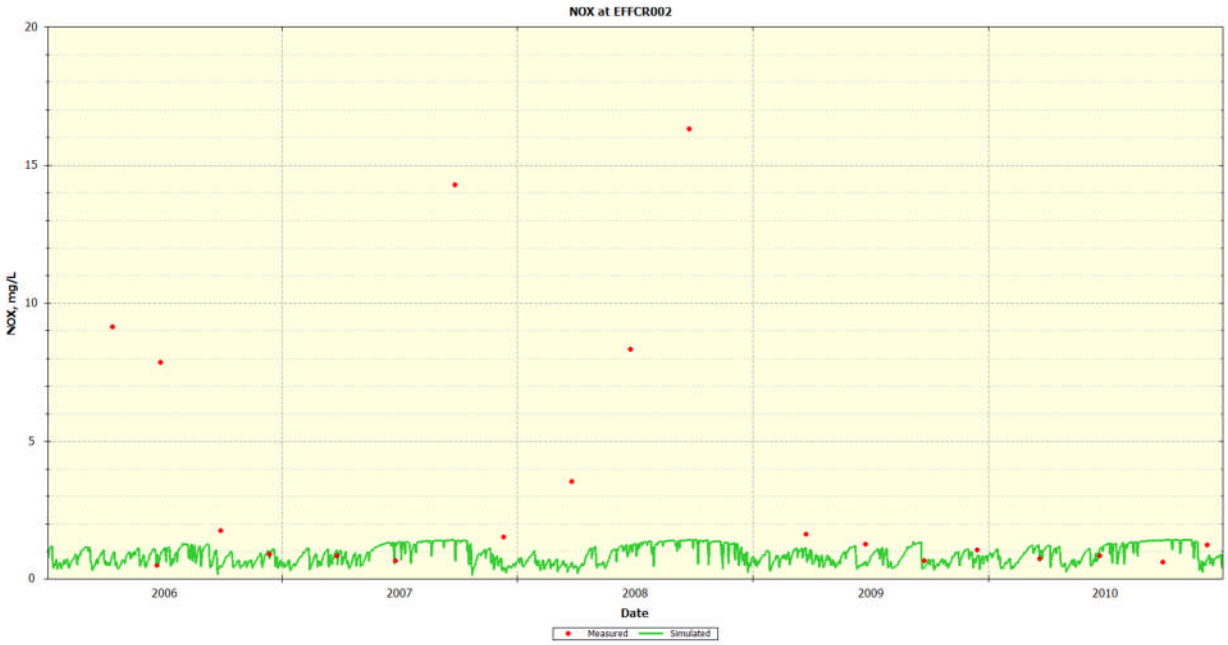


Figure A-372 Modeled vs. Observed NO_X (mg/L) at EFFCR002

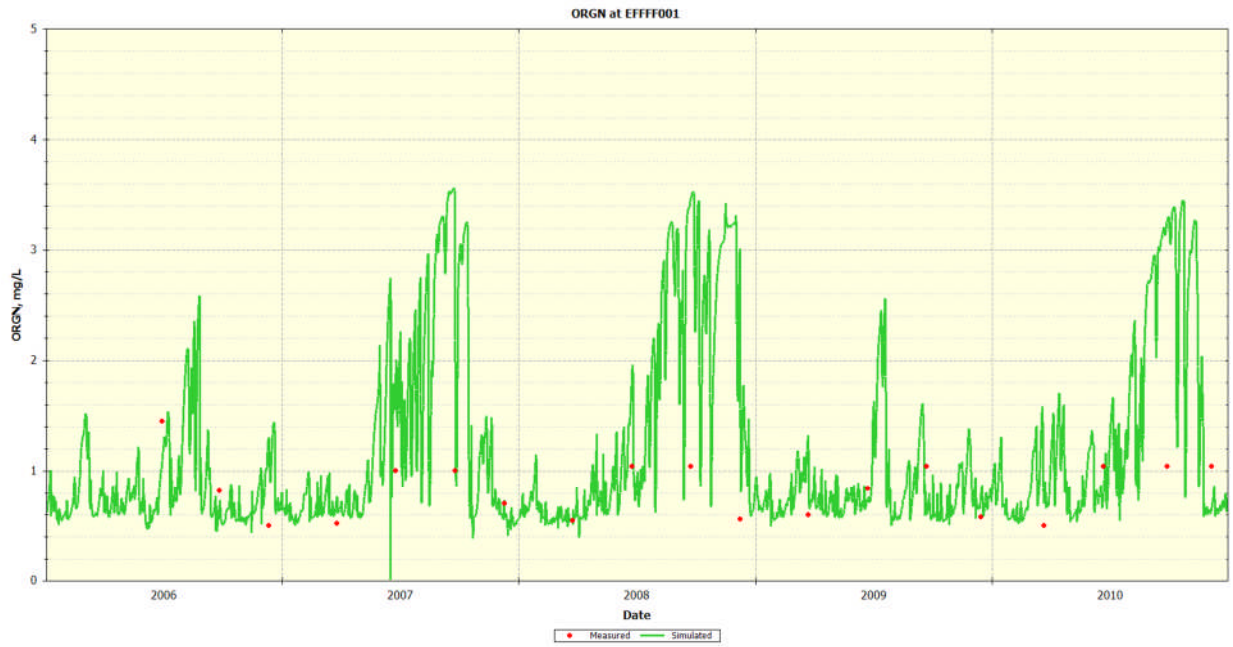


Figure A-373 Modeled vs. Observed ORGN (mg/L) at EFFFF001

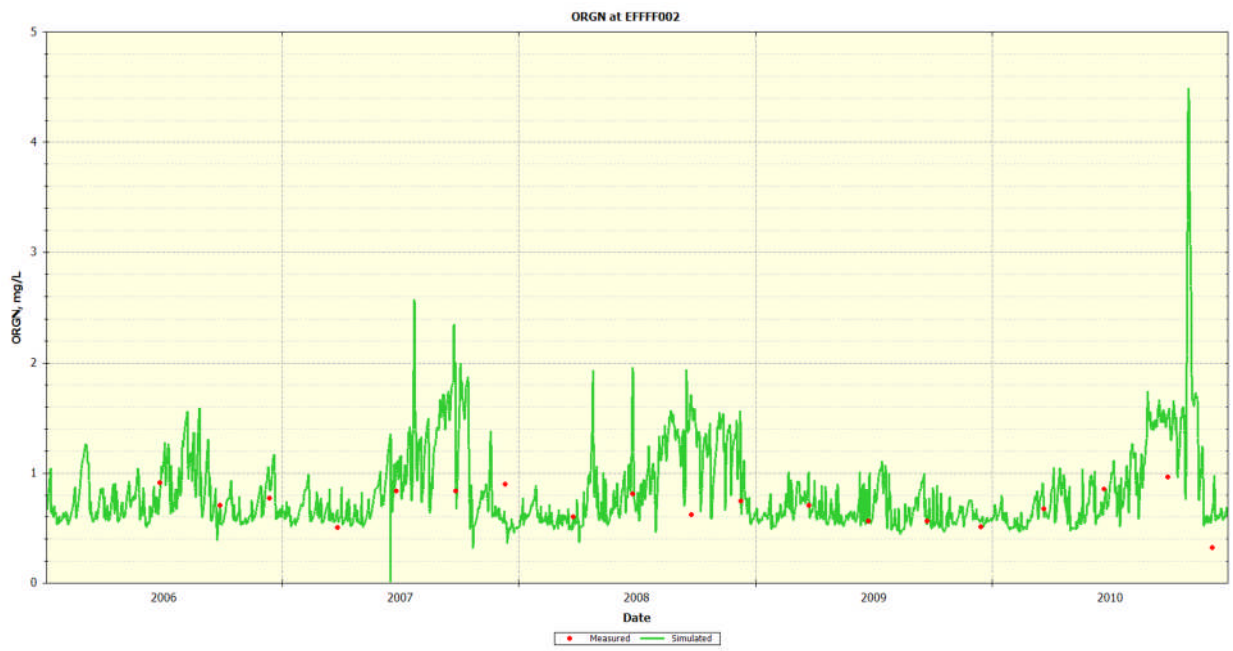


Figure A-374 Modeled vs. Observed ORGN (mg/L) at EFFFF002

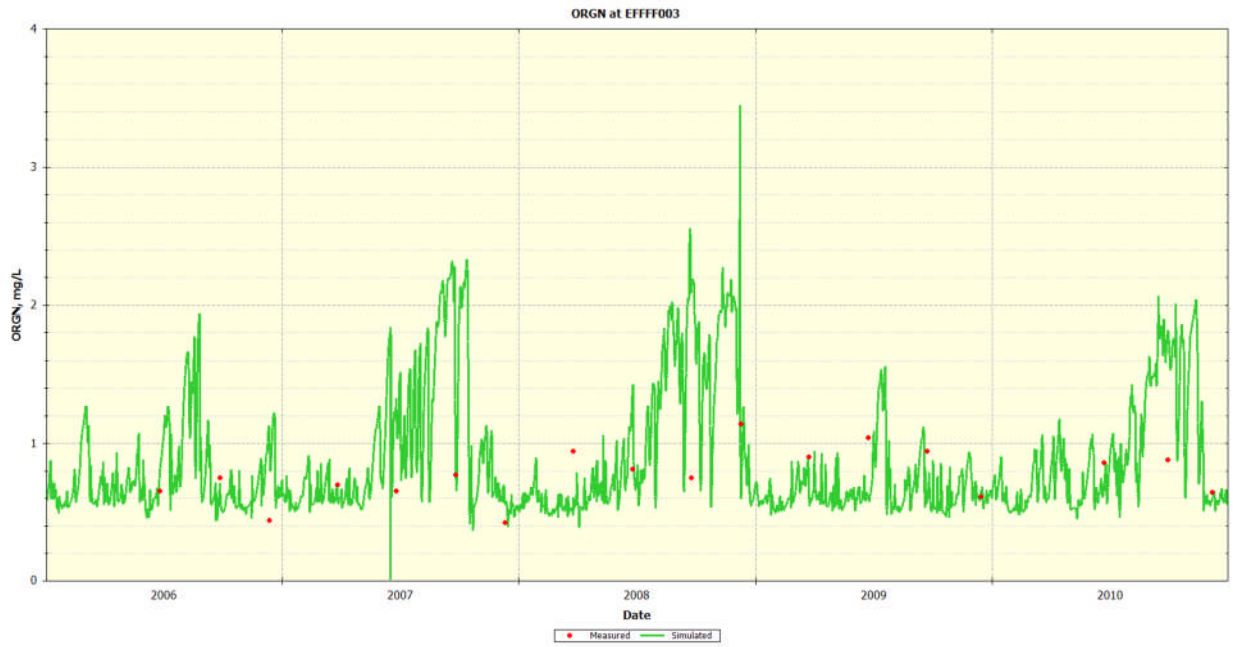


Figure A-375 Modeled vs. Observed ORGN (mg/L) at EFFFF003

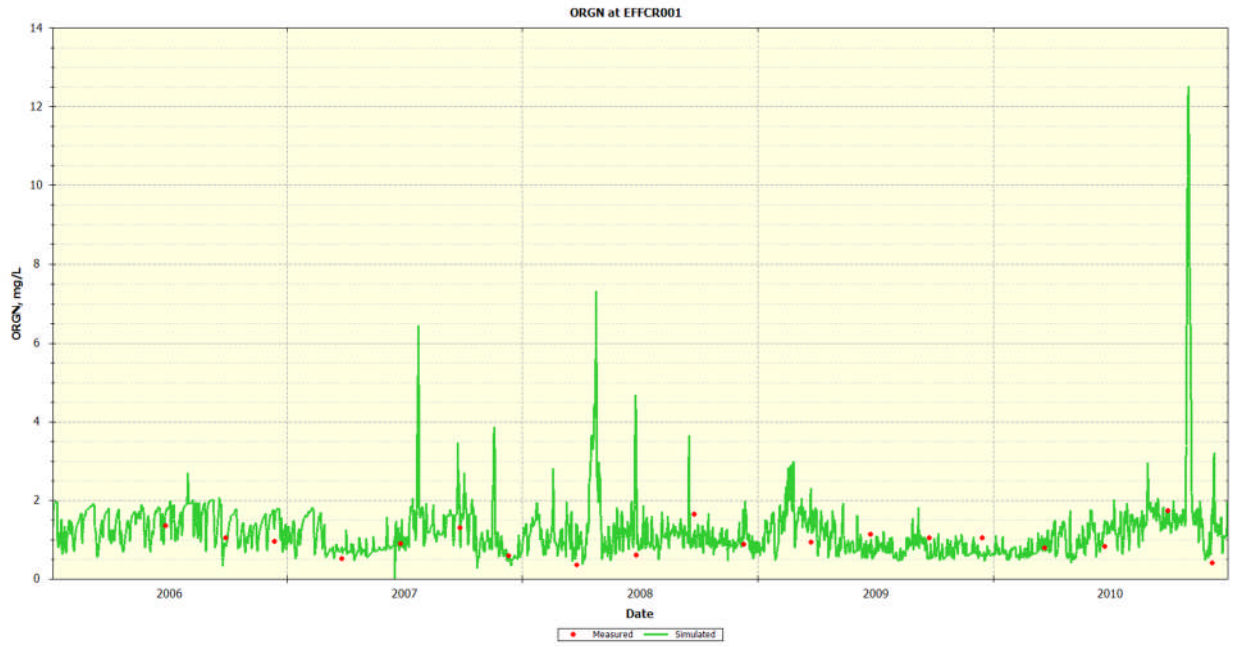


Figure A-376 Modeled vs. Observed ORGN (mg/L) at EFFCR001

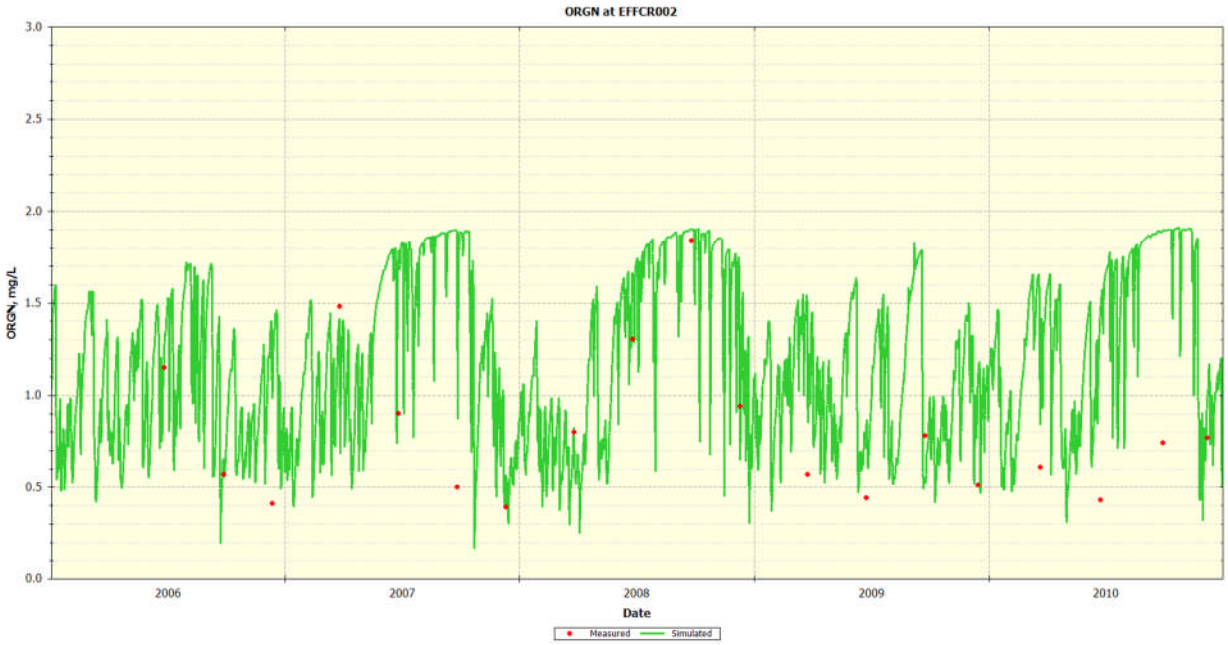


Figure A-377 Modeled vs. Observed ORGN (mg/L) at EFFCR002

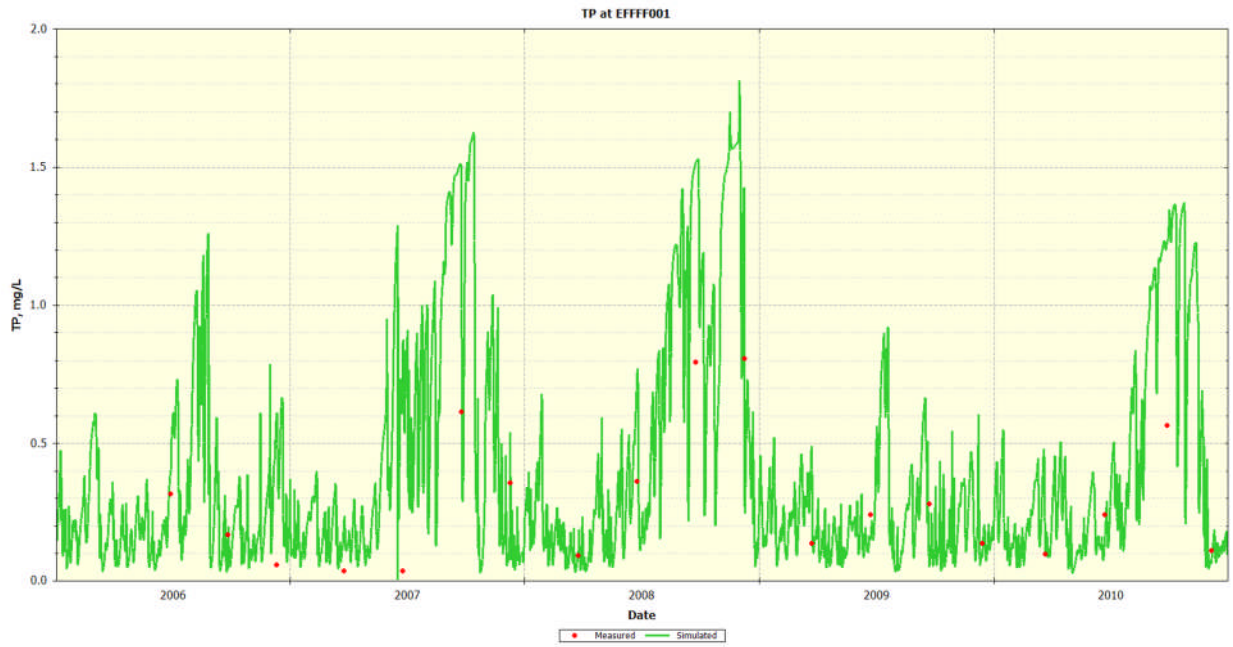


Figure A-378 Modeled vs. Observed TP (mg/L) at EFFFF001

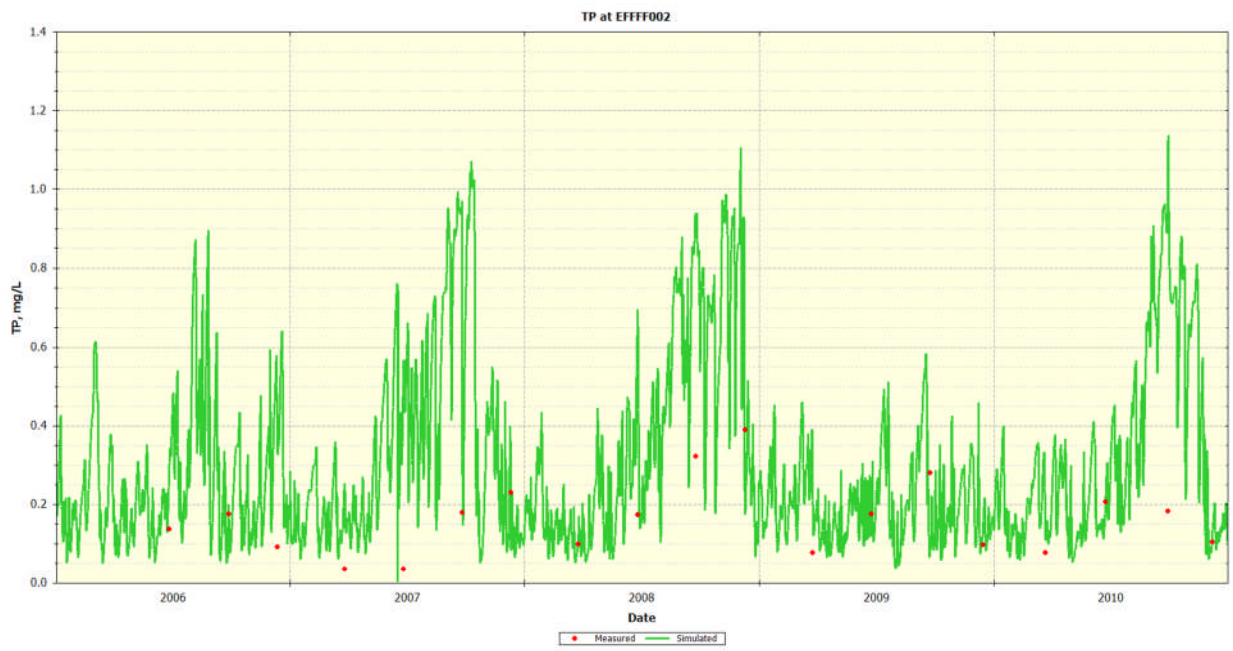


Figure A-379 Modeled vs. Observed TP (mg/L) at EFFFF002

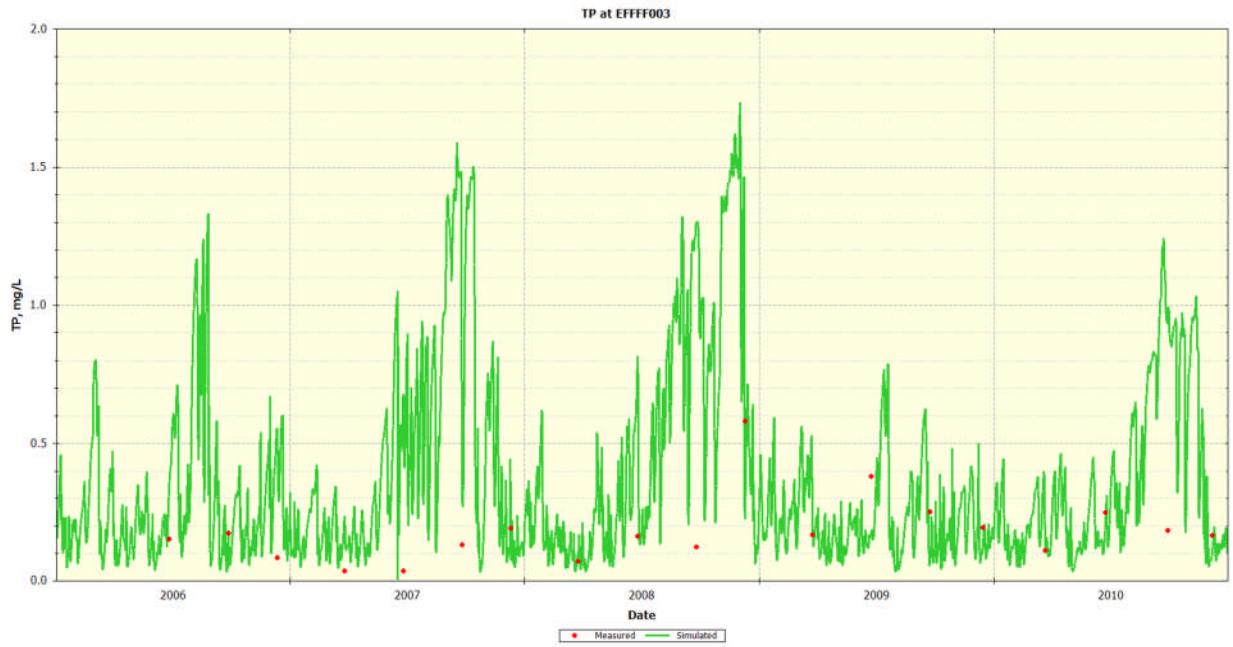


Figure A-380 Modeled vs. Observed TP (mg/L) at EFFFF003

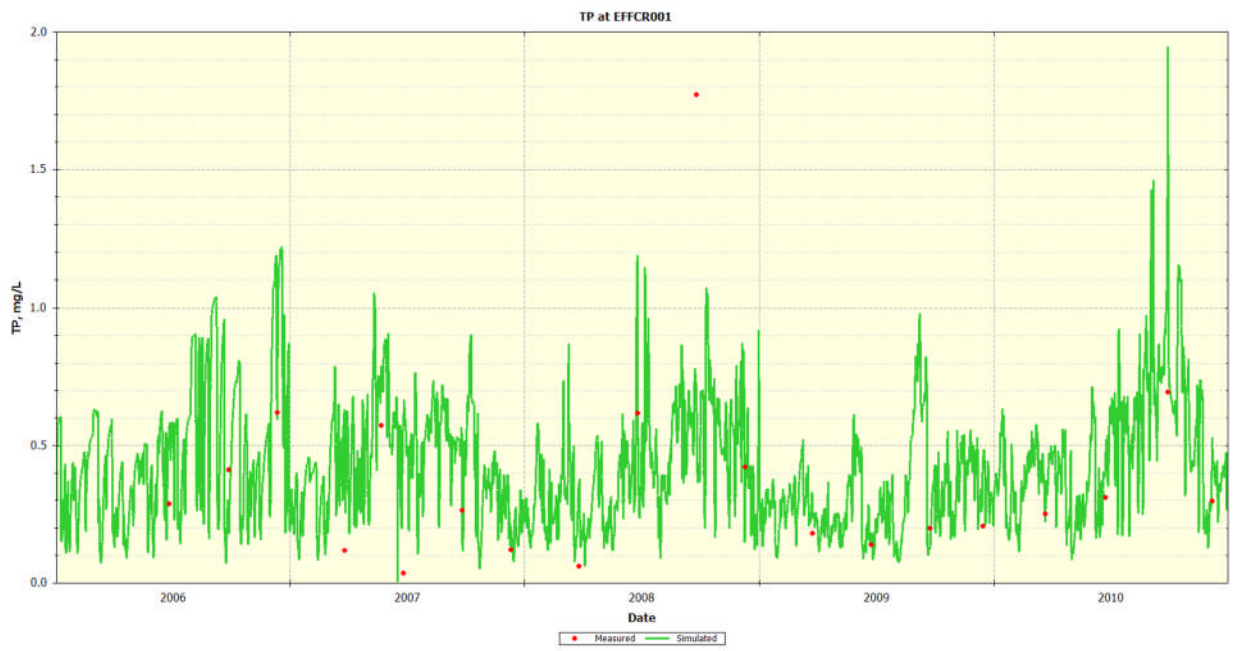


Figure A-381 Modeled vs. Observed TP (mg/L) at EFFCR001

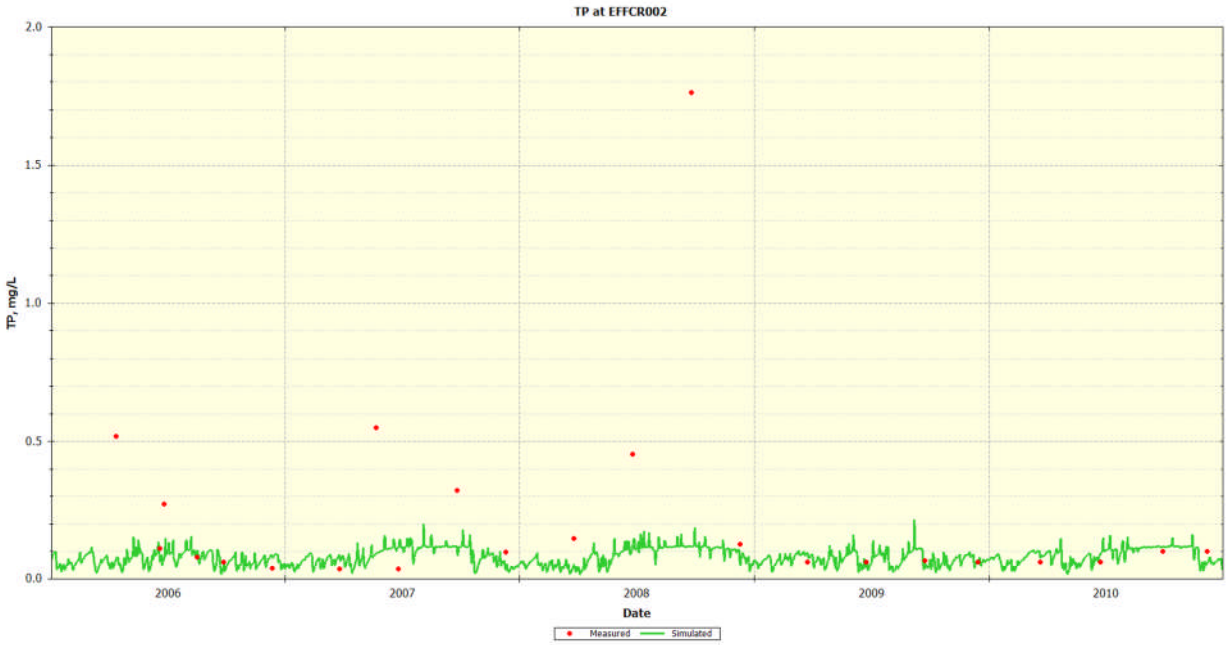


Figure A-382 Modeled vs. Observed TP (mg/L) at EFFCR002

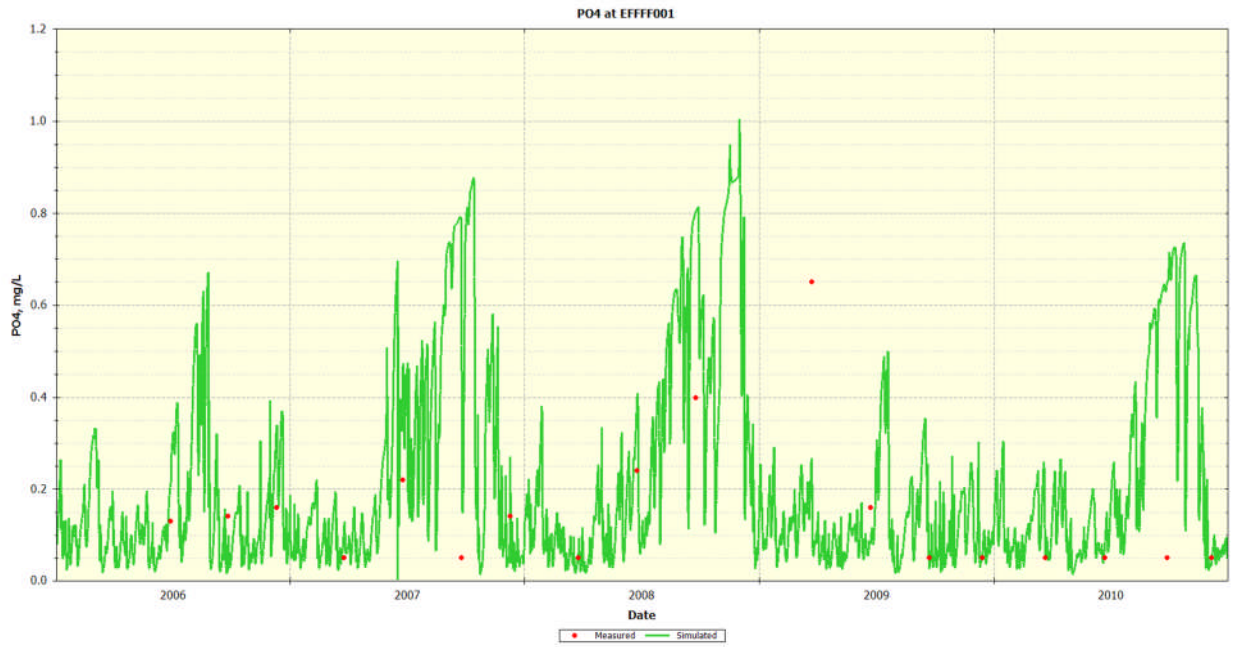


Figure A-383 Modeled vs. Observed PO_4 (mg/L) at EFFFF001

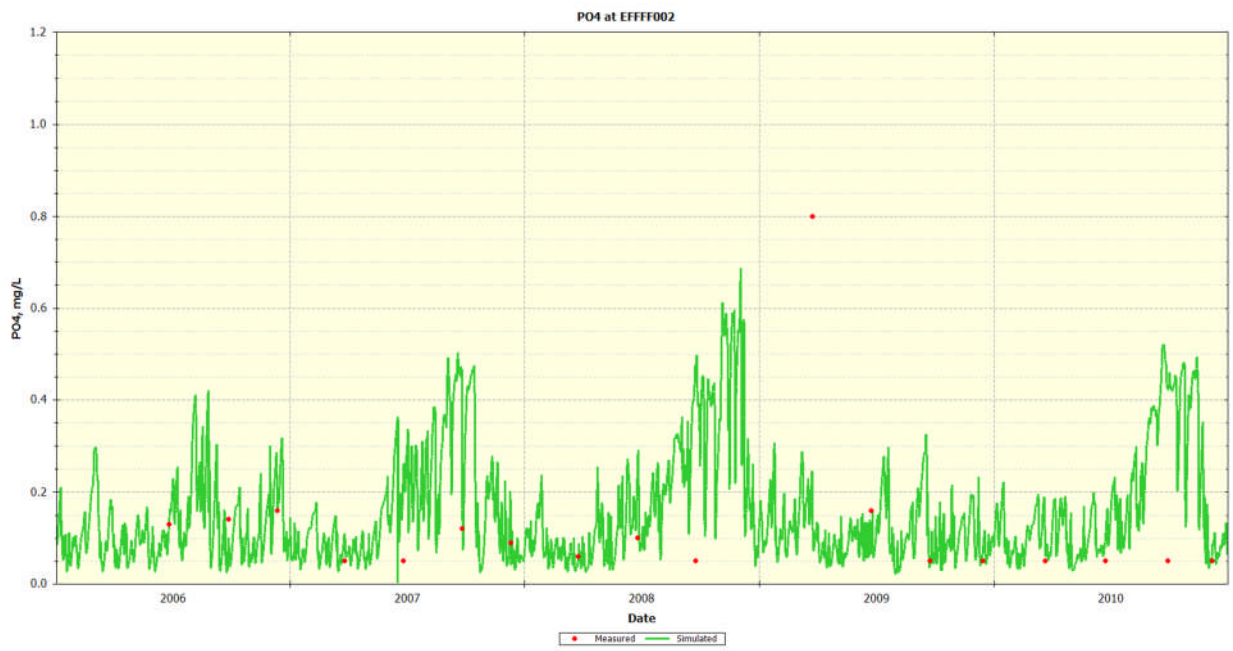


Figure A-384 Modeled vs. Observed PO_4 (mg/L) at EFFFF002

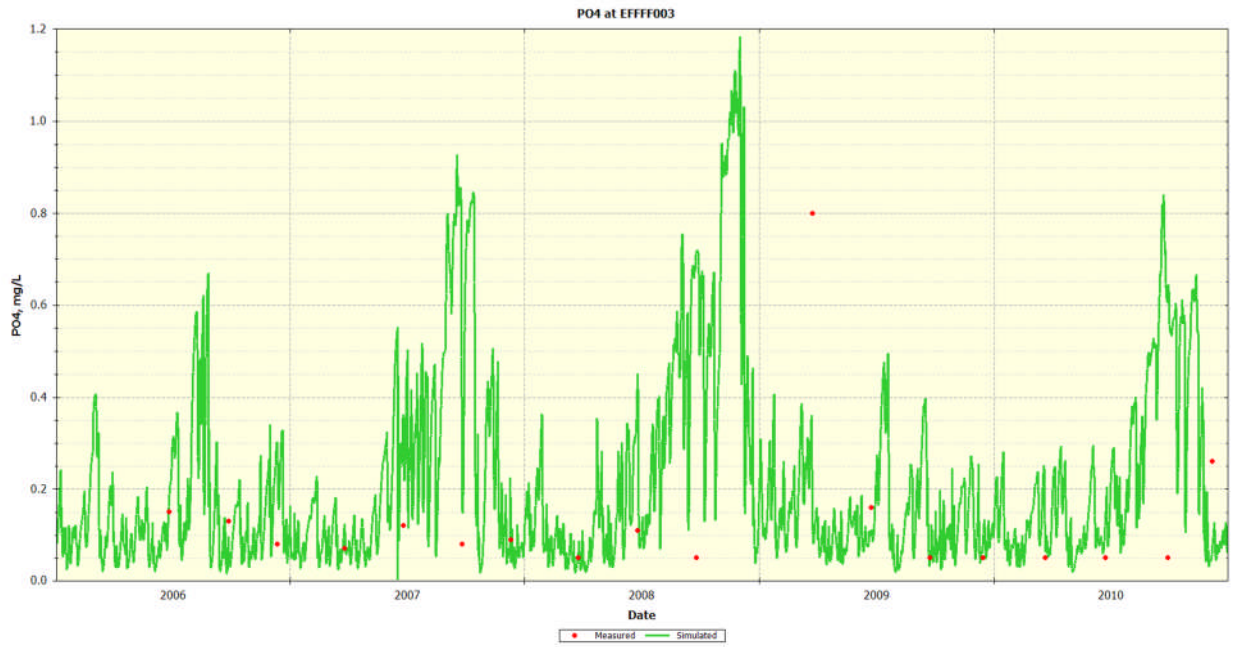


Figure A-385 Modeled vs. Observed PO_4 (mg/L) at EFFFF003

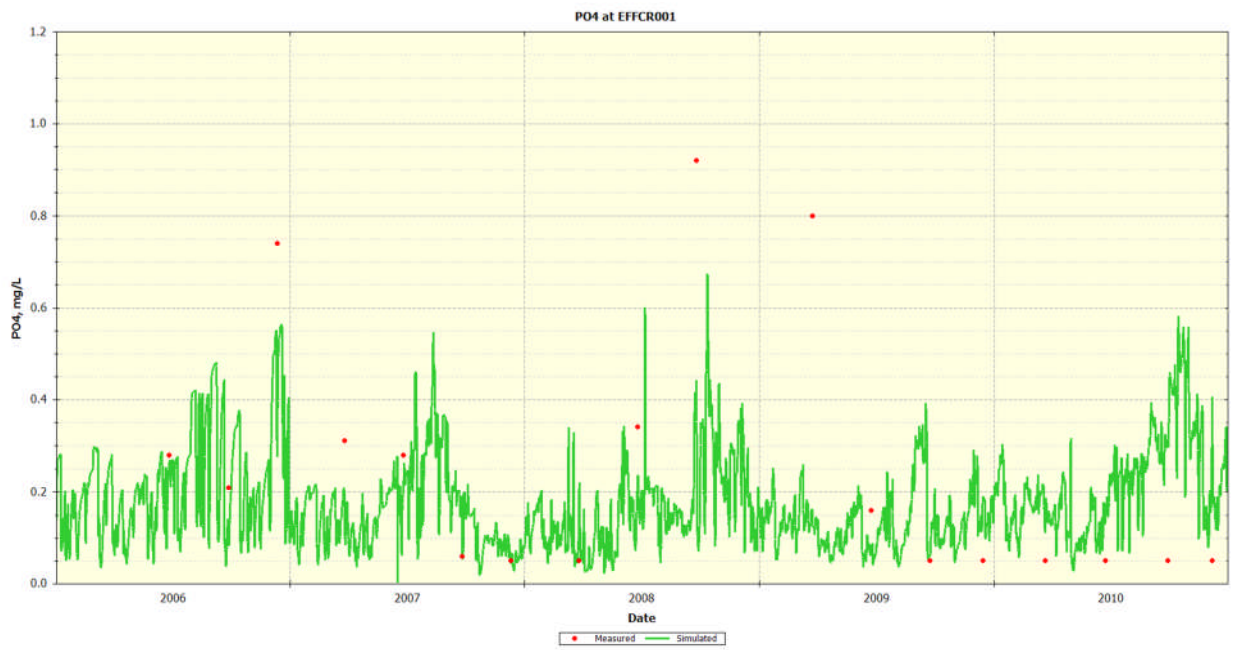


Figure A-386 Modeled vs. Observed PO_4 (mg/L) at EFFCR001

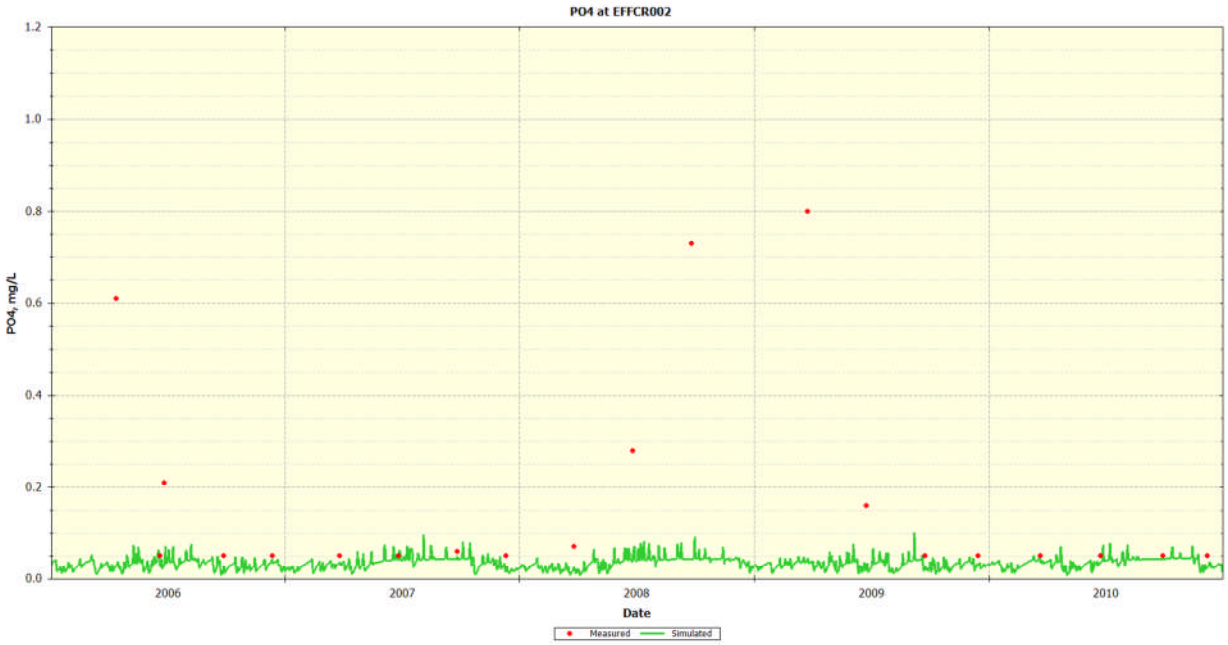


Figure A-387 Modeled vs. Observed PO_4 (mg/L) at EFFCR002

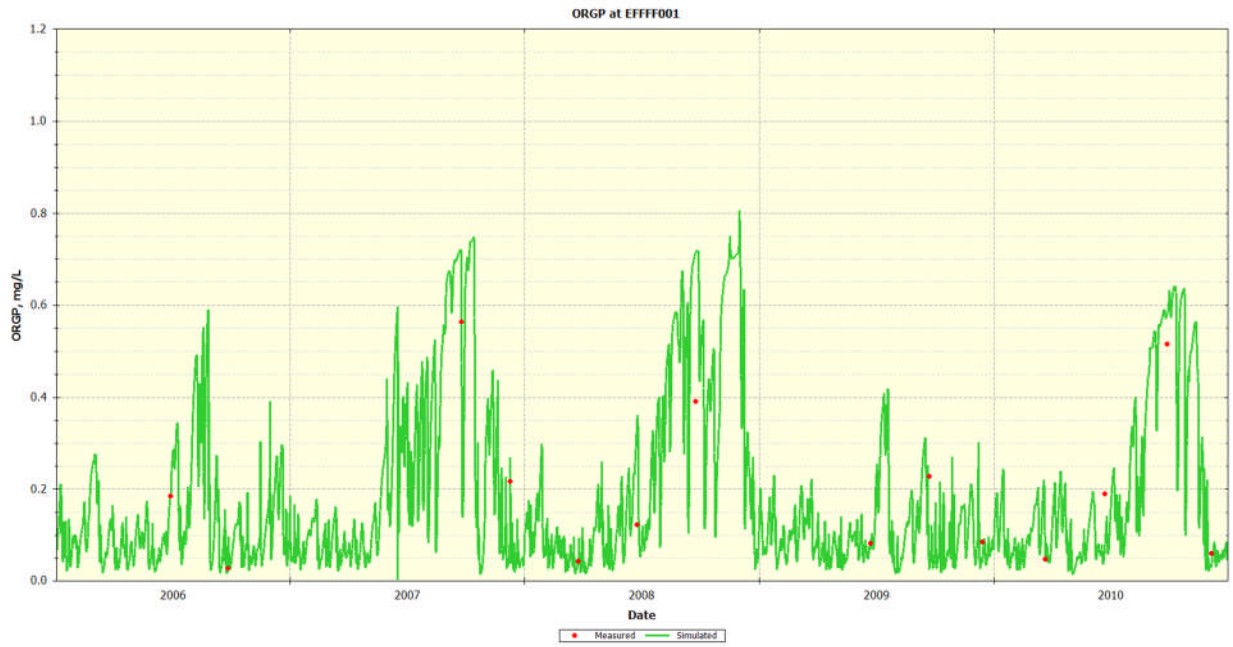


Figure A-388 Modeled vs. Observed ORGP (mg/L) at EFFFF001

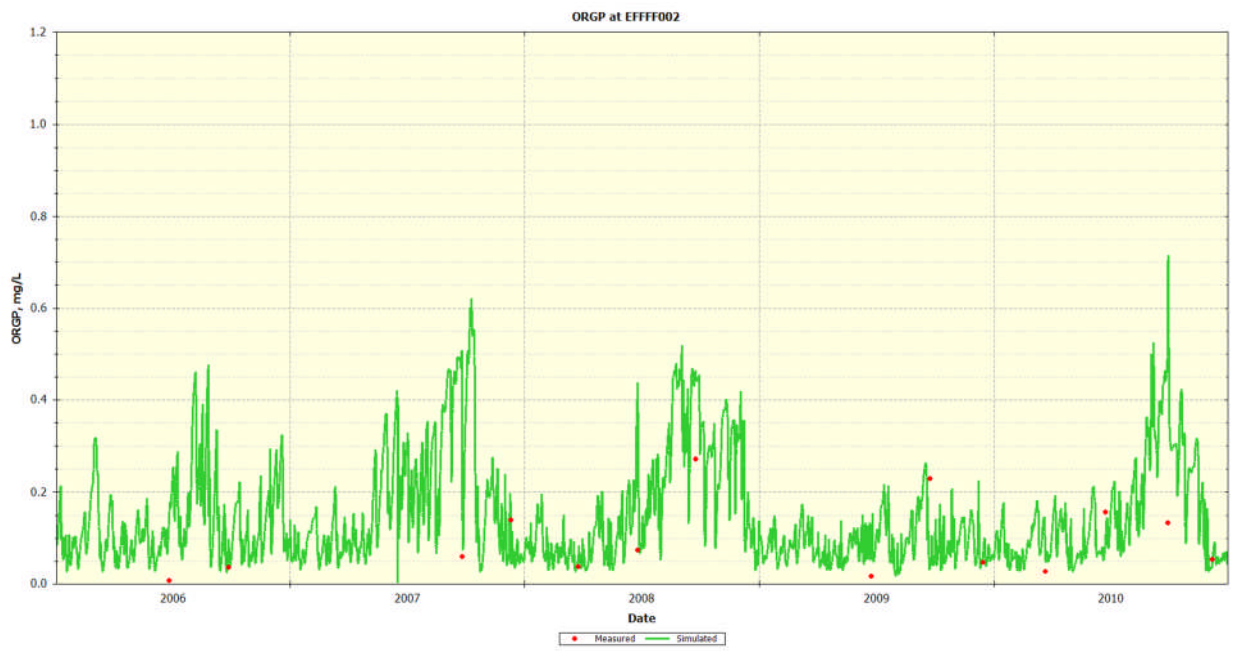


Figure A-389 Modeled vs. Observed ORGP (mg/L) at EFFFF002

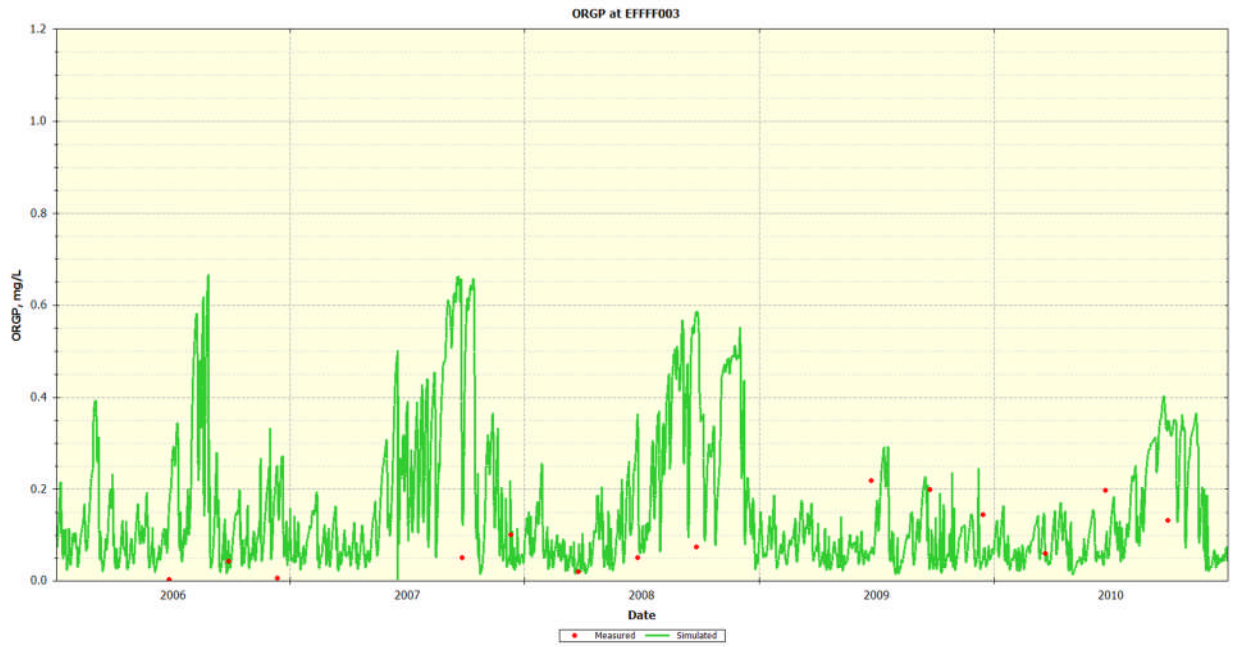


Figure A-390 Modeled vs. Observed ORGP (mg/L) at EFFFF003

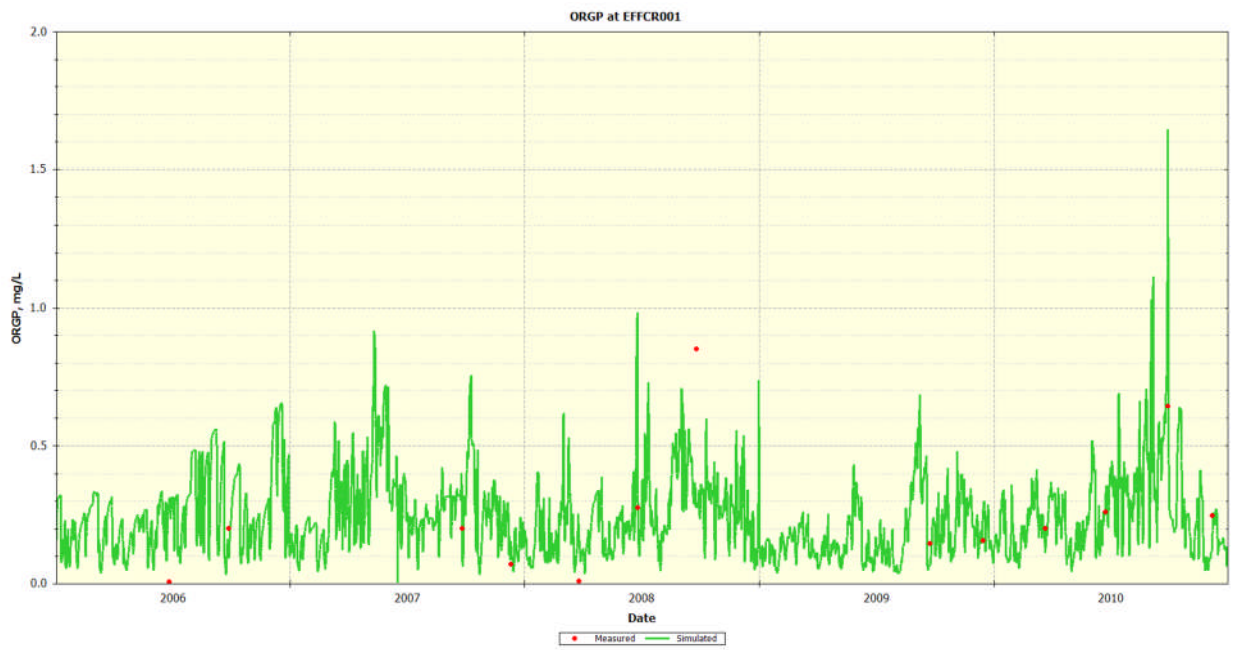


Figure A-391 Modeled vs. Observed ORGP (mg/L) at EFFCR001

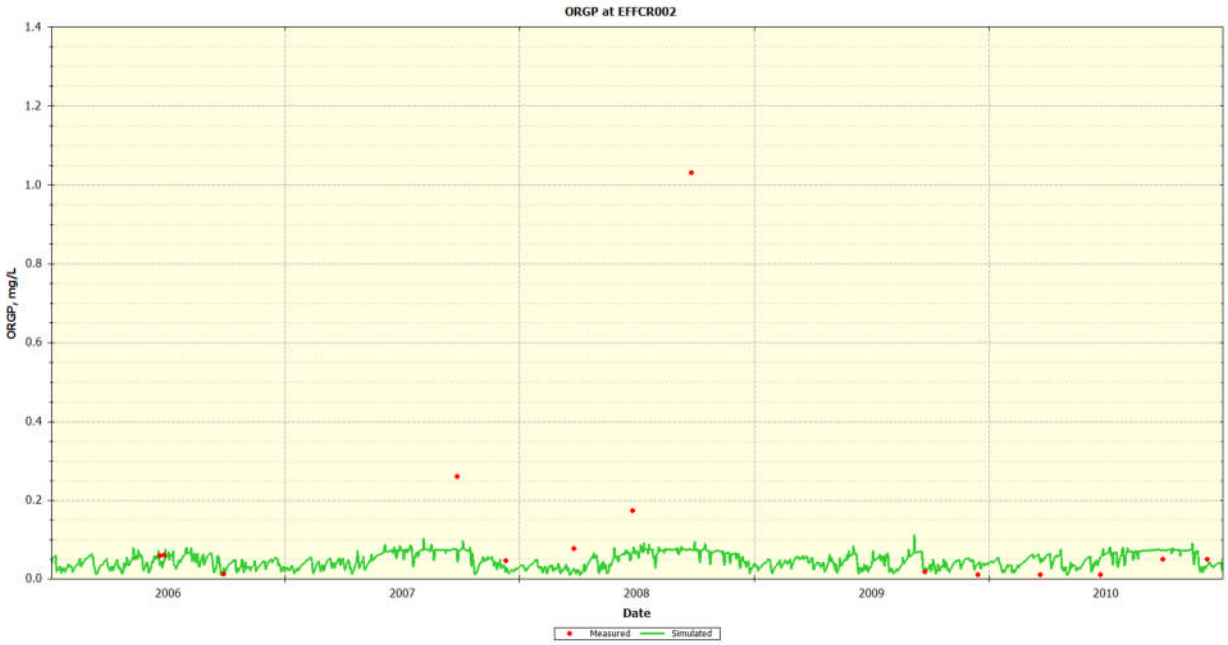


Figure A-392 Modeled vs. Observed ORGP (mg/L) at EFFCR002

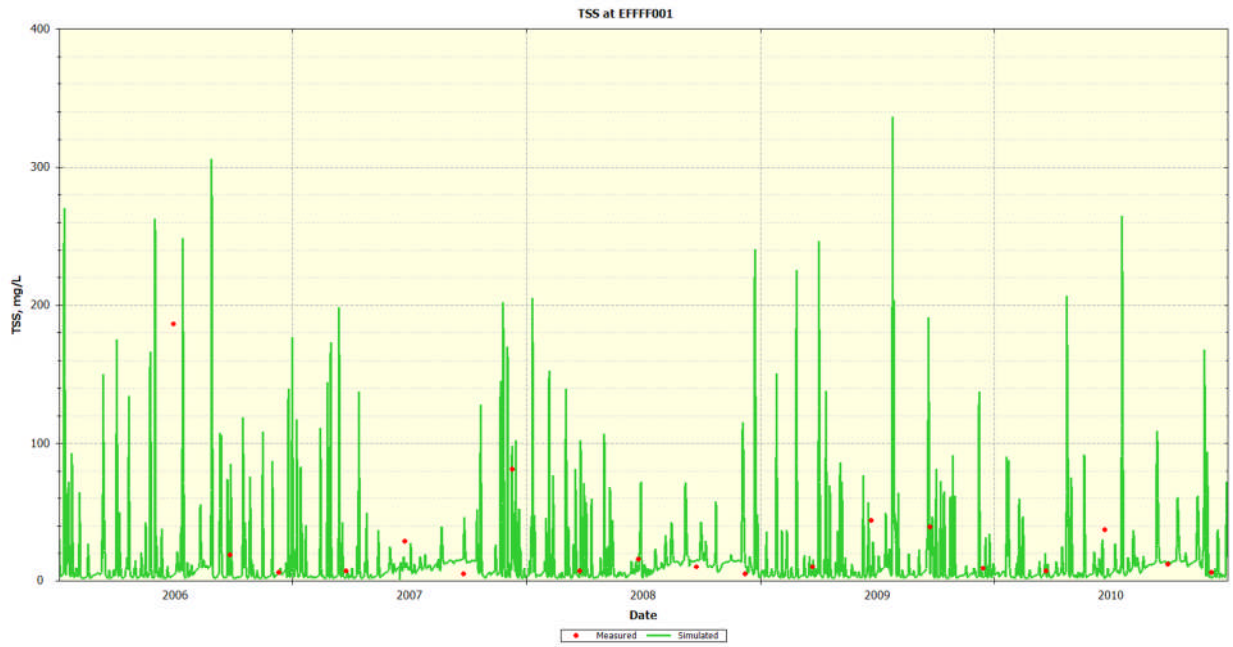


Figure A-393 Modeled vs. Observed TSS (mg/L) at EFFFF001

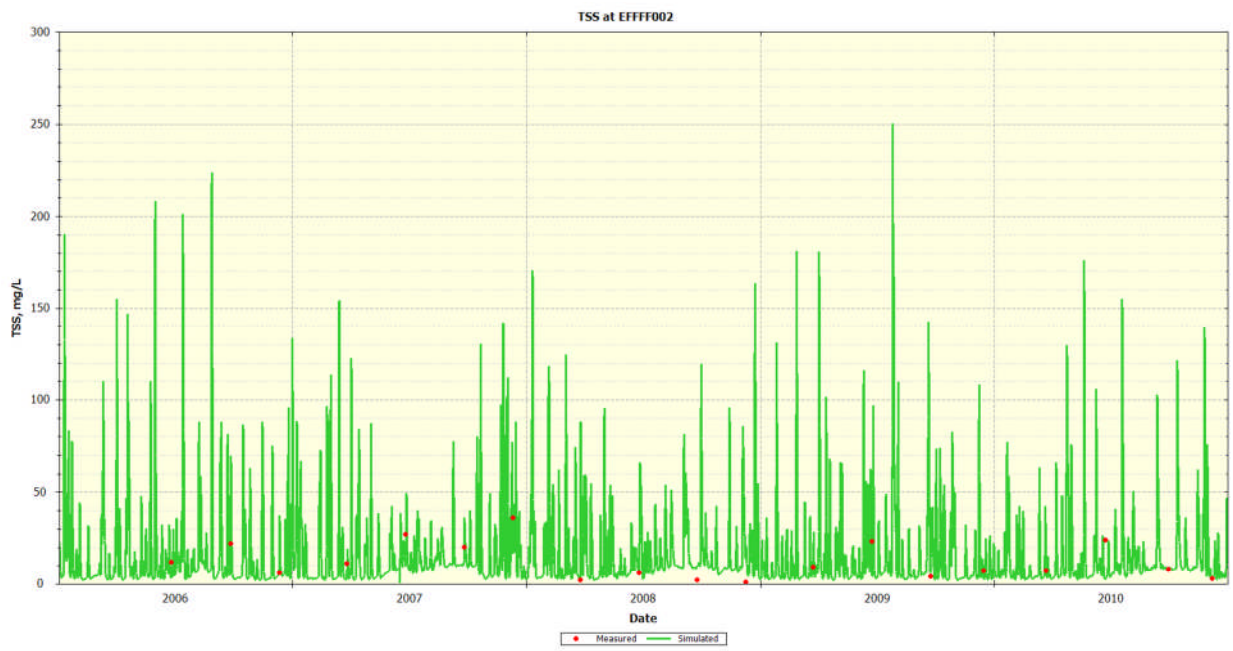


Figure A-394 Modeled vs. Observed TSS (mg/L) at EFFFF002

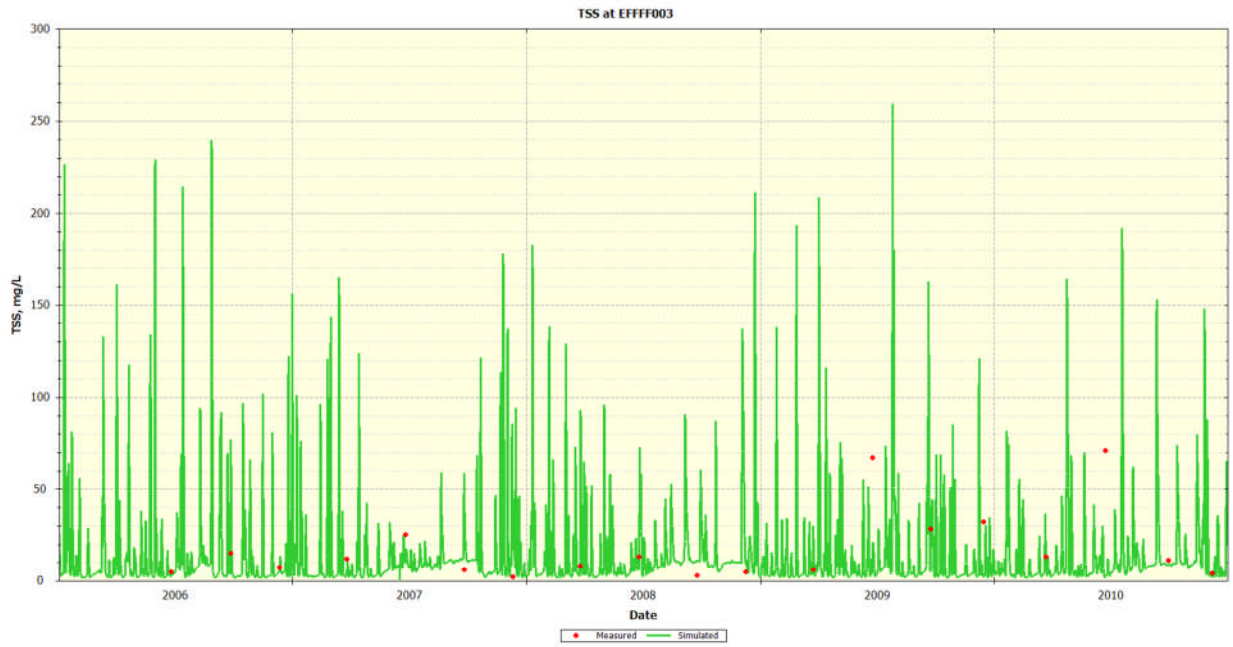


Figure A-395 Modeled vs. Observed TSS (mg/L) at EFFFF003

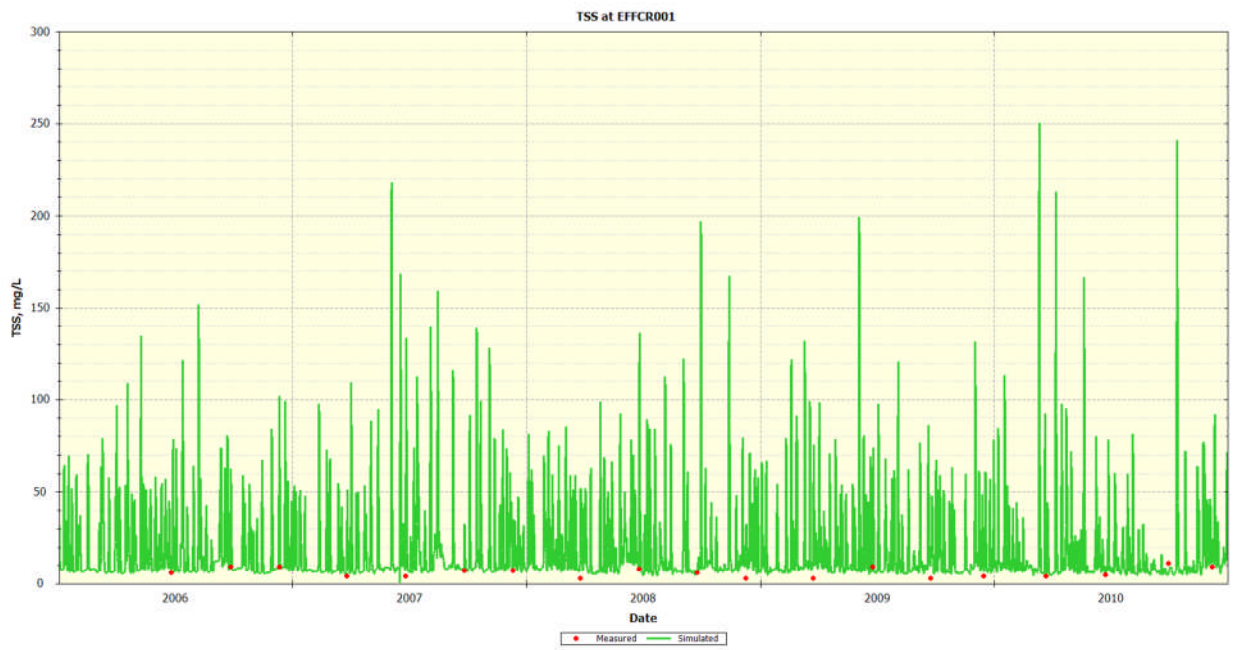


Figure A-396 Modeled vs. Observed TSS (mg/L) at EFFCR001

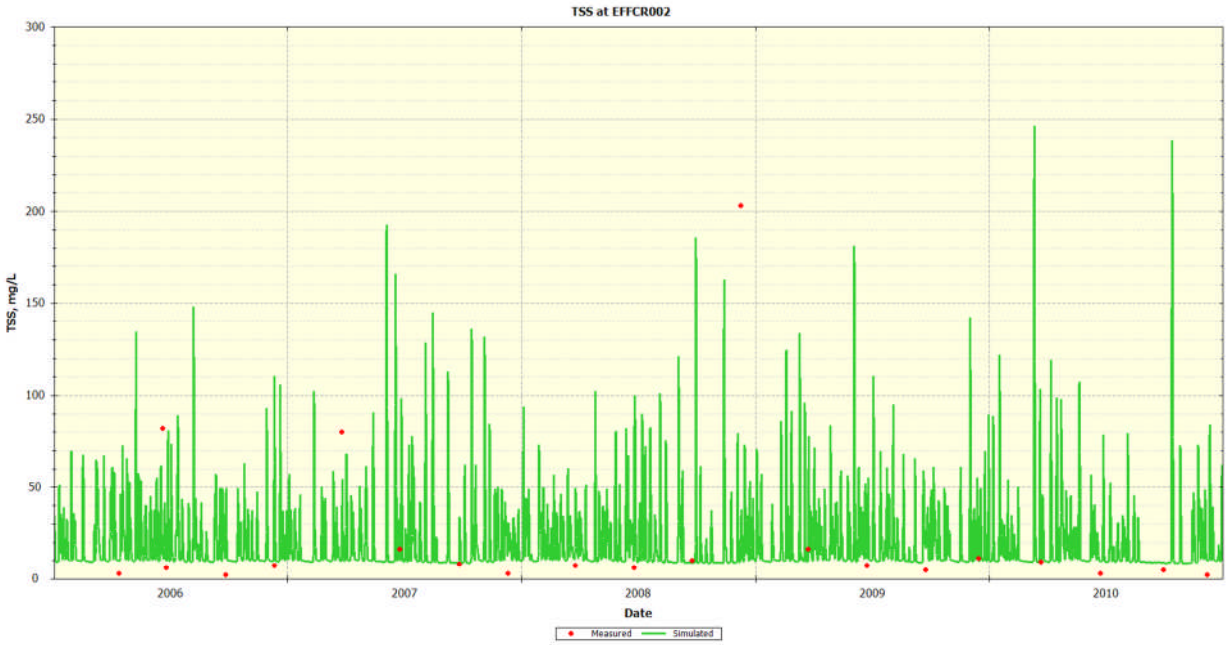


Figure A-397 Modeled vs. Observed TSS (mg/L) at EFFCR002

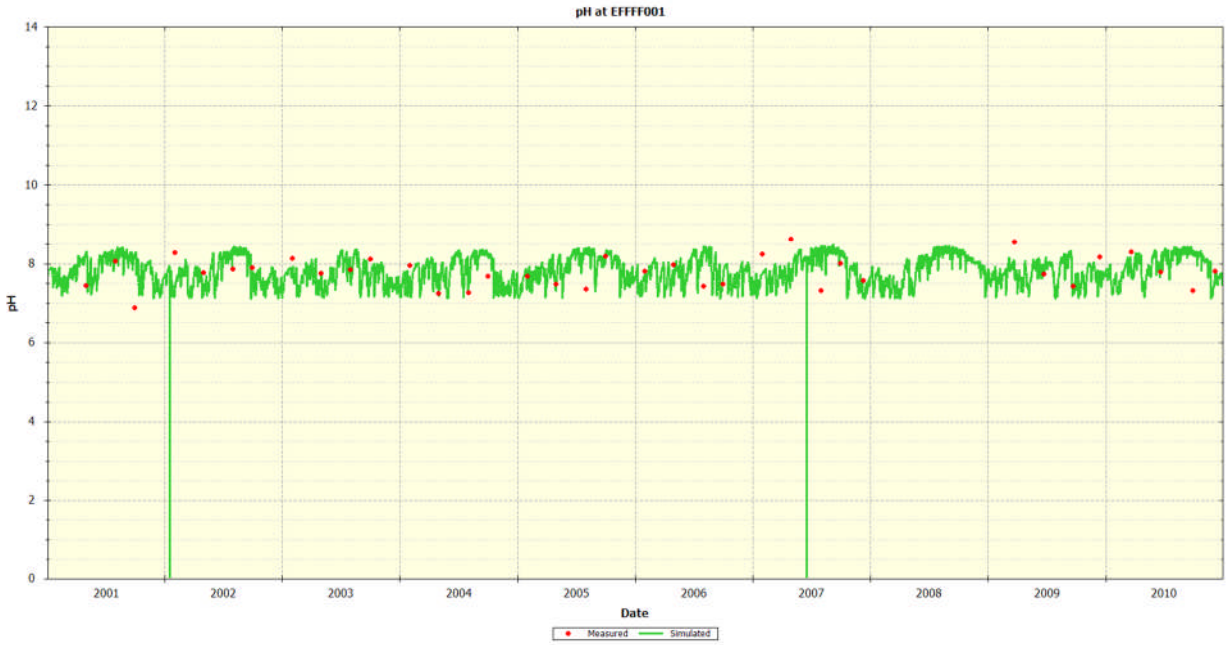


Figure A-398 Modeled vs. Observed pH at EFFFF001

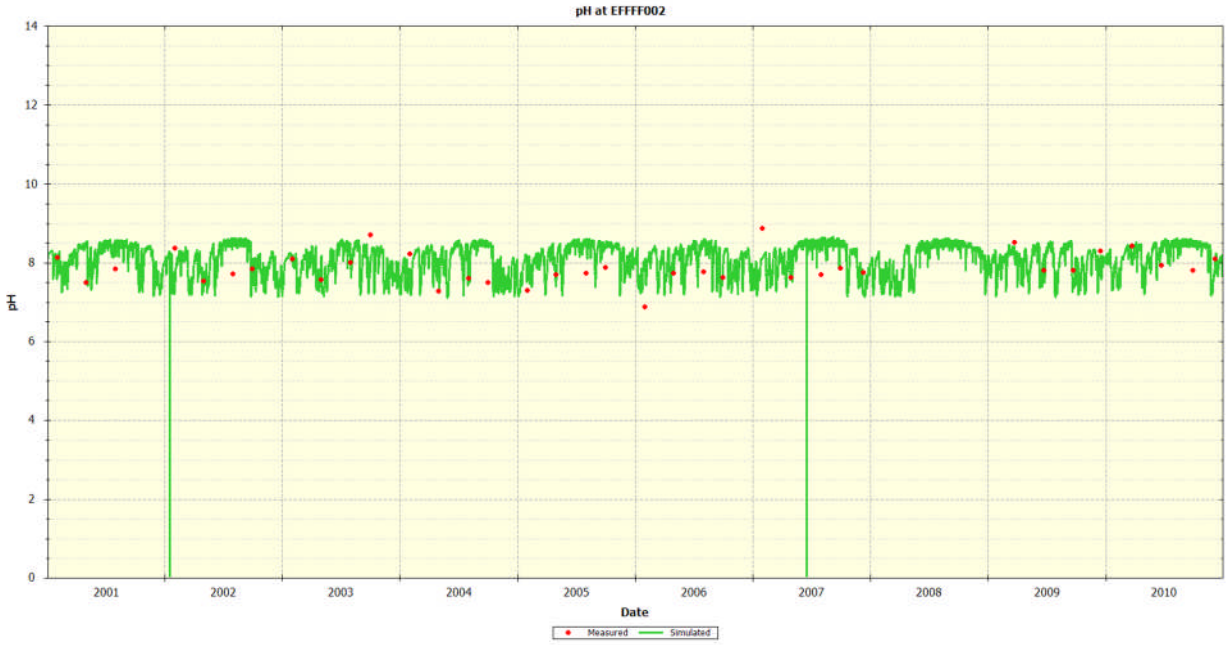


Figure A-399 Modeled vs. Observed pH at EFFFF002

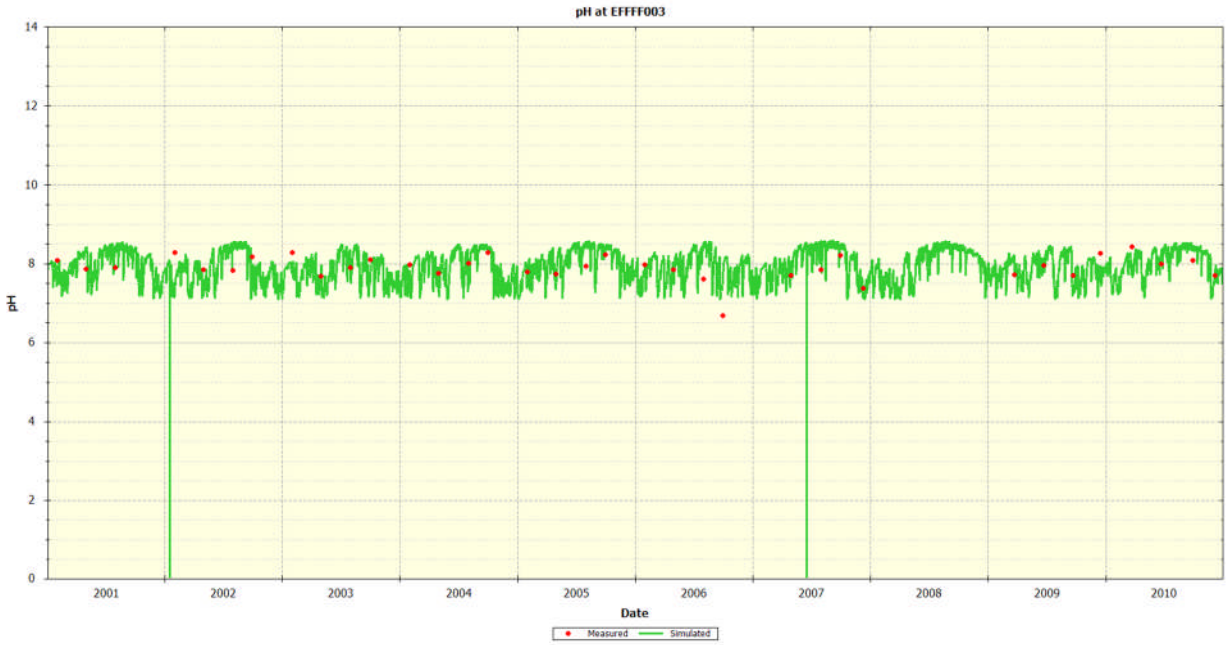


Figure A-400 Modeled vs. Observed pH at EFFFF003

Figure A-401 Modeled vs. Observed pH at EFFCR001

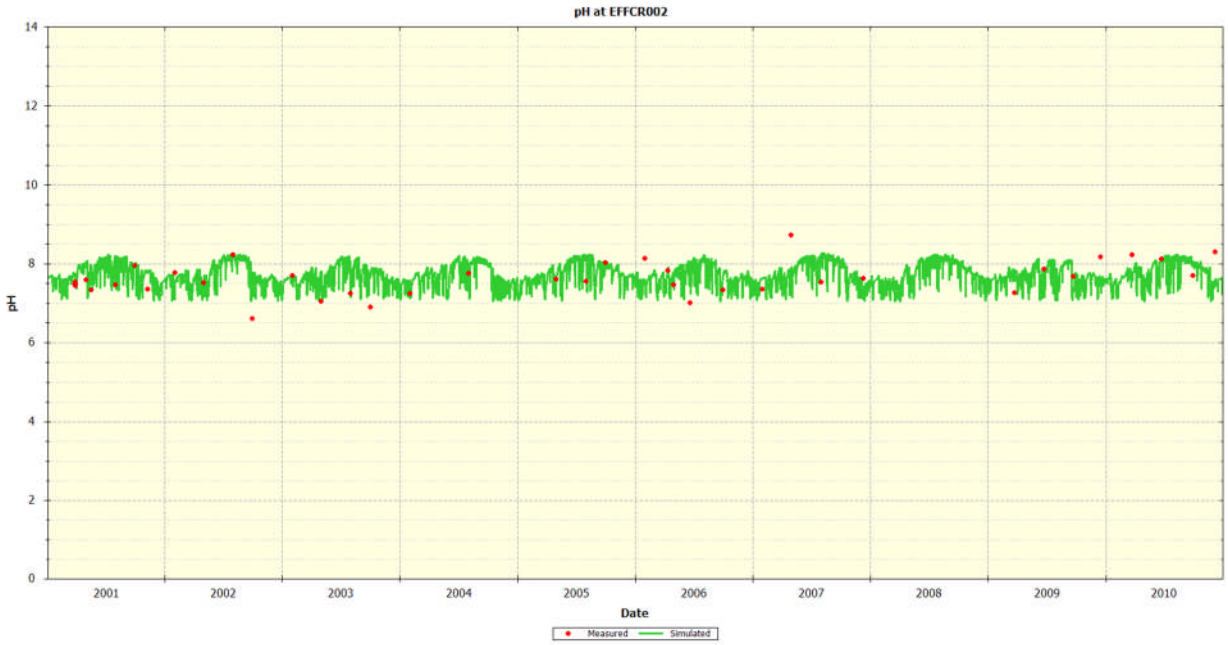


Figure A-402 Modeled vs. Observed pH at EFFCR002

Figure A-403 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF001

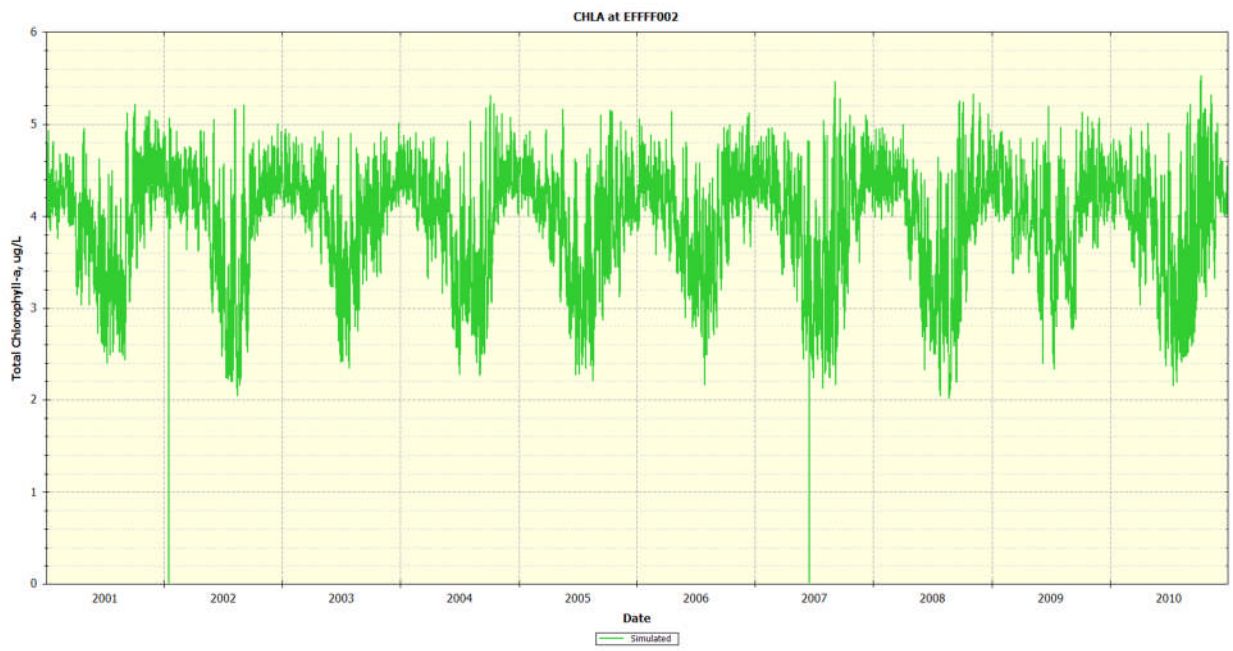


Figure A-404 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF002

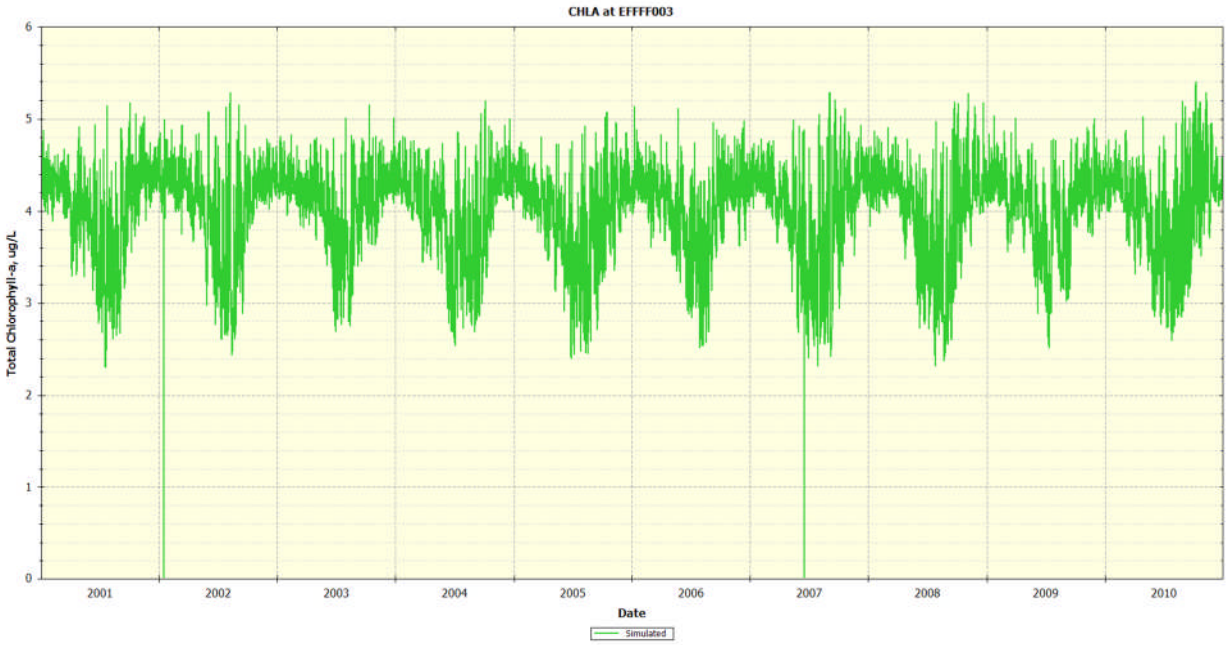


Figure A-405 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFFF003

Figure A-406 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFCR001

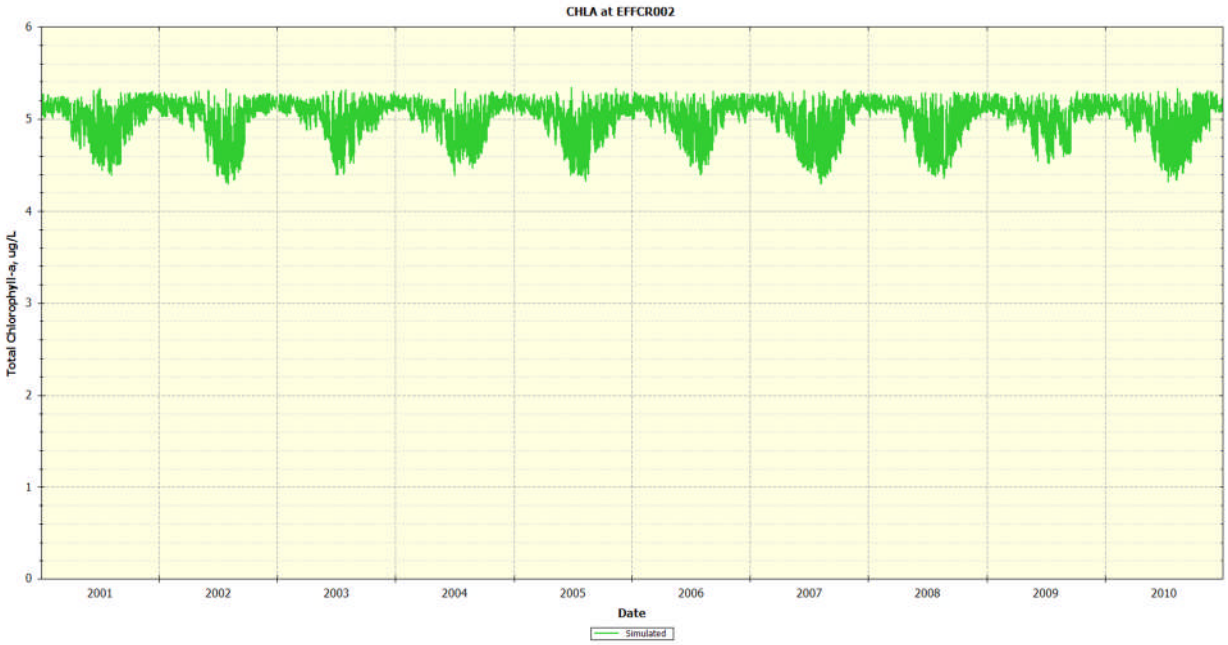


Figure A-407 Modeled vs.Observed Chlorophyll-a (µg/L) at EFFCR002

Table A-6 Summary Qualitative and Quantitative scores for the MSD Water Quality Validation Stations

Location: Main Stem, Floyds Fork					
Station	Station Name	Qualitative score		Quantitative score	
		TN	TP	TN	TP
EFFFF001	Floyds Fork at Ash Avenue	VG	G	17	42
EFFFF002	Floyds Fork at Bardstown Road	G	G	60	48
EFFFF003	Floyds Fork at Old Taylorsville Road	G	VG	41	23
Location: Tributaries					
EFFCR001	Chenoweth Run # 1 at Gelhaus Lane	G	VG	45	30
EFFCR002	Chenoweth Run # 1 at Ruckriegal Parkway	F	F	77	75

Table A-7 Calibration Statistics for TN for MSD Water Quality Validation Stations utilized in the Floyds Fork model

Station	Station Name	Simulated			Measured			Difference		
		Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile
Location : Main Stem, Floyds Fork										
EFFFF001	Floyds Fork at Ash Avenue	3.83	1.17	12.29	2.29	0.00	0.00	1.54	1.17	12.29
EFFFF002	Floyds Fork at Bardstown Road	3.27	1.15	8.10	2.71	0.00	0.00	0.56	1.15	8.10
EFFFF003	Floyds Fork at Old Taylorsville Road	3.08	1.13	8.38	2.39	0.00	0.00	0.69	1.13	8.38
Location: Tributaries										
EFFCR001	Chenoweth Run # 1 at Gelhaus Lane	7.12	1.58	13.93	8.77	0.00	0.00	-1.65	1.58	13.93
EFFCR002	Chenoweth Run # 1 at Ruckriegal Parkway	2.14	0.99	3.43	4.07	1.30	18.80	-1.93	-0.31	-15.37

Table A-8 Calibration Statistics for TP for MSD Water Quality Validation Stations utilized in the Floyds Fork model

Station	Station Name	Simulated			Measured			Difference		
		Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile	Mean	5 %tile	95 %tile
Location : Main Stem, Floyds Fork										
EFFFF001	Floyds Fork at Ash Avenue	0.36	0.06	1.16	0.28	0.04	0.80	0.08	0.02	0.36
EFFFF002	Floyds Fork at Bardstown Road	0.29	0.08	0.76	0.16	0.04	0.39	0.13	0.04	0.37
EFFFF003	Floyds Fork at Old Taylorsville Road	0.34	0.06	1.03	0.18	0.04	0.57	0.16	0.03	0.46
Location: Tributaries										
EFFCR001	Chenoweth Run # 1 at Gelhaus Lane	0.43	0.13	0.86	0.38	0.04	1.66	0.05	0.09	-0.80
EFFCR002	Chenoweth Run # 1 at Ruckriegal Parkway	0.08	0.03	0.12	0.15	0.02	0.58	-0.08	0.01	-0.46

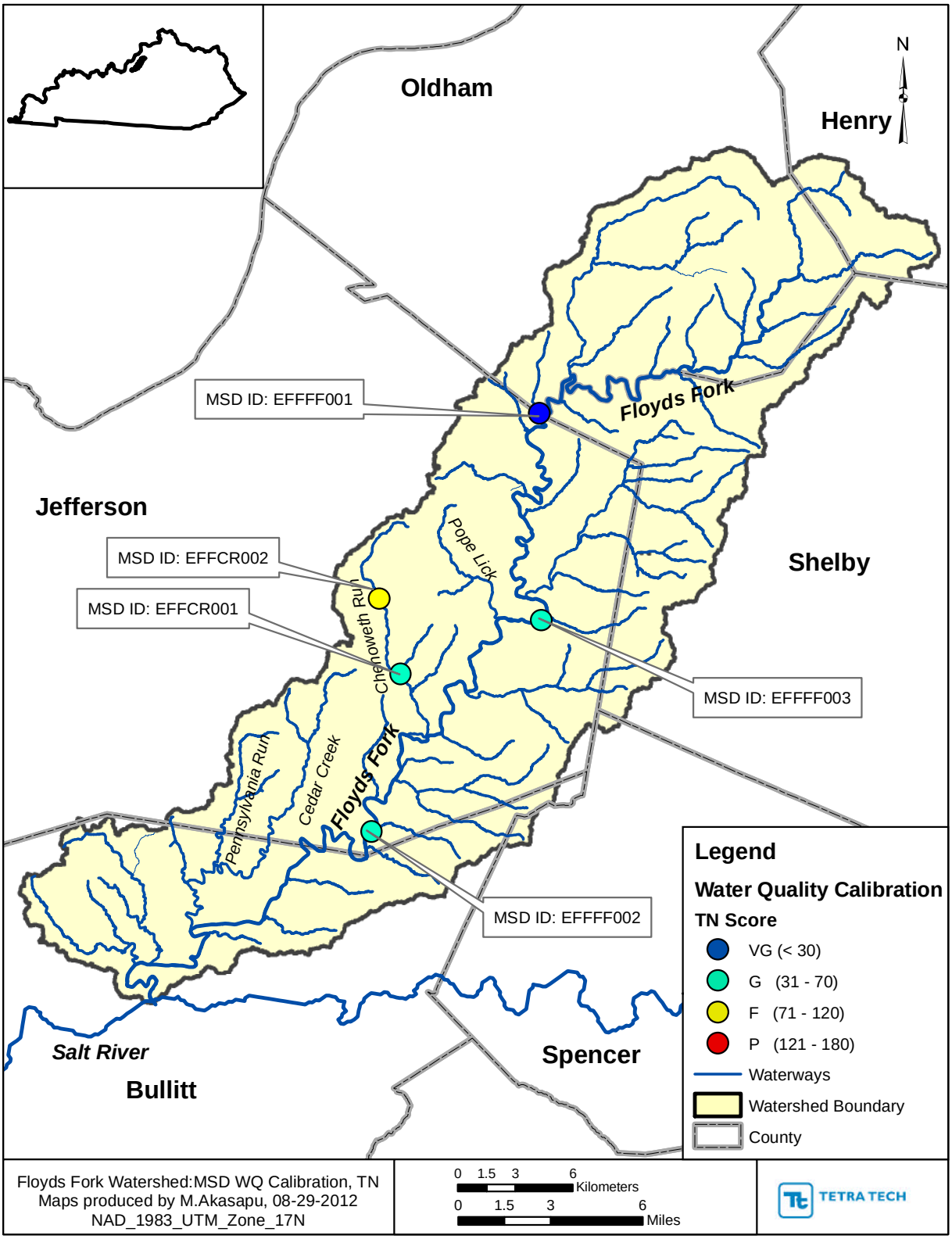


Figure A-408 MSD Water Quality for TN in the Floyds Fork Watershed

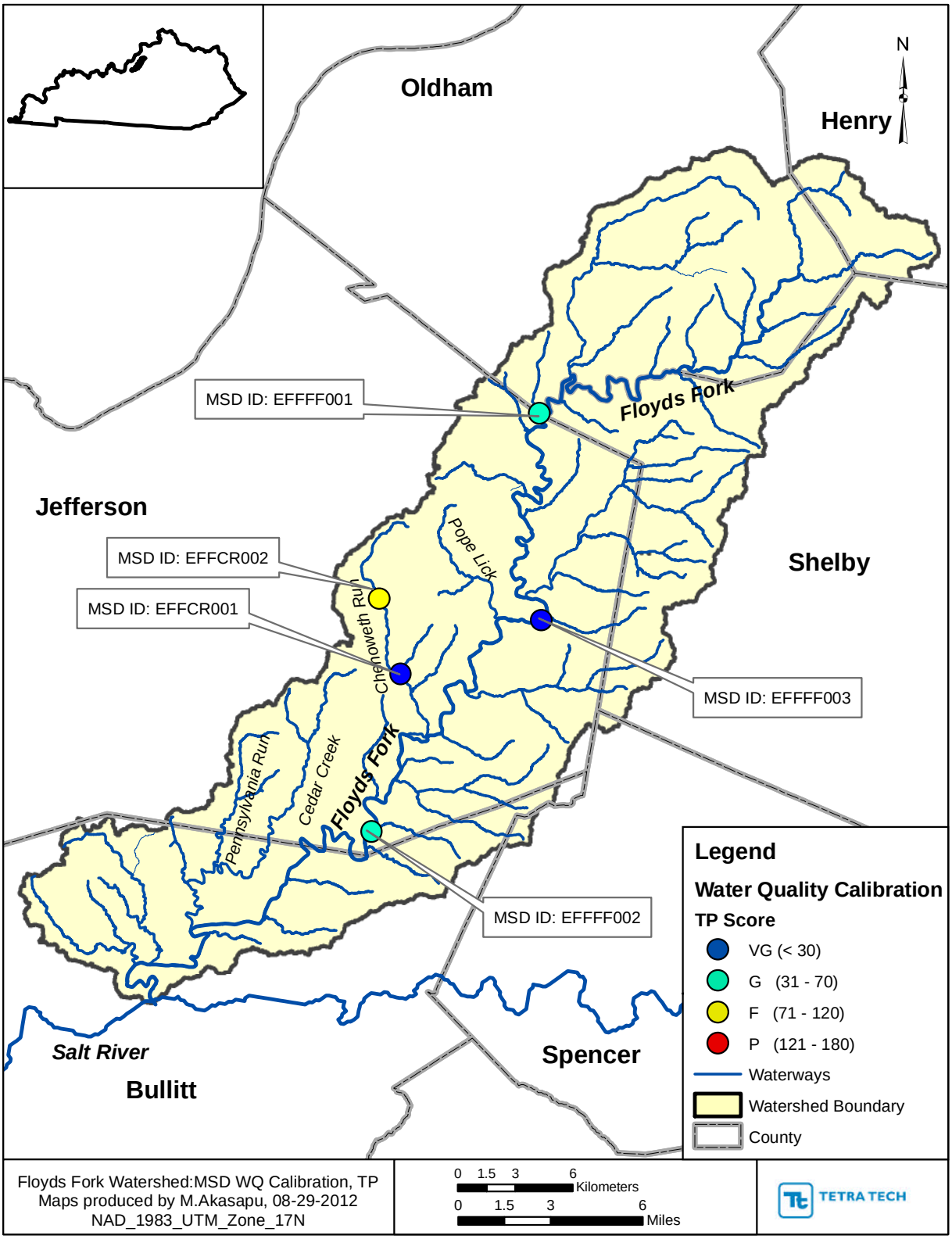


Figure A-409 MSD Water Quality for TP in the Floyds Fork Watershed