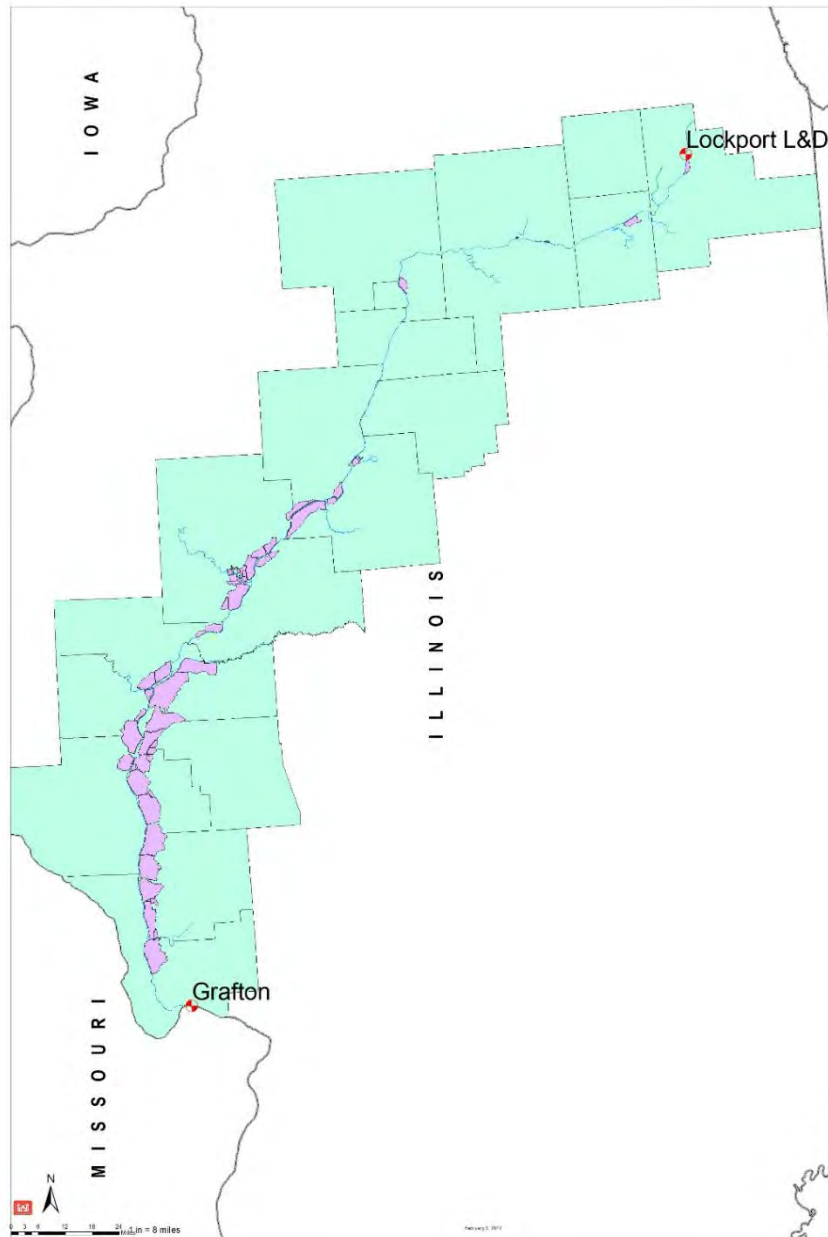


**UPPER MISSISSIPPI RIVER PHASE III
FLOOD RISK MANAGEMENT
EXISTING CONDITIONS HYDRAULIC MODEL
DOCUMENTATION REPORT - APPENDICES**



FINAL
March 2022



**US Army Corps
of Engineers®**
Rock Island District

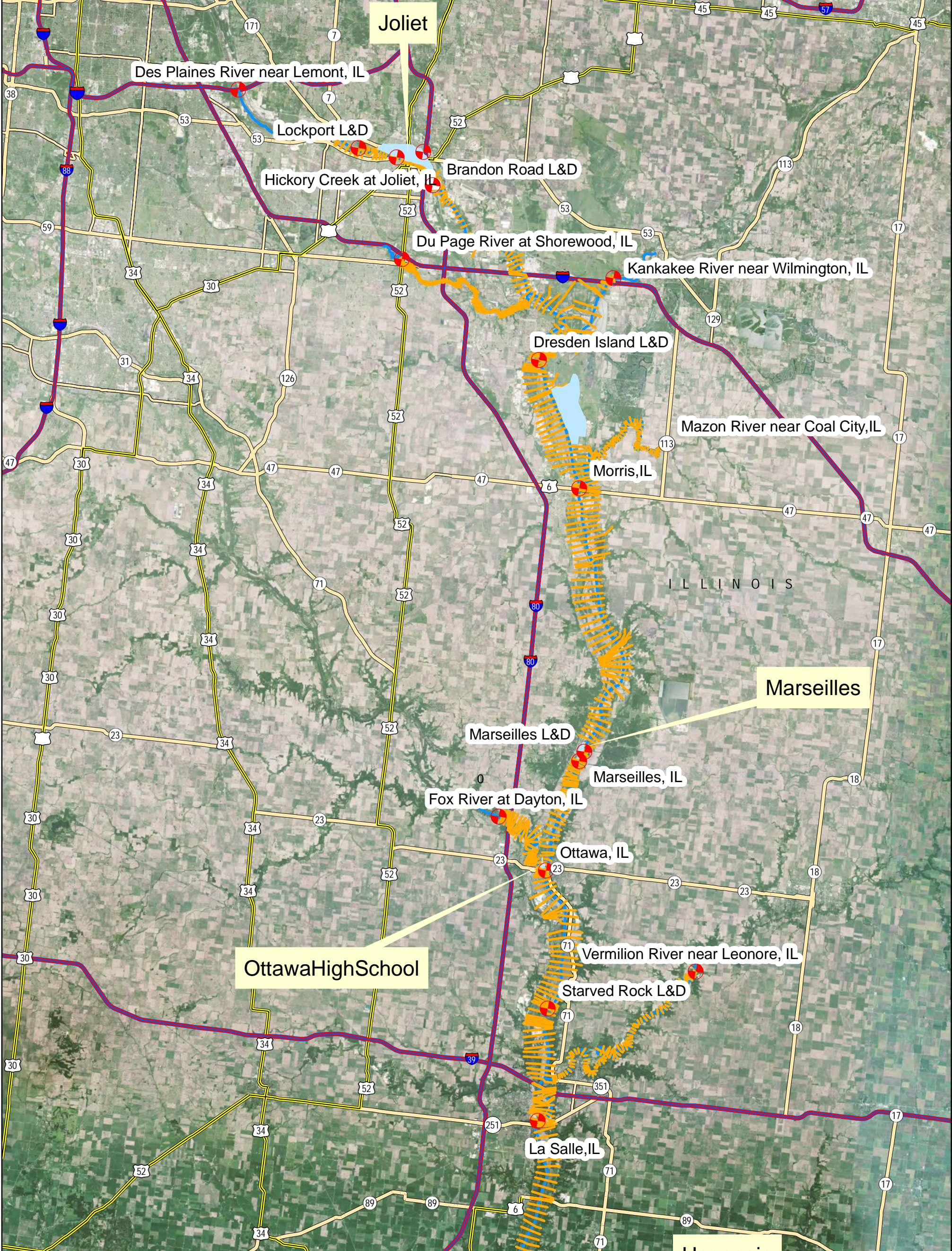
APPENDICES

Appendix A-1	Model Extent Map
Appendix A-2	Model Map with Inflows
Appendix B	Datum Conversions
Appendix C-1	Model Calibration Hydrographs
Appendix C-2	Model Calibration Profile Plots
Appendix C-3	Flow-Roughness Factors

APPENDIX A-1

MODEL EXTENT MAP

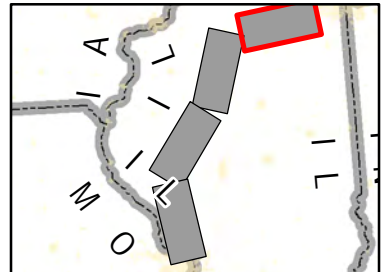
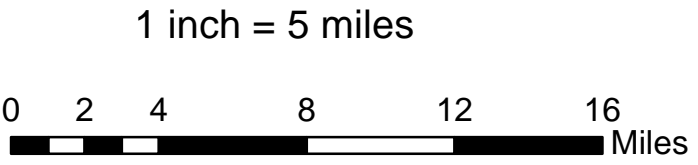
Upper Mississippi River Hydraulic Model Phase III Geometry



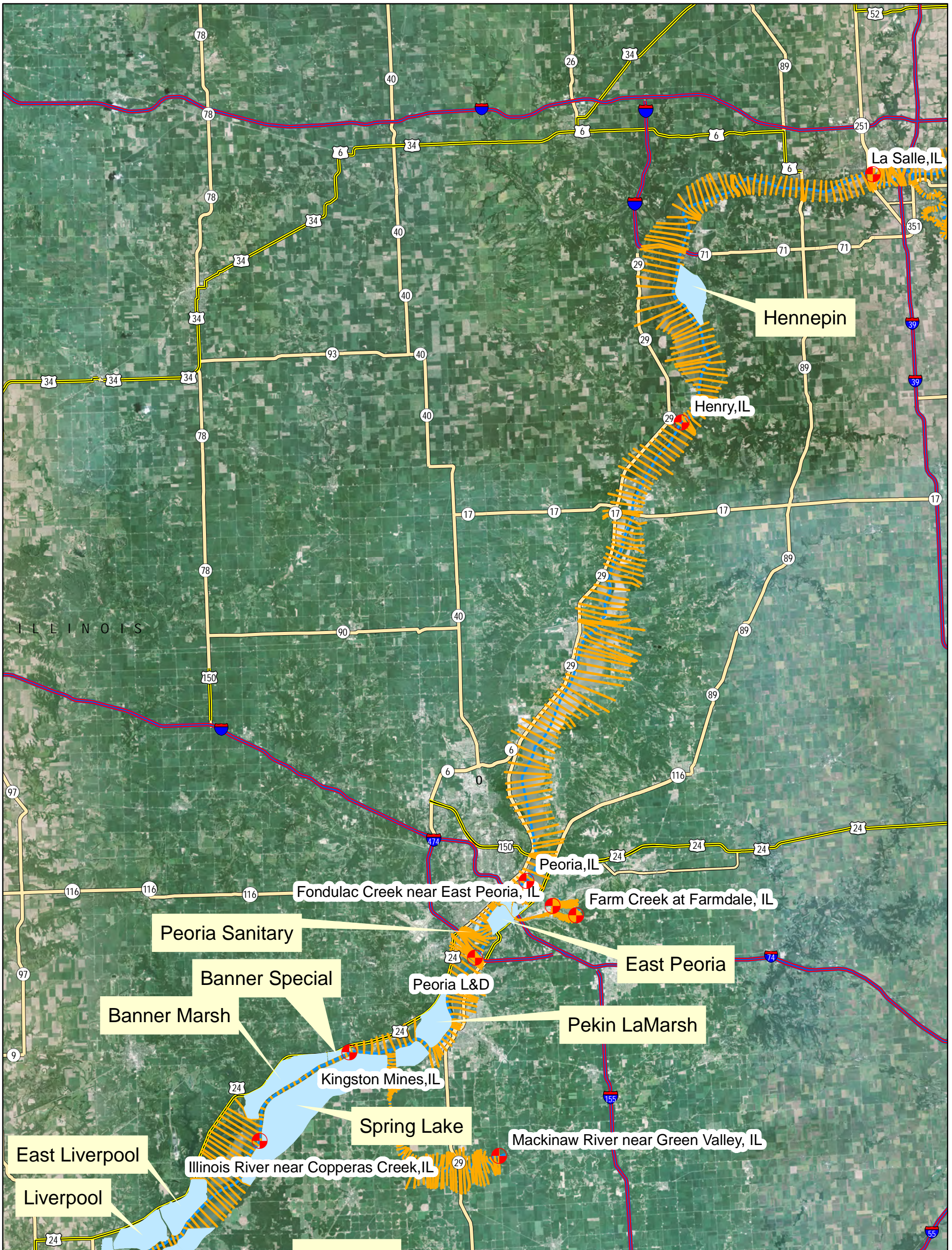
Upper Mississippi River Hydraulic Model Phase III Geometry

Legend

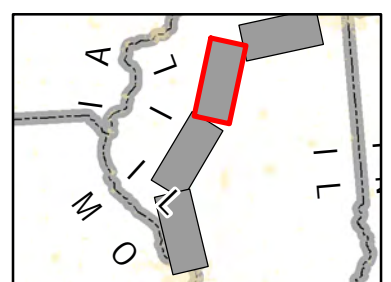
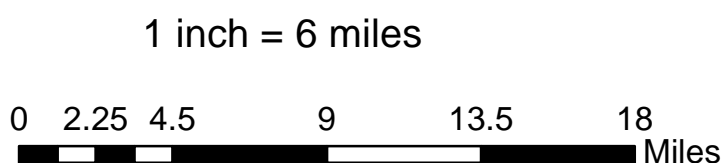
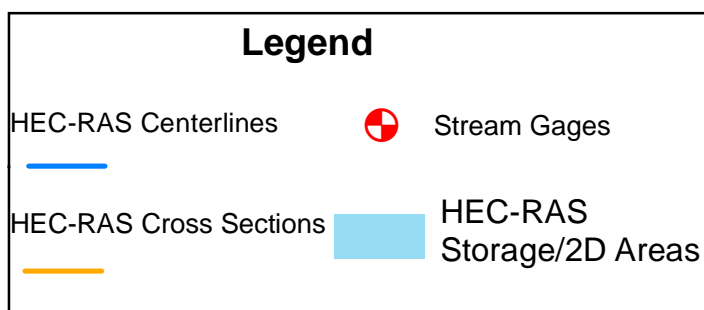
HEC-RAS Centerlines		Stream Gages
HEC-RAS Cross Sections		HEC-RAS Storage/2D Areas



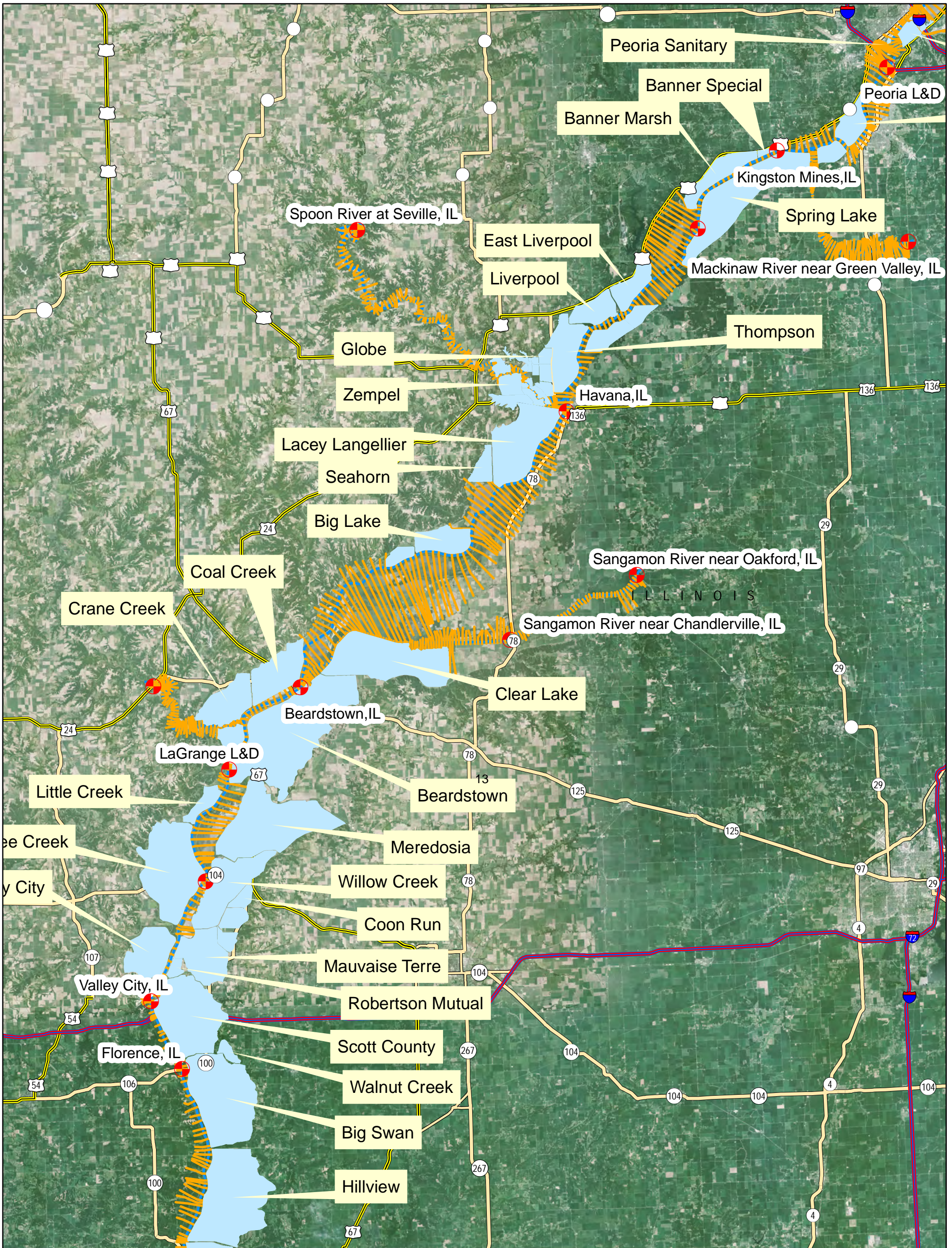
Upper Mississippi River Hydraulic Model Phase III Geometry



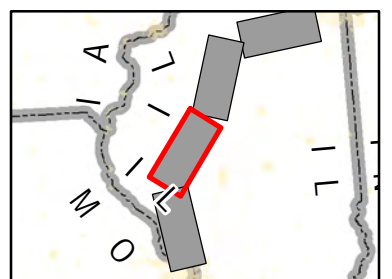
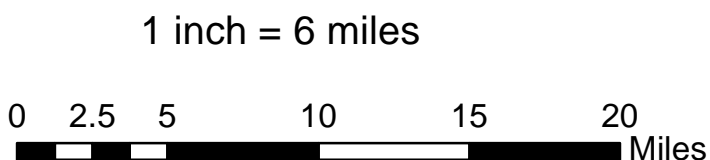
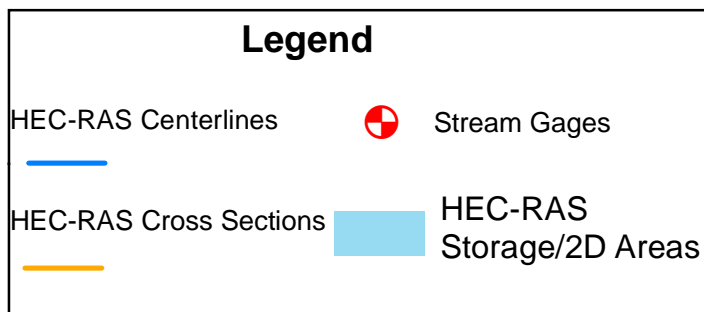
Upper Mississippi River Hydraulic Model Phase III Geometry



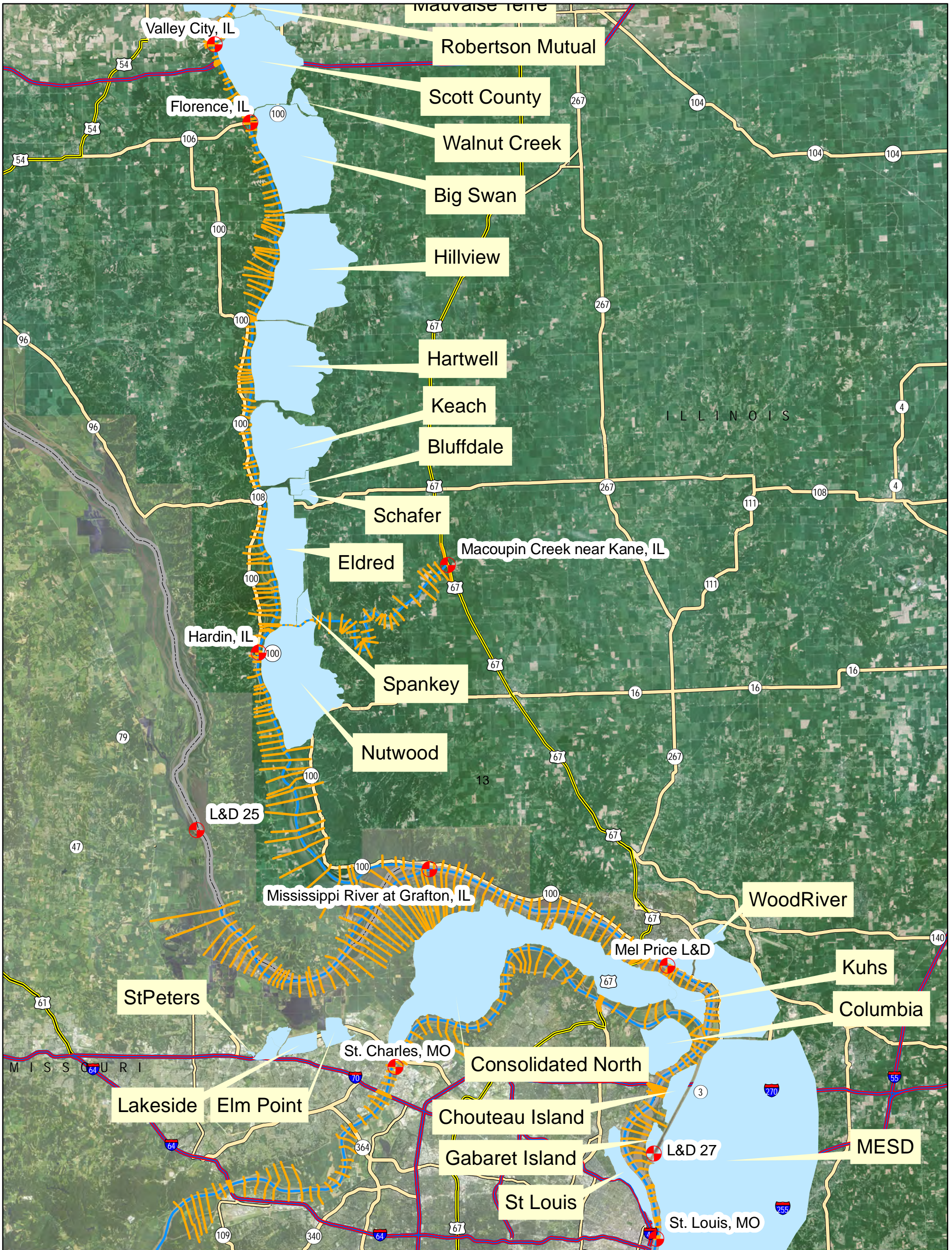
Upper Mississippi River Hydraulic Model Phase III Geometry



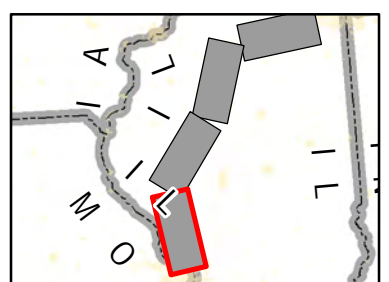
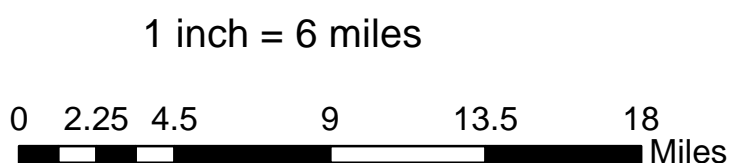
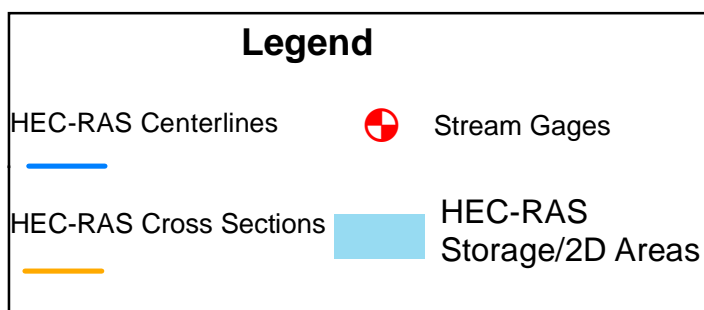
Upper Mississippi River Hydraulic Model Phase III Geometry



Upper Mississippi River Hydraulic Model Phase III Geometry



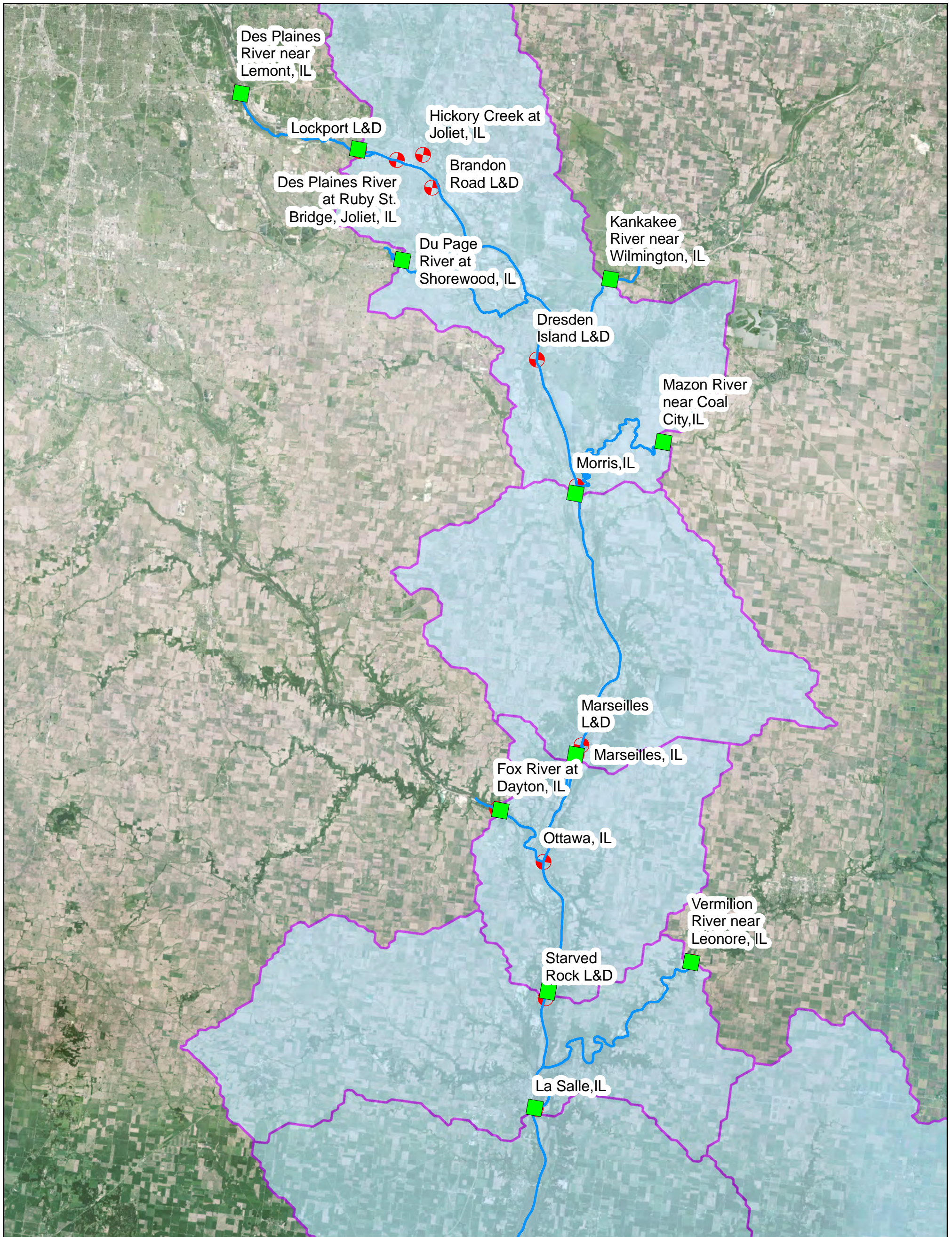
Upper Mississippi River Hydraulic Model Phase III Geometry



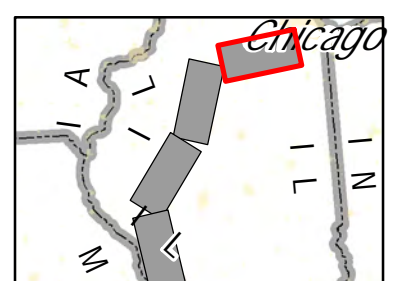
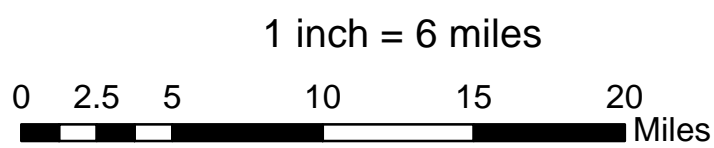
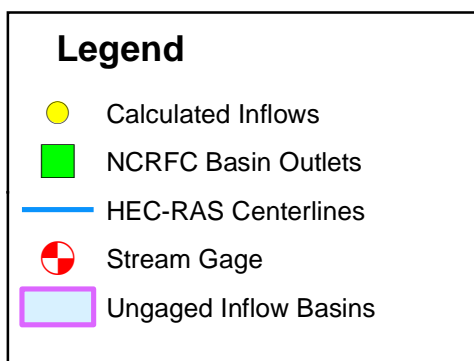
APPENDIX A-2

MODEL MAP WITH INFLOWS

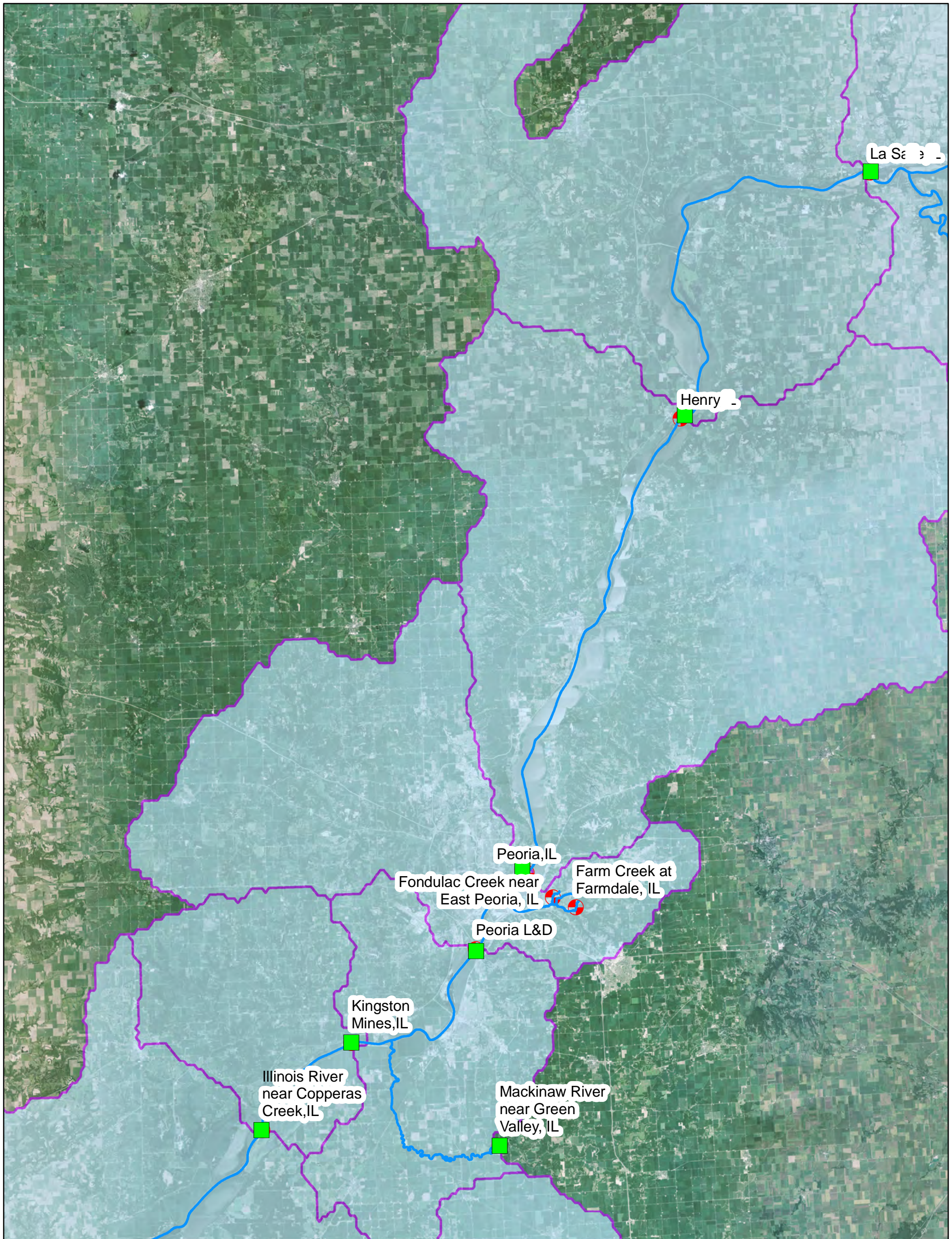
UMR Hydraulic Model Phase III Inflows



UMR Hydraulic Model Phase III Inflows



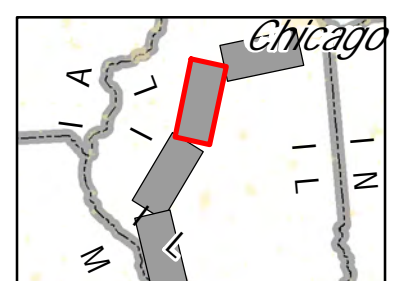
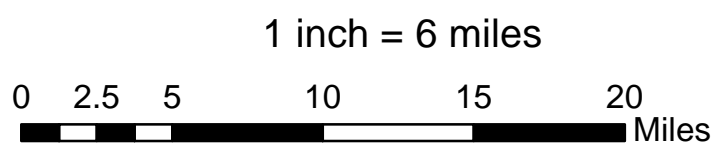
UMR Hydraulic Model Phase III Inflows



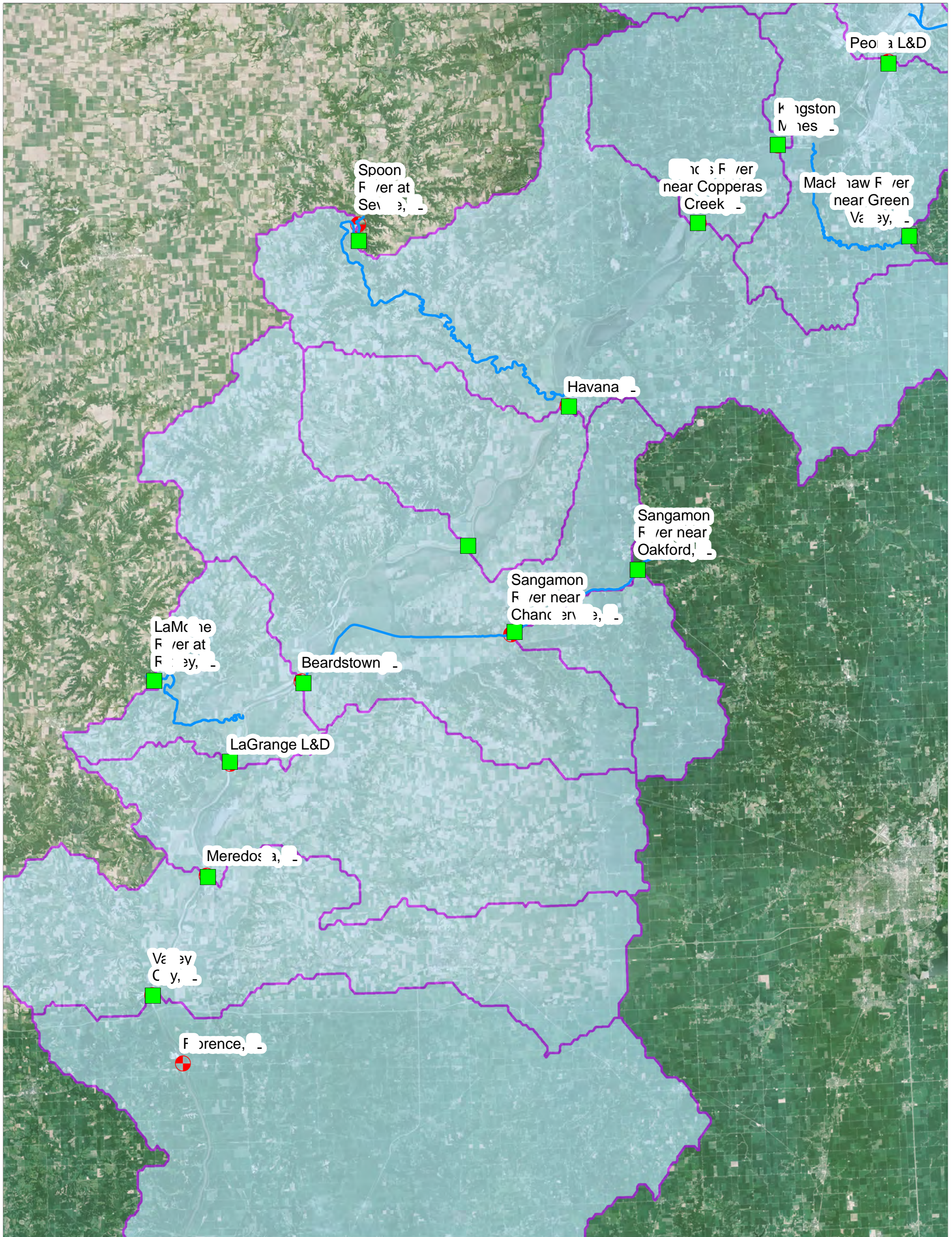
UMR Hydraulic Model Phase III Inflows

Legend

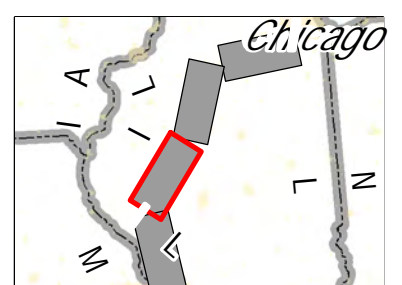
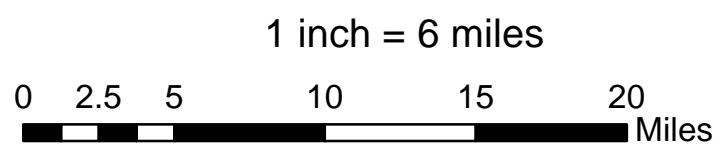
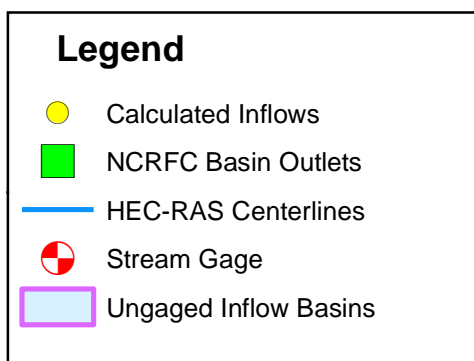
- Calculated Inflows
- NCRFC Basin Outlets
- HEC-RAS Centerlines
- ⊕ Stream Gage
- Ungaged Inflow Basins



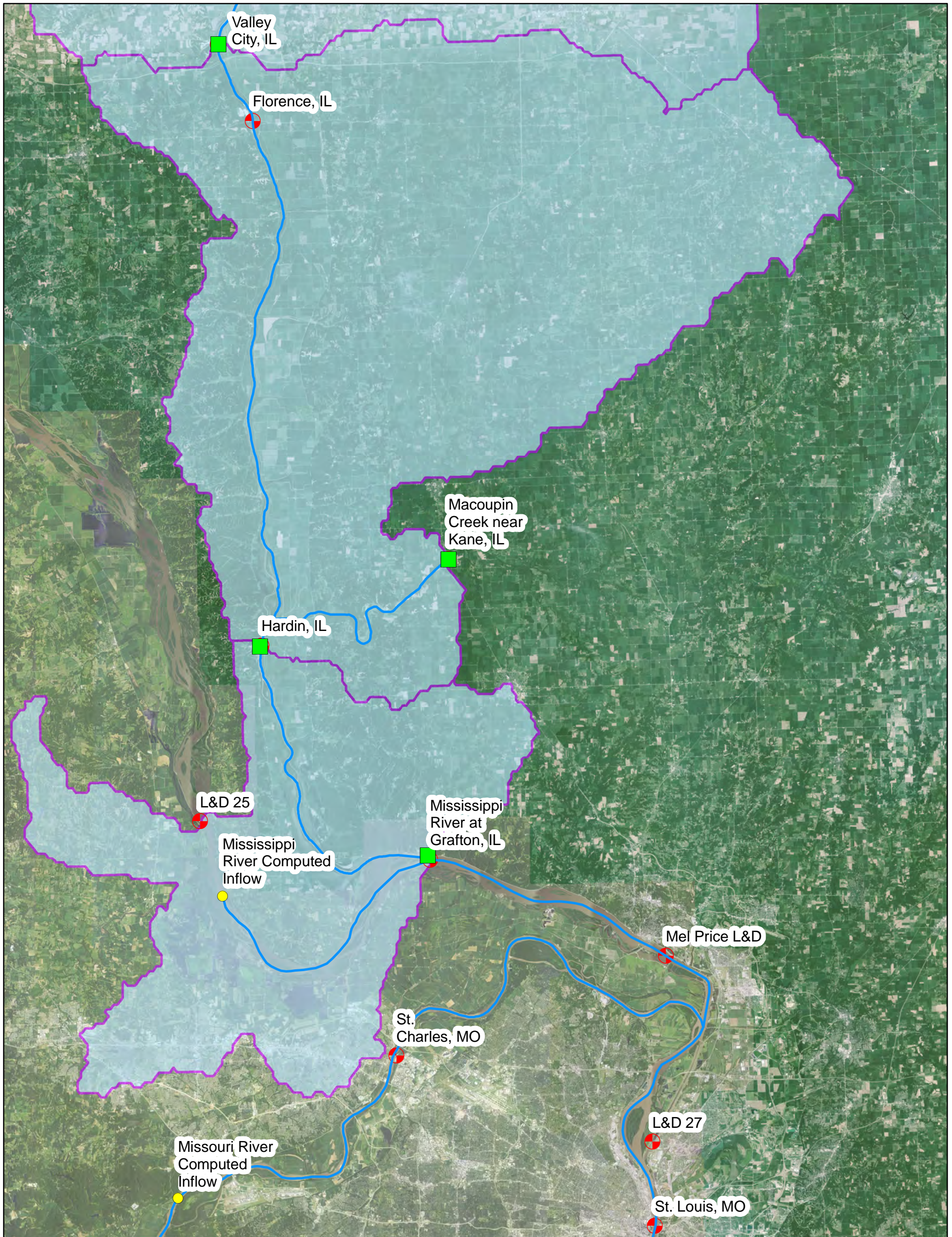
UMR Hydraulic Model Phase III Inflows



UMR Hydraulic Model Phase III Inflows



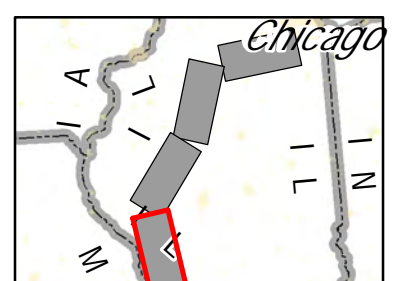
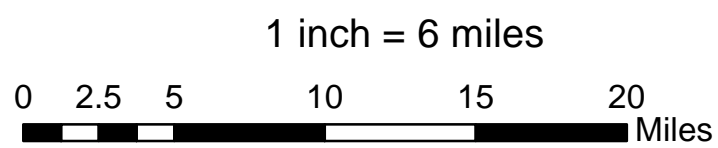
UMR Hydraulic Model Phase III Inflows



UMR Hydraulic Model Phase III Inflows

Legend

- Calculated Inflows
- NCRFC Basin Outlets
- HEC-RAS Centerlines
- ⊕ Stream Gage
- Ungaged Inflow Basins



APPENDIX B

DATUM CONVERSIONS

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
290.90	-0.30
290.50	-0.30
290.15	-0.30
290.00	-0.30
289.90	-0.30
289.50	-0.30
289.25	-0.30
289.00	-0.30
288.78	-0.30
288.70	-0.30
288.46	-0.30
288.34	-0.30
288.13	-0.30
288.08	-0.30
287.93	-0.30
287.60	-0.30
287.28	-0.30
287.00	-0.30
286.92	-0.31
286.30	-0.30
286.11	-0.30
286.05	-0.30
285.95	-0.30
285.90	-0.30
285.83	-0.30
285.76	-0.30
285.75	-0.30
285.65	-0.30
285.55	-0.30
285.45	-0.30
285.39	-0.30
285.35	-0.30
285.10	-0.30
284.85	-0.30
284.60	-0.30
284.10	-0.30
283.75	-0.30
283.40	-0.30
283.04	-0.30
282.67	-0.30
282.38	-0.30
282.09	-0.30
281.80	-0.30
281.30	-0.30
281.05	-0.30
280.60	-0.30

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
280.20	-0.30
279.82	-0.30
279.55	-0.30
279.27	-0.30
279.00	-0.30
278.75	-0.30
278.50	-0.30
278.20	-0.30
277.90	-0.30
277.70	-0.30
277.30	-0.30
277.08	-0.30
276.85	-0.30
276.80	-0.30
276.50	-0.29
276.10	-0.29
275.80	-0.29
275.50	-0.30
275.25	-0.30
275.00	-0.30
274.65	-0.30
274.30	-0.29
274.04	-0.29
273.79	-0.29
273.45	-0.29
273.10	-0.29
272.65	-0.29
272.26	-0.29
271.87	-0.28
271.73	-0.28
271.59	-0.28
271.50	-0.28
271.44	-0.28
271.10	-0.28
270.90	-0.28
270.70	-0.28
270.35	-0.28
270.00	-0.28
269.67	-0.28
269.34	-0.28
268.97	-0.28
268.60	-0.28
268.30	-0.28
268.00	-0.28
267.75	-0.28
267.50	-0.28

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
267.00	-0.27
266.75	-0.27
266.50	-0.27
266.00	-0.27
265.75	-0.27
265.50	-0.26
265.00	-0.26
264.50	-0.26
264.25	-0.26
264.00	-0.26
263.50	-0.26
263.46	-0.25
263.00	-0.25
262.76	-0.25
262.30	-0.25
261.80	-0.24
261.52	-0.24
261.23	-0.24
260.95	-0.24
260.67	-0.24
260.38	-0.24
260.10	-0.24
259.80	-0.24
259.50	-0.24
259.20	-0.24
258.90	-0.24
258.47	-0.23
258.22	-0.23
257.96	-0.23
257.71	-0.23
257.22	-0.23
256.71	-0.23
256.46	-0.23
256.20	-0.23
255.94	-0.23
255.68	-0.23
255.22	-0.23
254.94	-0.23
254.66	-0.23
254.38	-0.23
254.10	-0.23
254.04	-0.23
254.00	-0.23
253.64	-0.23
253.27	-0.23
252.83	-0.23

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
252.48	-0.23
252.12	-0.23
251.85	-0.23
251.58	-0.23
251.31	-0.23
250.90	-0.22
250.60	-0.22
250.30	-0.22
250.00	-0.22
249.70	-0.22
249.40	-0.22
249.15	-0.22
248.88	-0.22
248.60	-0.21
248.30	-0.21
248.00	-0.21
247.74	-0.21
247.48	-0.21
247.10	-0.20
247.00	-0.20
246.96	-0.20
246.71	-0.20
246.46	-0.20
246.15	-0.20
245.83	-0.20
245.60	-0.20
245.33	-0.20
245.17	-0.19
244.95	-0.19
244.25	-0.19
244.15	-0.19
243.79	-0.19
243.44	-0.19
242.96	-0.19
242.60	-0.19
242.30	-0.19
242.00	-0.19
241.65	-0.19
241.30	-0.19
241.05	-0.19
240.80	-0.19
240.55	-0.19
240.27	-0.19
240.00	-0.19
239.70	-0.19
239.60	-0.19

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
239.40	-0.18
239.17	-0.18
238.95	-0.18
238.62	-0.18
238.30	-0.18
237.90	-0.18
237.65	-0.18
237.40	-0.18
237.15	-0.18
236.90	-0.18
236.52	-0.18
236.15	-0.18
236.00	-0.18
235.85	-0.18
235.70	-0.18
235.10	-0.18
234.50	-0.18
234.25	-0.18
234.00	-0.18
233.50	-0.18
233.25	-0.18
233.00	-0.18
232.73	-0.18
232.45	-0.18
232.18	-0.18
231.89	-0.18
231.60	-0.18
231.35	-0.18
231.10	-0.18
230.91	-0.18
230.81	-0.18
230.72	-0.19
230.40	-0.19
230.02	-0.19
229.90	-0.19
229.80	-0.19
229.60	-0.19
229.47	-0.19
228.96	-0.19
228.70	-0.19
228.45	-0.19
228.20	-0.20
227.70	-0.20
227.30	-0.20
227.05	-0.20
226.80	-0.21

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
226.30	-0.21
225.80	-0.21
225.50	-0.21
225.42	-0.21
225.10	-0.21
224.79	-0.21
224.50	-0.22
224.25	-0.22
224.00	-0.22
223.50	-0.23
223.26	-0.23
223.02	-0.23
222.85	-0.23
222.40	-0.23
222.15	-0.24
221.90	-0.25
221.65	-0.25
221.40	-0.25
221.15	-0.25
220.90	-0.26
220.40	-0.26
220.10	-0.26
219.80	-0.26
219.30	-0.26
219.00	-0.26
218.70	-0.26
218.45	-0.26
218.30	-0.26
217.95	-0.26
217.60	-0.26
217.37	-0.26
217.13	-0.25
216.90	-0.25
216.70	-0.24
216.40	-0.24
216.10	-0.24
215.85	-0.24
215.60	-0.24
215.28	-0.24
214.96	-0.23
214.58	-0.23
214.20	-0.23
213.88	-0.23
213.66	-0.23
213.30	-0.22
212.90	-0.22

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
212.65	-0.22
212.40	-0.22
212.15	-0.22
211.90	-0.22
211.40	-0.22
211.00	-0.22
210.50	-0.22
210.10	-0.22
209.85	-0.22
209.60	-0.22
209.35	-0.22
209.10	-0.22
208.60	-0.22
208.35	-0.22
208.10	-0.22
208.00	-0.22
207.84	-0.22
207.58	-0.22
207.40	-0.22
207.00	-0.22
206.75	-0.22
206.50	-0.22
206.00	-0.22
205.75	-0.22
205.50	-0.22
205.00	-0.22
204.75	-0.22
204.50	-0.22
204.20	-0.22
203.90	-0.22
203.60	-0.22
203.30	-0.22
203.05	-0.22
202.80	-0.22
202.30	-0.22
201.80	-0.22
201.55	-0.22
201.30	-0.22
201.02	-0.22
200.75	-0.22
200.30	-0.22
200.00	-0.22
199.70	-0.22
199.45	-0.22
199.20	-0.21
198.95	-0.21

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
198.70	-0.22
198.40	-0.22
198.00	-0.22
197.60	-0.22
197.35	-0.22
197.10	-0.22
196.60	-0.22
196.20	-0.22
195.96	-0.22
195.53	-0.22
195.20	-0.22
194.95	-0.22
194.70	-0.22
194.45	-0.22
194.20	-0.22
193.70	-0.22
193.20	-0.22
192.95	-0.22
192.70	-0.22
192.45	-0.22
192.20	-0.23
191.70	-0.23
191.20	-0.23
190.95	-0.23
190.70	-0.23
190.20	-0.23
189.70	-0.23
189.30	-0.23
189.10	-0.23
188.70	-0.23
188.20	-0.23
187.70	-0.24
187.45	-0.24
187.20	-0.24
186.70	-0.25
186.45	-0.25
186.20	-0.25
185.95	-0.25
185.70	-0.25
185.20	-0.26
184.95	-0.26
184.70	-0.26
184.45	-0.26
184.20	-0.26
183.70	-0.27
183.45	-0.27

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
183.20	-0.27
182.70	-0.27
182.45	-0.27
182.20	-0.27
181.90	-0.27
181.60	-0.27
181.30	-0.27
181.00	-0.27
180.75	-0.27
180.50	-0.26
180.00	-0.26
179.80	-0.26
179.58	-0.26
179.29	-0.26
179.00	-0.26
178.54	-0.26
178.12	-0.26
177.70	-0.26
177.20	-0.26
176.72	-0.26
176.49	-0.26
176.27	-0.27
175.81	-0.27
175.57	-0.27
175.32	-0.27
174.84	-0.27
174.53	-0.27
174.22	-0.27
173.80	-0.27
173.54	-0.27
173.29	-0.26
172.71	-0.26
172.25	-0.26
171.80	-0.26
171.55	-0.26
171.30	-0.26
171.06	-0.26
170.82	-0.26
170.37	-0.26
169.92	-0.26
169.68	-0.26
169.45	-0.26
169.00	-0.26
168.54	-0.26
168.08	-0.26
167.83	-0.26

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
167.59	-0.26
167.13	-0.27
166.75	-0.27
166.45	-0.27
166.10	-0.28
165.94	-0.28
165.80	-0.28
165.30	-0.28
165.05	-0.28
164.80	-0.29
164.34	-0.29
164.10	-0.29
163.86	-0.30
163.40	-0.30
163.15	-0.30
162.90	-0.30
162.75	-0.31
162.60	-0.31
162.40	-0.31
162.25	-0.31
162.10	-0.31
161.70	-0.31
161.55	-0.31
161.40	-0.31
161.10	-0.31
160.80	-0.31
160.66	-0.32
160.50	-0.32
160.20	-0.32
159.90	-0.32
159.40	-0.32
159.17	-0.32
158.90	-0.33
158.40	-0.33
158.04	-0.33
157.85	-0.33
157.75	-0.33
157.70	-0.33
157.60	-0.33
157.50	-0.33
157.00	-0.34
156.60	-0.34
156.10	-0.34
155.60	-0.34
155.10	-0.34
154.60	-0.34

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
154.10	-0.34
153.70	-0.34
153.30	-0.34
152.80	-0.34
152.50	-0.34
152.20	-0.34
151.95	-0.34
151.70	-0.34
151.45	-0.34
151.20	-0.34
150.80	-0.34
150.50	-0.34
150.20	-0.34
149.95	-0.34
149.70	-0.34
149.60	-0.34
149.30	-0.34
149.00	-0.34
148.70	-0.34
148.26	-0.33
147.98	-0.33
147.70	-0.33
147.20	-0.34
146.95	-0.34
146.70	-0.34
146.45	-0.34
146.20	-0.33
145.70	-0.33
145.45	-0.34
145.20	-0.34
144.95	-0.34
144.70	-0.33
144.20	-0.33
143.95	-0.33
143.70	-0.33
143.20	-0.33
142.70	-0.34
142.20	-0.33
141.70	-0.33
141.45	-0.33
141.20	-0.34
140.95	-0.34
140.70	-0.34
140.45	-0.34
140.20	-0.34
139.95	-0.34

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
139.70	-0.34
139.20	-0.34
138.70	-0.34
138.20	-0.34
137.95	-0.34
137.70	-0.34
137.45	-0.34
137.20	-0.34
136.95	-0.34
136.70	-0.34
136.45	-0.34
136.20	-0.34
135.95	-0.34
135.70	-0.34
135.45	-0.34
135.20	-0.34
134.90	-0.34
134.60	-0.34
134.20	-0.34
133.70	-0.35
133.20	-0.35
132.70	-0.35
132.20	-0.35
131.95	-0.35
131.70	-0.35
131.40	-0.35
130.93	-0.35
130.66	-0.35
130.40	-0.35
129.90	-0.35
129.41	-0.35
129.40	-0.35
129.39	-0.35
128.90	-0.35
128.65	-0.35
128.40	-0.35
128.15	-0.35
127.90	-0.34
127.62	-0.34
127.35	-0.34
126.90	-0.34
126.65	-0.34
126.40	-0.34
125.90	-0.34
125.40	-0.34
125.15	-0.34

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
124.90	-0.34
124.65	-0.34
124.40	-0.34
123.90	-0.34
123.65	-0.34
123.40	-0.34
123.15	-0.34
122.90	-0.33
122.65	-0.33
122.40	-0.33
122.15	-0.33
121.90	-0.33
121.40	-0.32
121.16	-0.32
120.92	-0.32
120.75	-0.32
120.40	-0.32
120.00	-0.32
119.56	-0.32
119.40	-0.32
119.30	-0.32
119.00	-0.32
118.60	-0.32
118.10	-0.31
117.85	-0.31
117.60	-0.31
117.10	-0.31
116.85	-0.31
116.60	-0.31
116.35	-0.31
116.10	-0.31
115.60	-0.31
115.10	-0.31
114.85	-0.31
114.60	-0.32
114.30	-0.32
114.00	-0.32
113.74	-0.32
113.47	-0.32
113.18	-0.32
112.90	-0.32
112.40	-0.32
112.15	-0.32
111.90	-0.32
111.70	-0.32
111.45	-0.32

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
111.20	-0.32
110.70	-0.32
110.45	-0.32
110.20	-0.32
109.90	-0.32
109.60	-0.32
109.30	-0.32
109.00	-0.32
108.70	-0.32
108.40	-0.32
108.20	-0.32
107.70	-0.32
107.45	-0.32
107.20	-0.32
106.70	-0.33
106.20	-0.33
105.70	-0.34
105.20	-0.34
104.95	-0.34
104.70	-0.34
104.20	-0.34
103.70	-0.34
103.45	-0.34
103.20	-0.34
102.95	-0.34
102.70	-0.34
102.45	-0.34
102.20	-0.35
101.70	-0.35
101.20	-0.35
100.95	-0.35
100.70	-0.35
100.20	-0.35
99.70	-0.35
99.45	-0.35
99.20	-0.35
98.70	-0.35
98.20	-0.35
97.95	-0.35
97.70	-0.35
97.20	-0.36
96.70	-0.36
96.45	-0.36
96.20	-0.36
95.95	-0.36
95.70	-0.36

River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
95.45	-0.36
95.20	-0.36
94.95	-0.36
94.70	-0.36
94.20	-0.36
93.70	-0.36
93.45	-0.36
93.20	-0.36
92.70	-0.36
92.45	-0.36
92.20	-0.37
91.70	-0.37
91.45	-0.37
91.20	-0.37
90.95	-0.37
90.70	-0.37
90.45	-0.37
90.20	-0.37
89.70	-0.37
89.20	-0.37
88.85	-0.37
88.60	-0.37
88.40	-0.38
87.90	-0.38
87.50	-0.38
87.25	-0.38
87.00	-0.38
86.50	-0.38
86.00	-0.38
85.75	-0.38
85.50	-0.38
85.00	-0.38
84.72	-0.38
84.45	-0.38
84.18	-0.38
83.90	-0.38
83.60	-0.38
83.10	-0.38
82.85	-0.38
82.60	-0.38
82.35	-0.38
82.10	-0.39
81.60	-0.39
81.10	-0.39
80.70	-0.39
80.35	-0.38

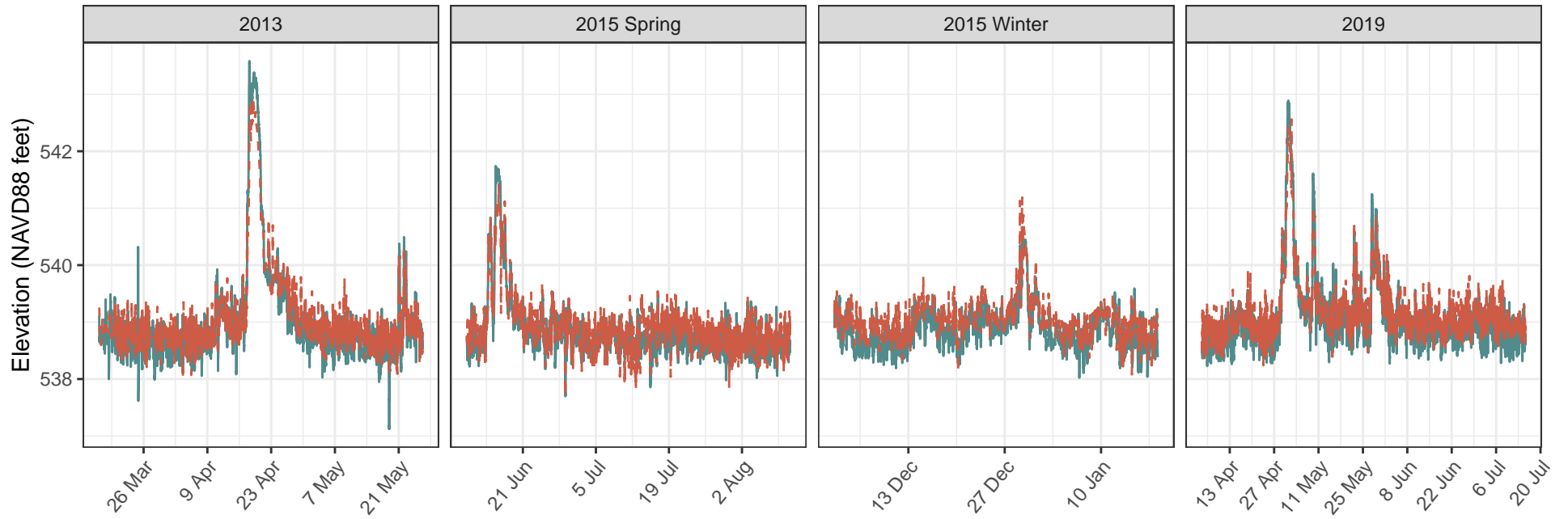
River Mile	Convert elevations in NGVD 1929 to NAVD 1988 (feet)
80.20	-0.38

APPENDIX C-1

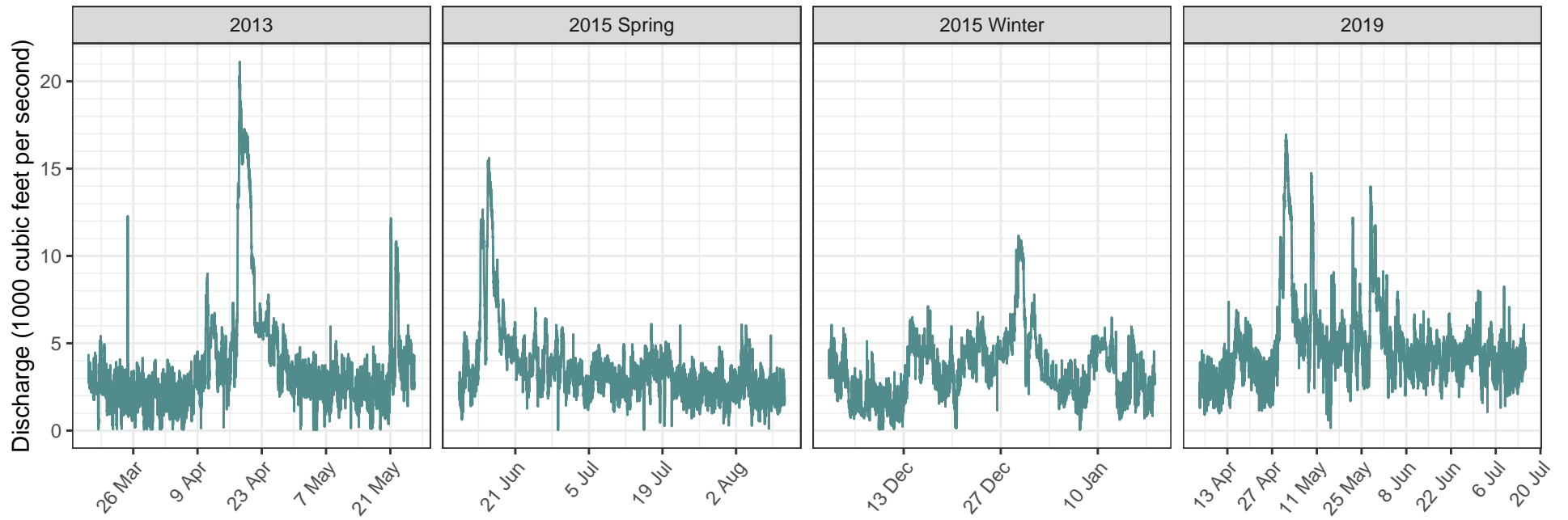
MODEL CALIBRATION HYDROGRAPHS

CSSC River, Lockp_DesPlain Reach, River Mile 290.9

Gage LOCKPORT L&D TAIL



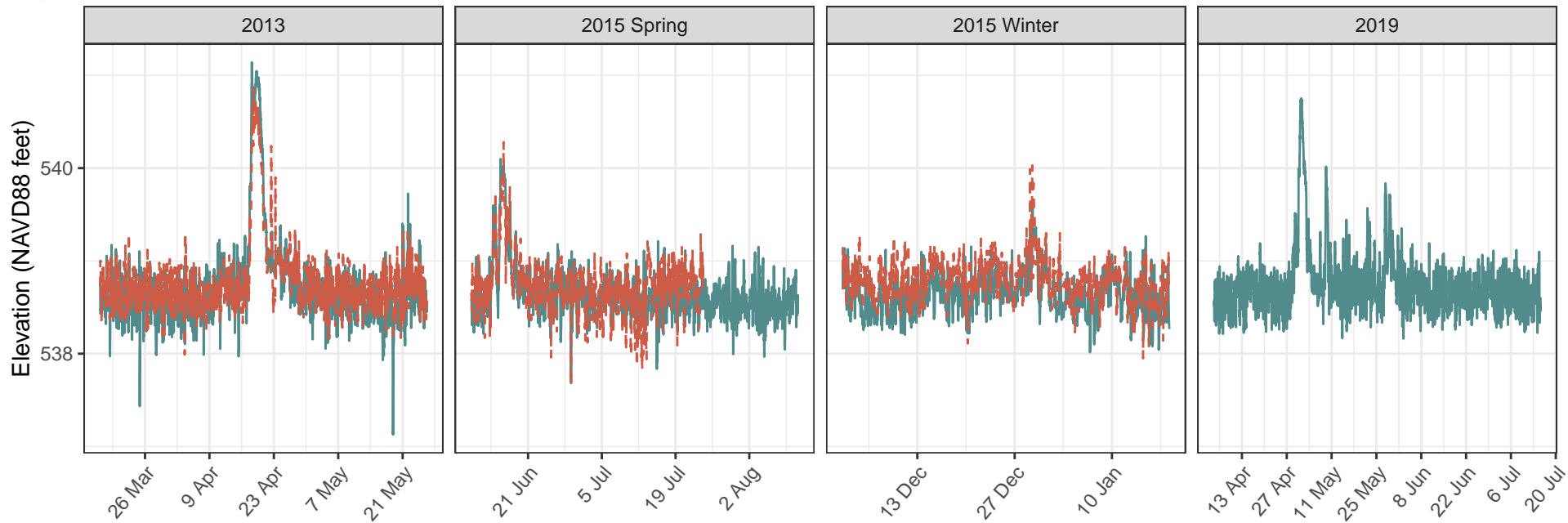
— Modeled - - Observed



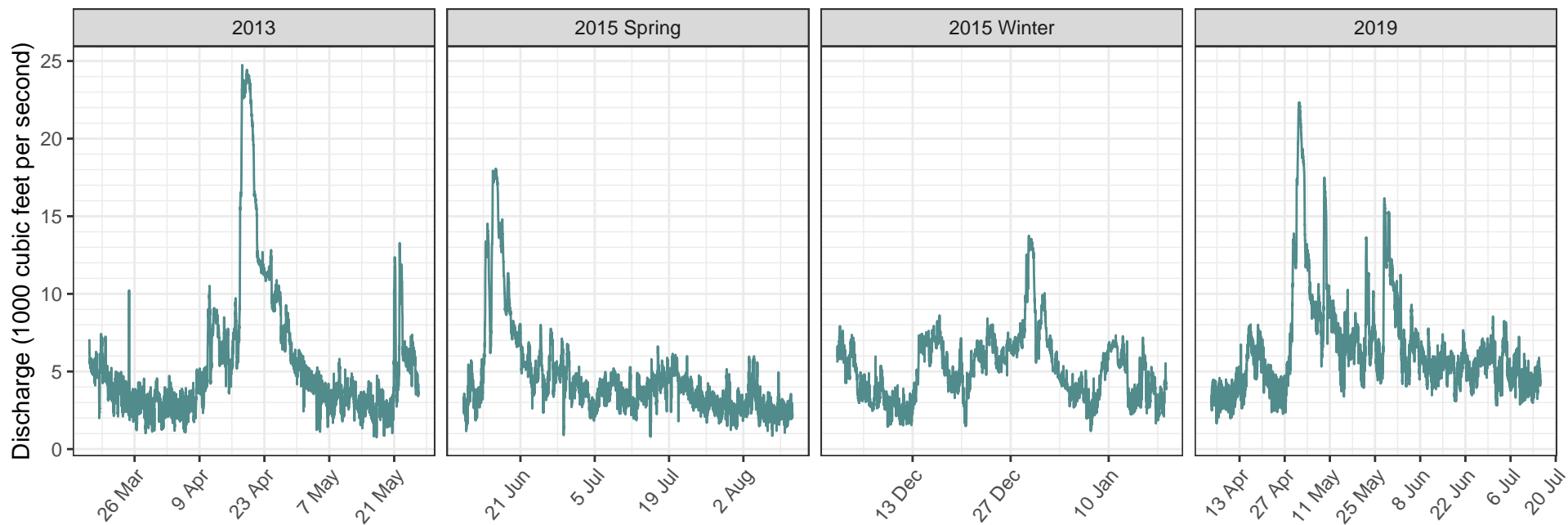
— Modeled - - Observed

Des Plaines River, CSSC_DuPage Reach, River Mile 288.76

Gage JOLIET



— Modeled - - - Observed



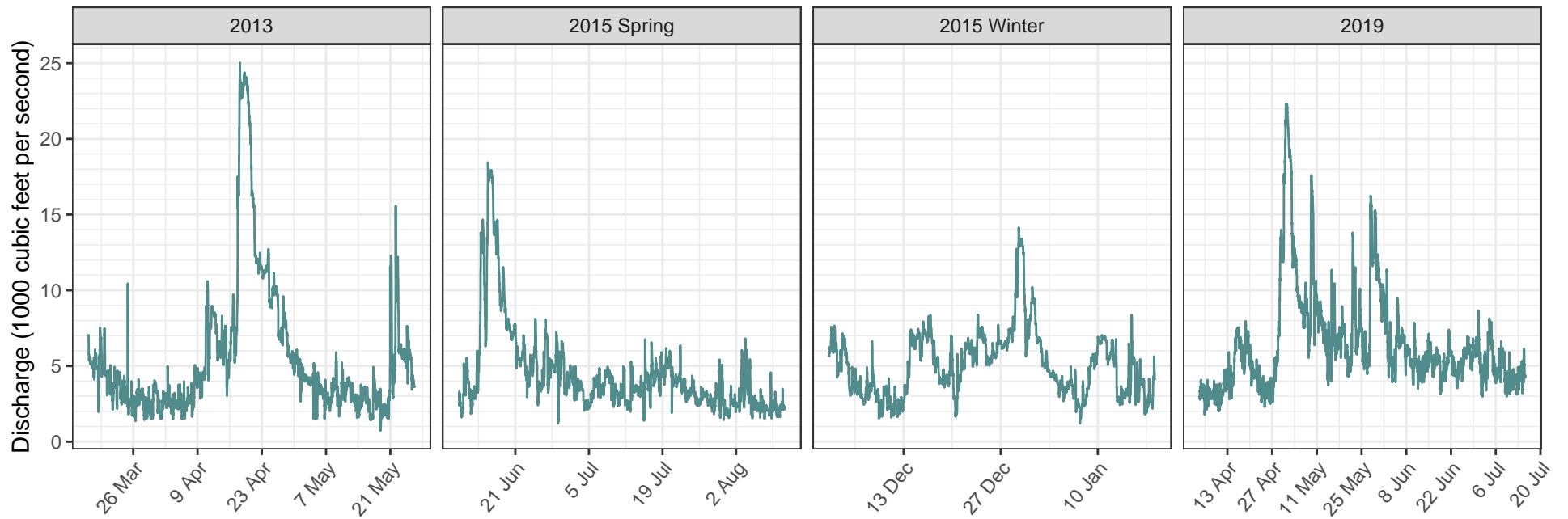
— Modeled - - - Observed

Des Plaines River, CSSC_DuPage Reach, River Mile 286.25

Gage BRANDON ROAD L&D POOL



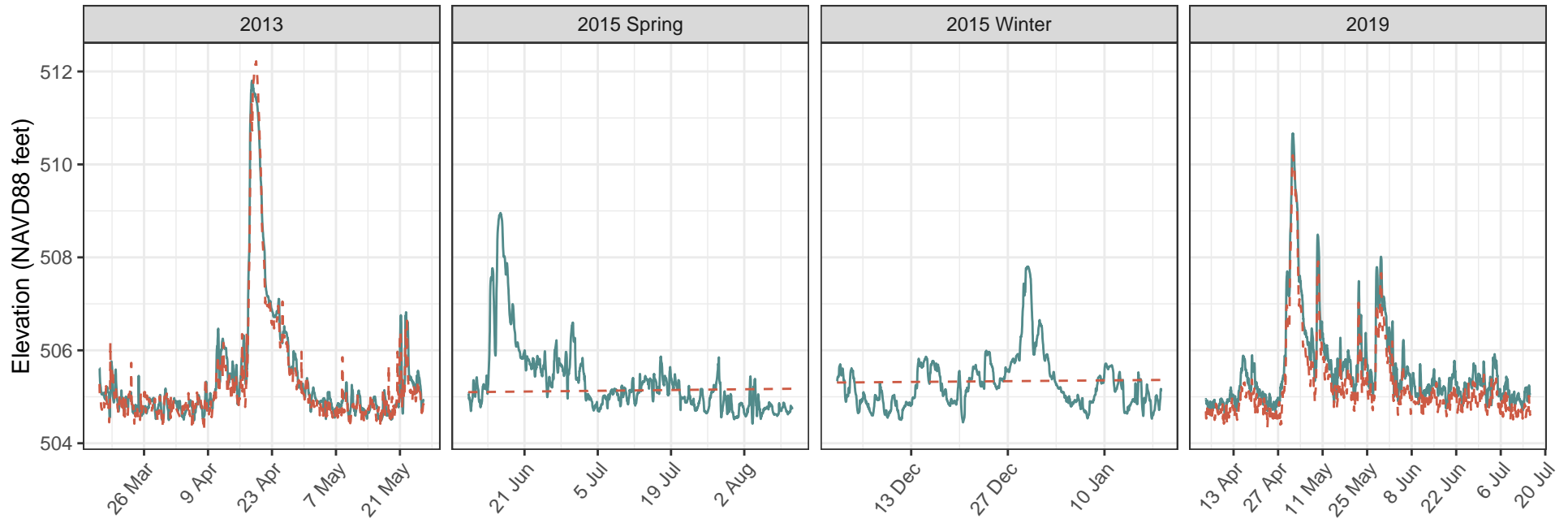
— Modeled - - Observed



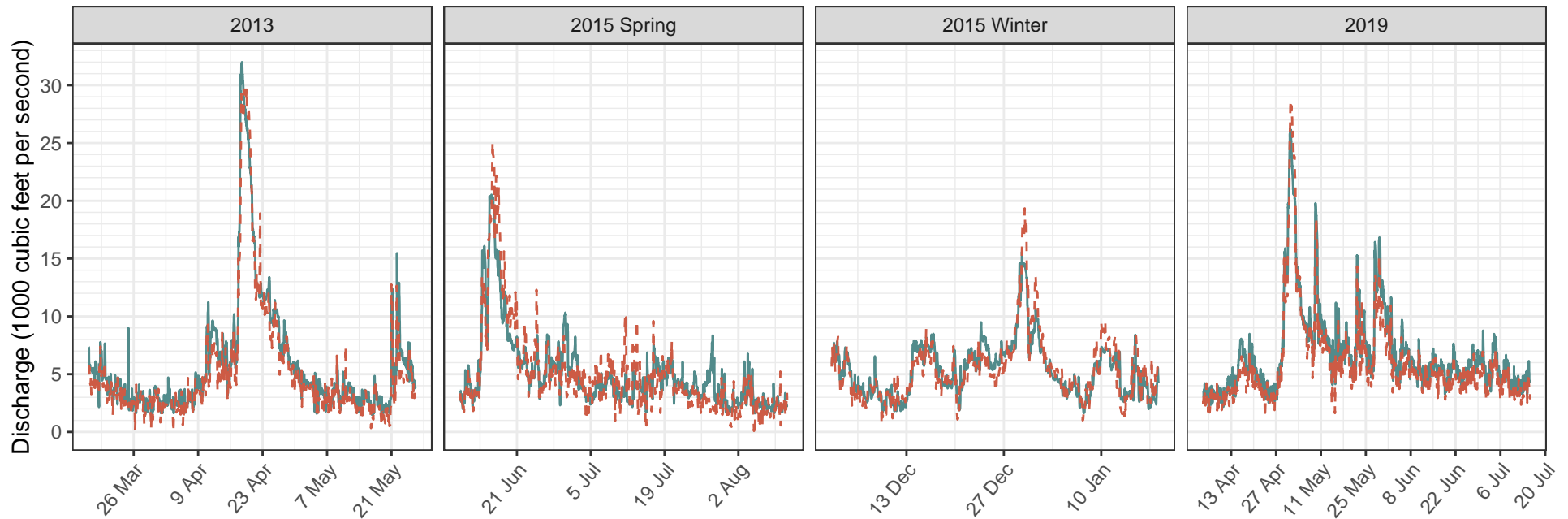
— Modeled - - Observed

Des Plaines River, CSSC_DuPage Reach, River Mile 285.4

Gage BRANDON ROAD L&D TAIL



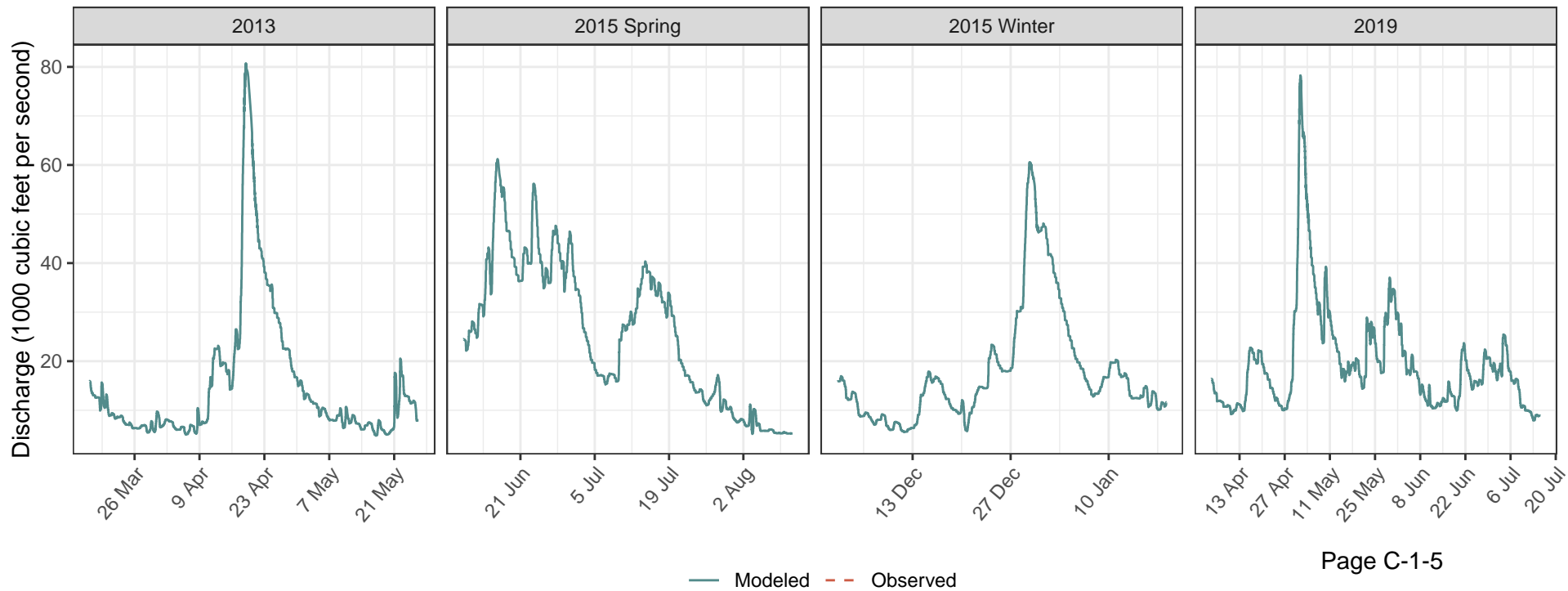
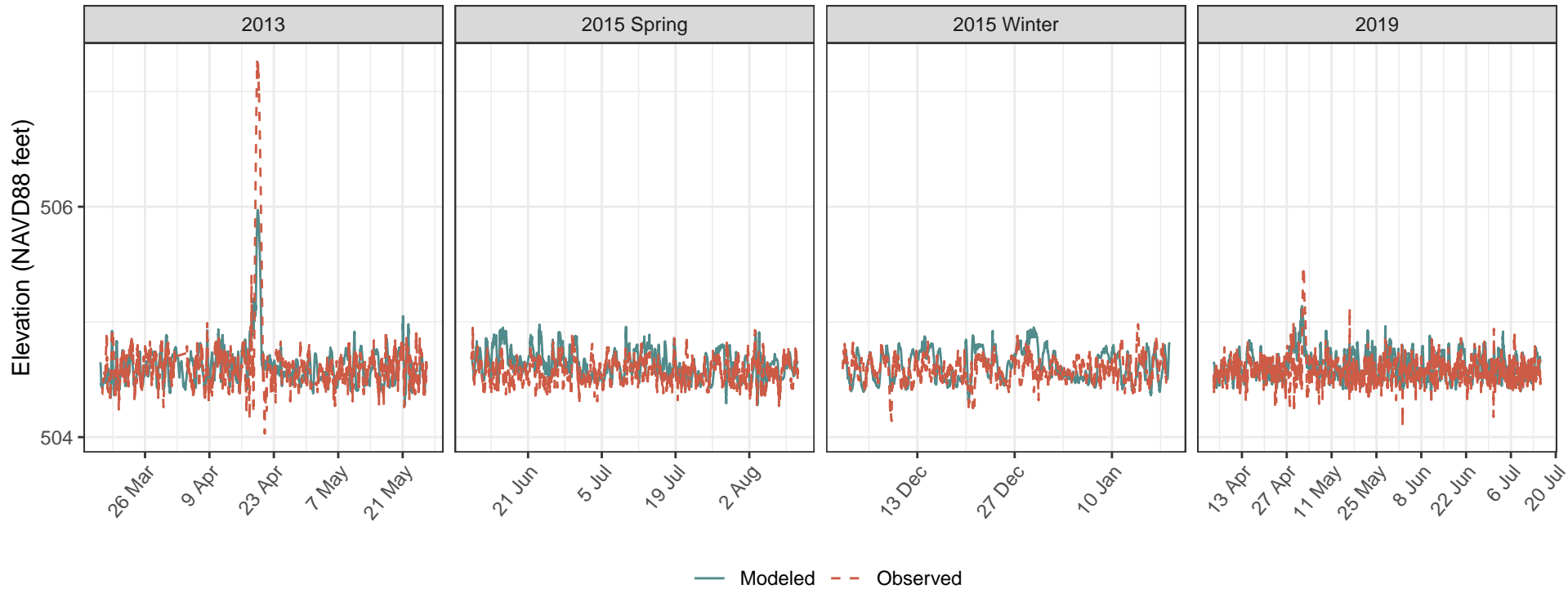
— Modeled - - - Observed



— Modeled - - - Observed

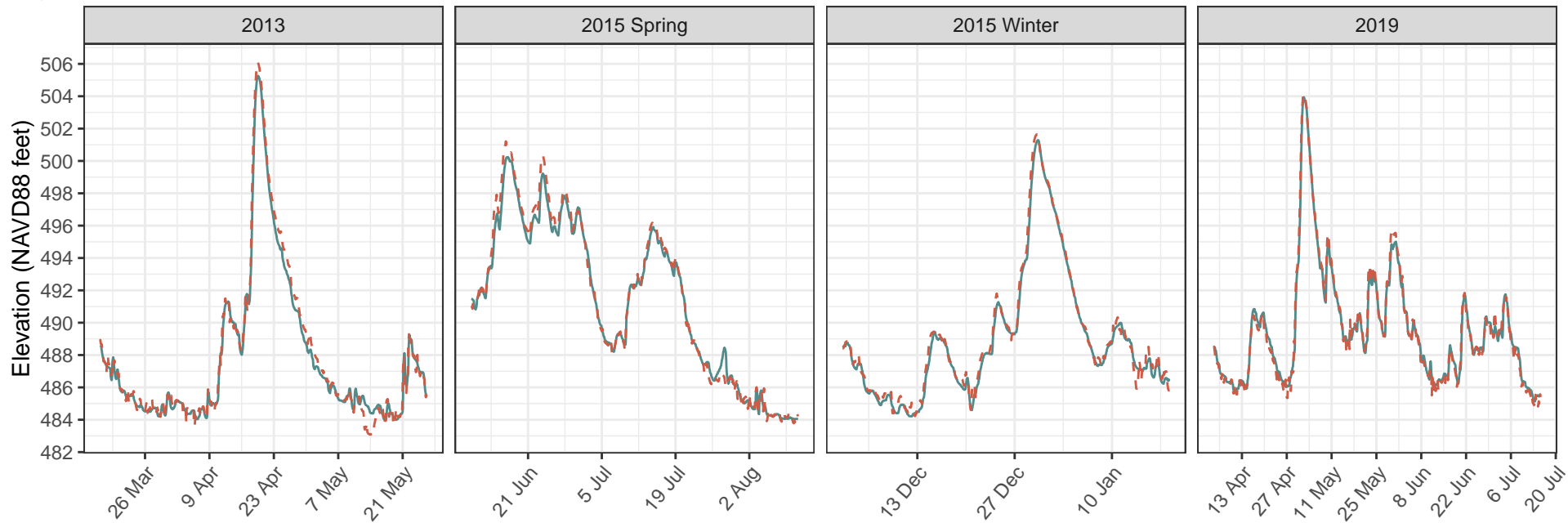
Illinois River, Kankakee_Mazon Reach, River Mile 271.71

Gage DRESDEN ISLAND L&D POOL

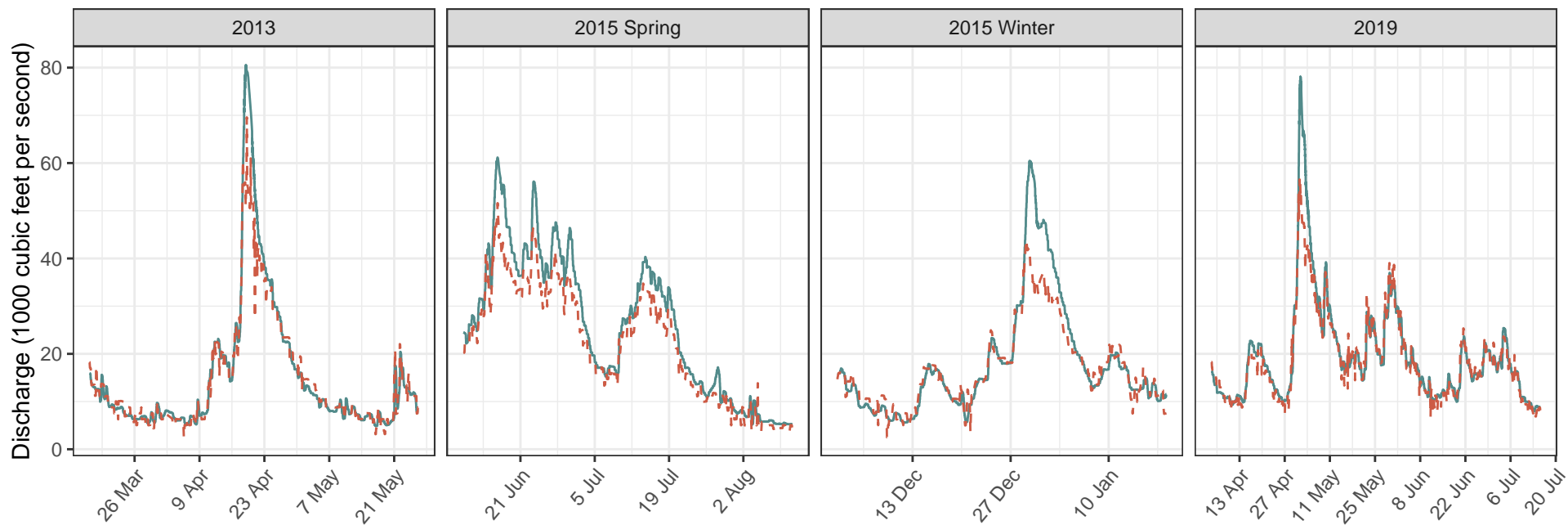


Illinois River, Kankakee_Mazon Reach, River Mile 271.22

Gage DRESDEN ISLAND L&D TAIL

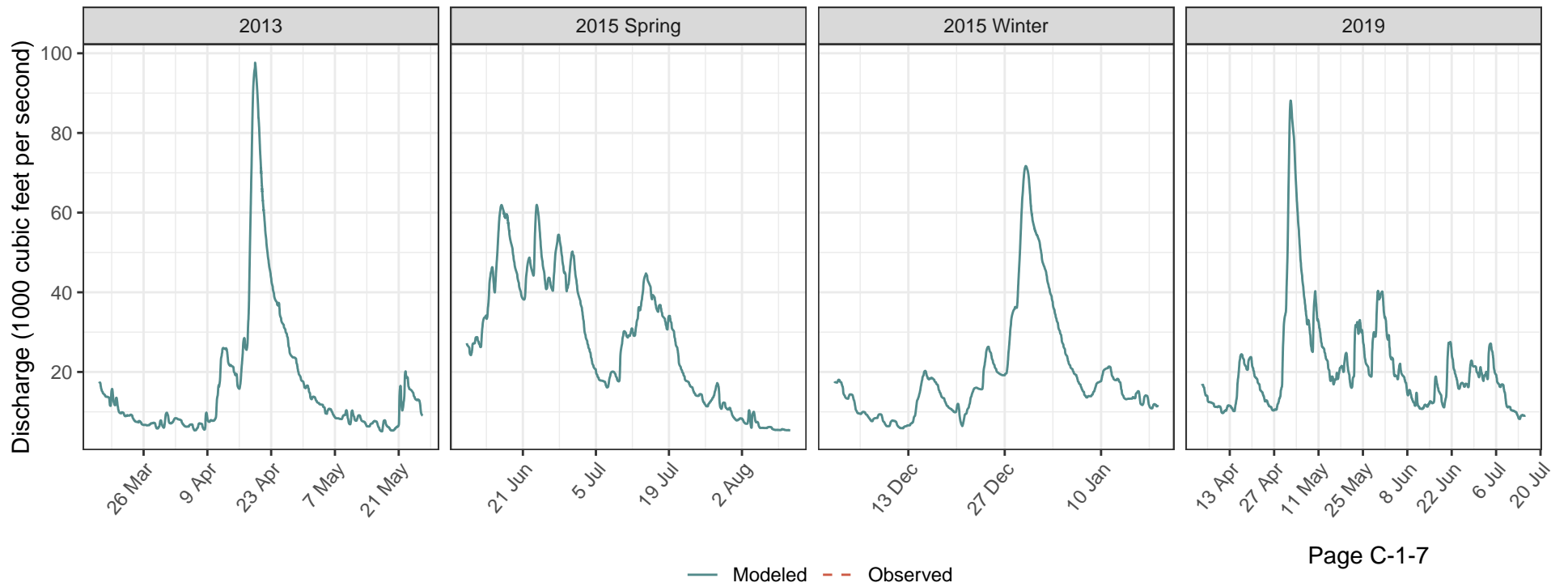
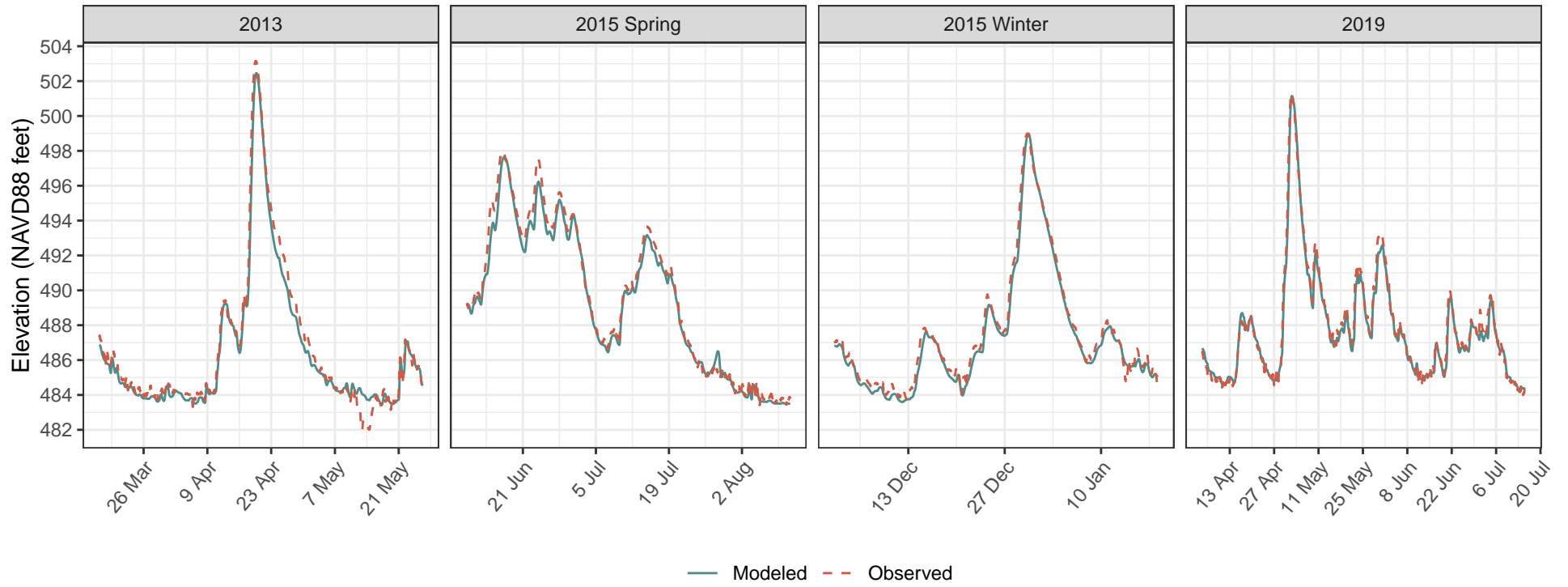


— Modeled - - - Observed



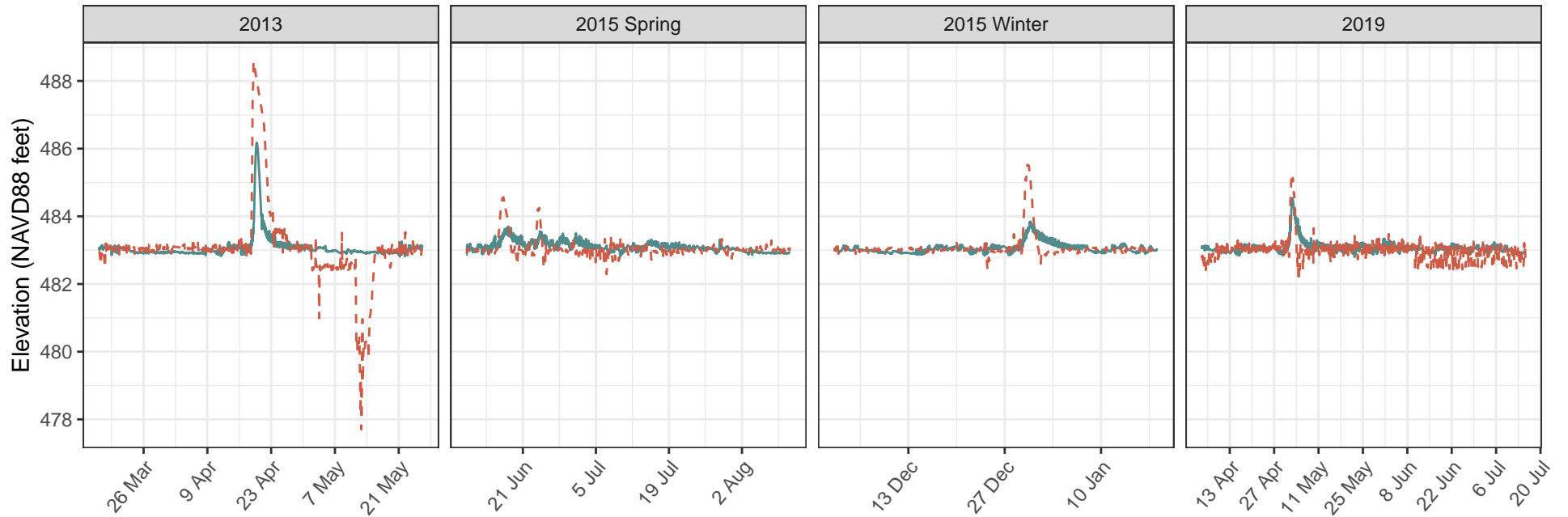
— Modeled - - - Observed

Gage MORRIS

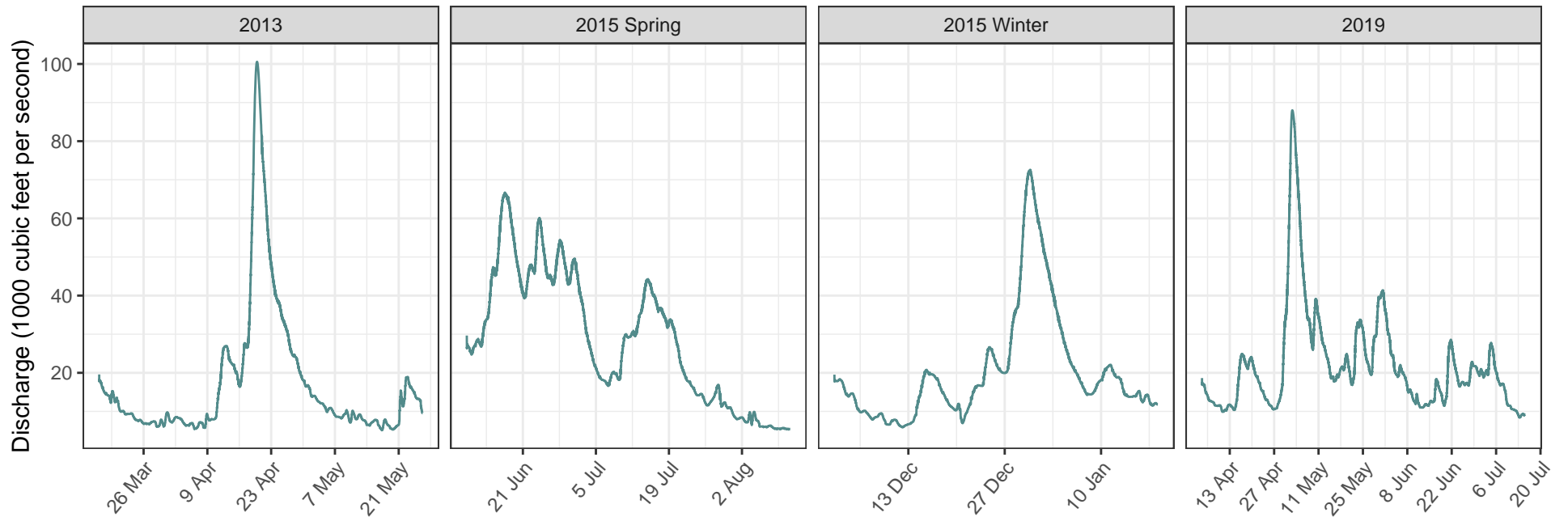


Illinois River, Mazon_MarsDam Reach, River Mile 247.21

Gage MARSEILLES L&D POOL

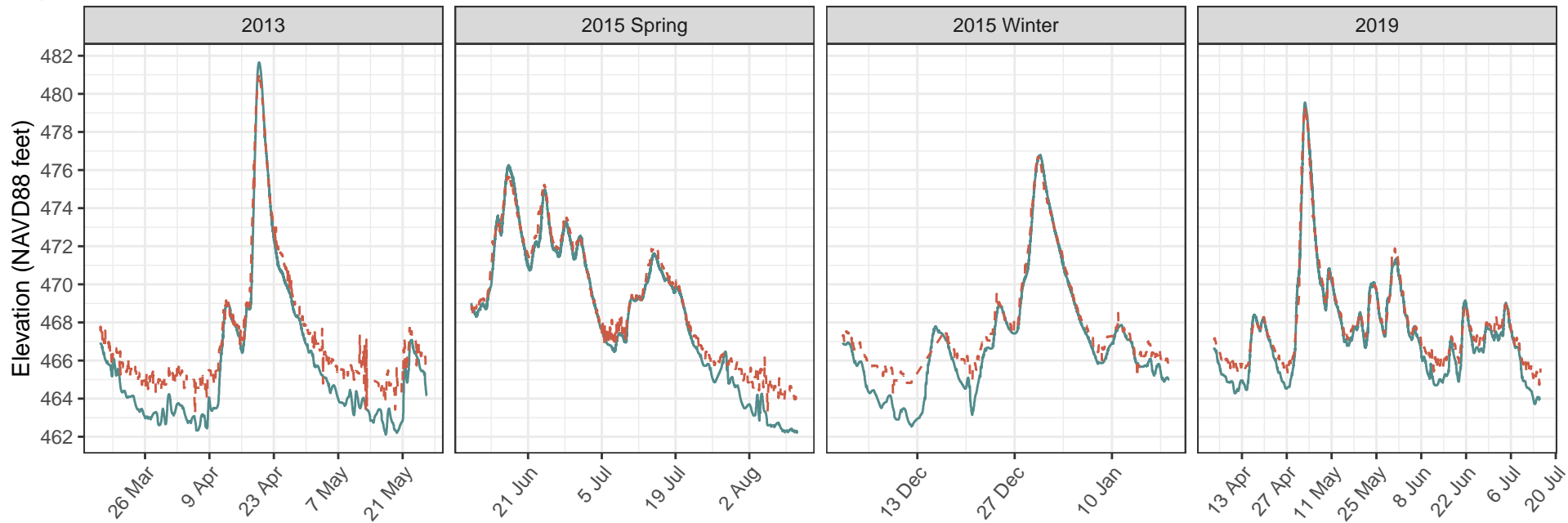


— Modeled - - - Observed

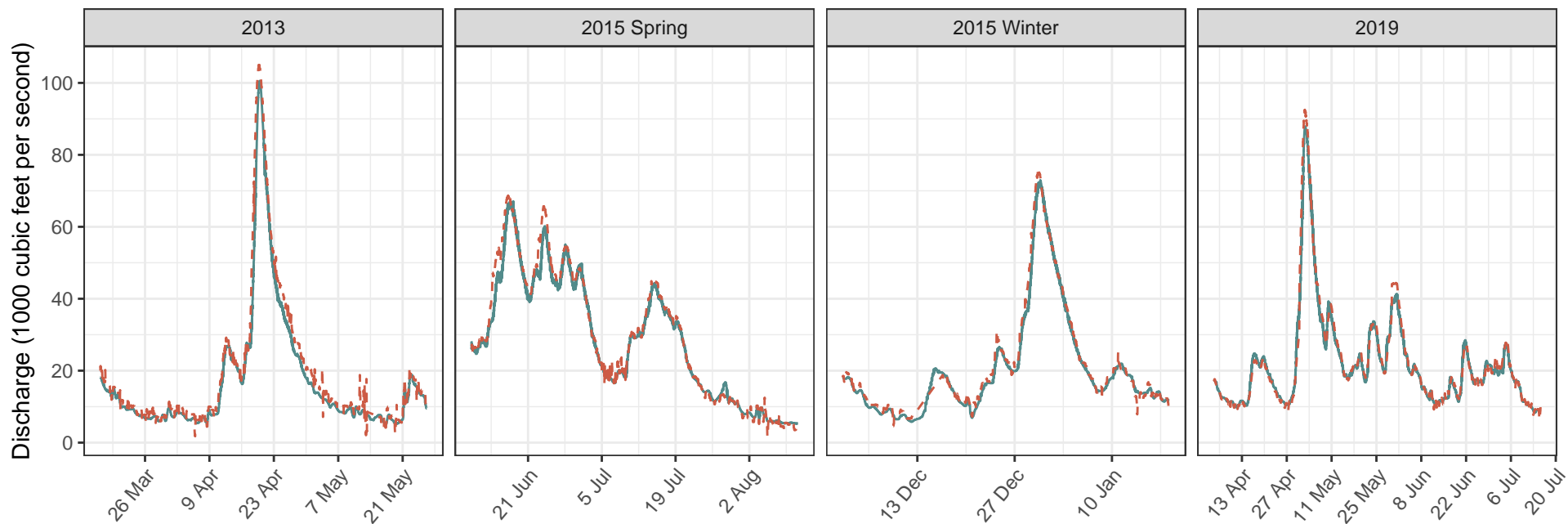


— Modeled - - - Observed

Gage MARSEILLES USGS

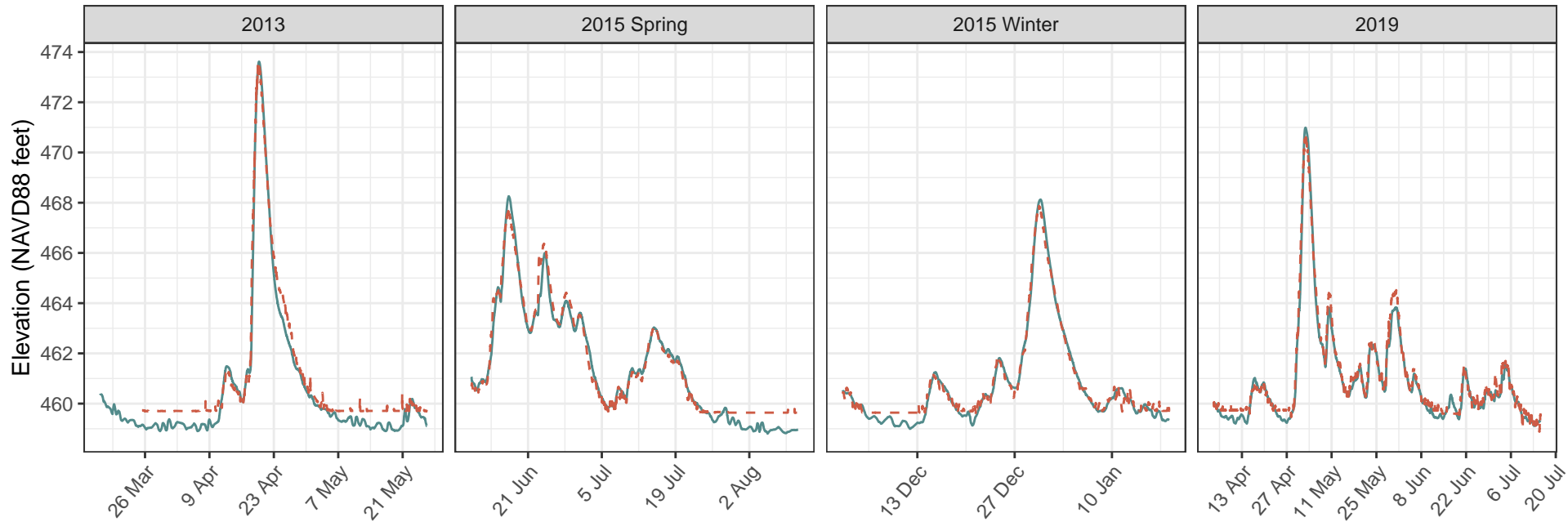


— Modeled - - - Observed

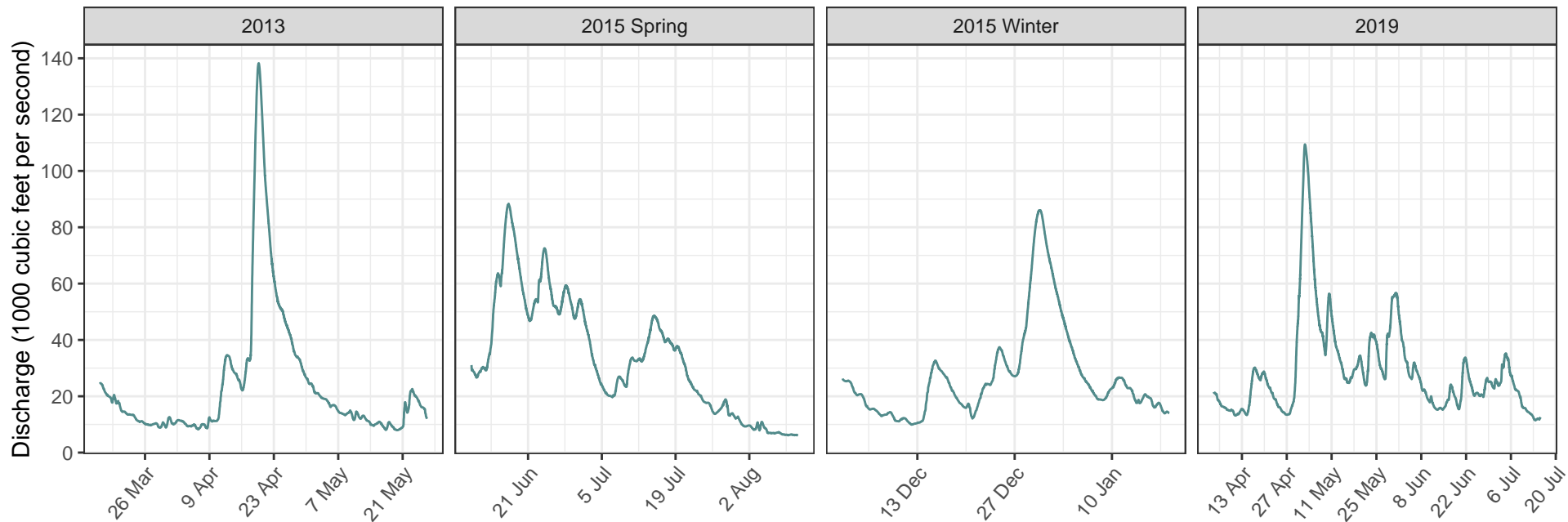


— Modeled - - - Observed

Gage OTTAWA



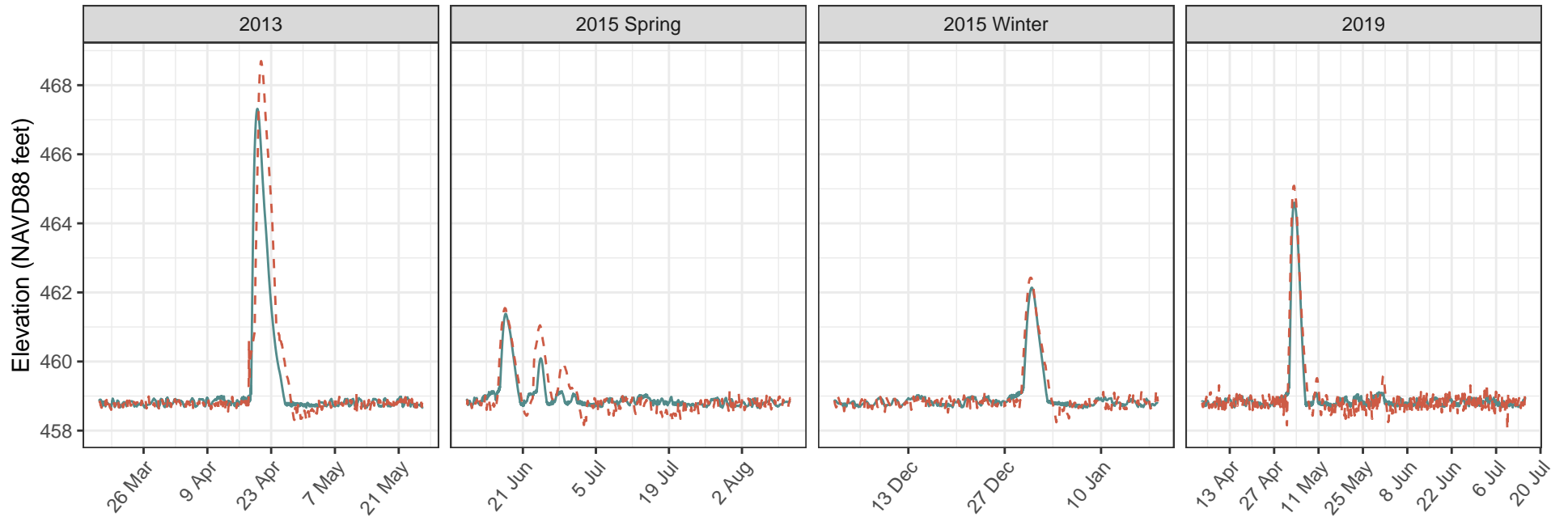
— Modeled - - - Observed



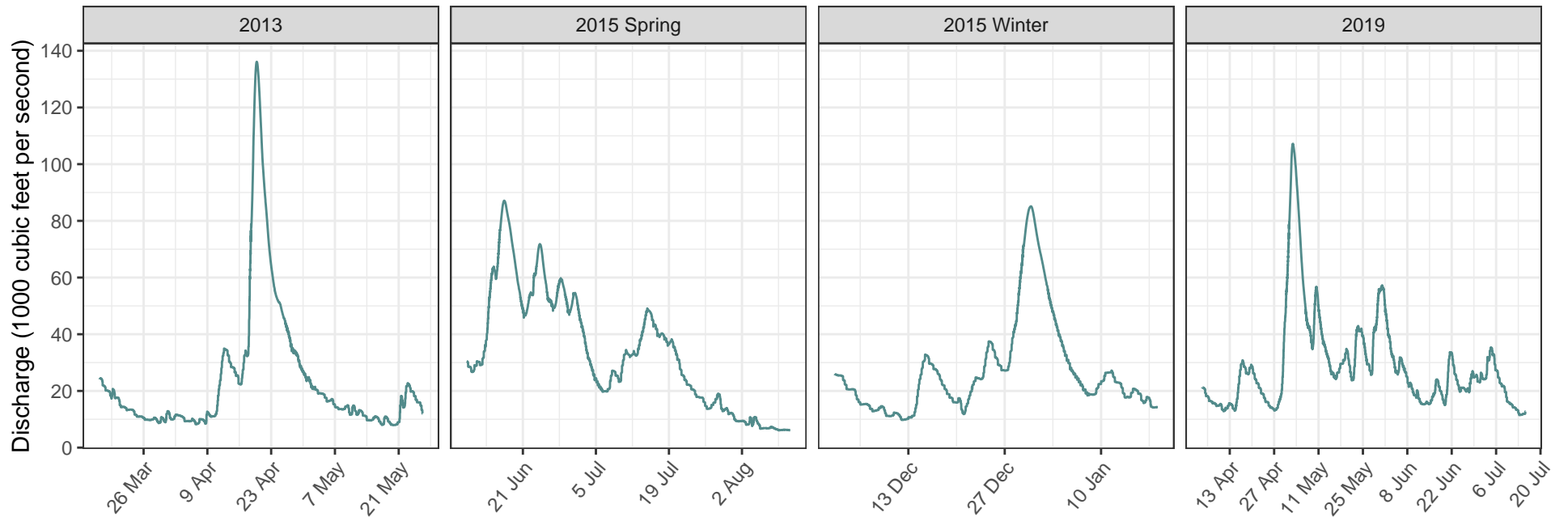
— Modeled - - - Observed

Illinois River, Fox_Vermilion Reach, River Mile 231.44

Gage STARVED ROCK L&D POOL

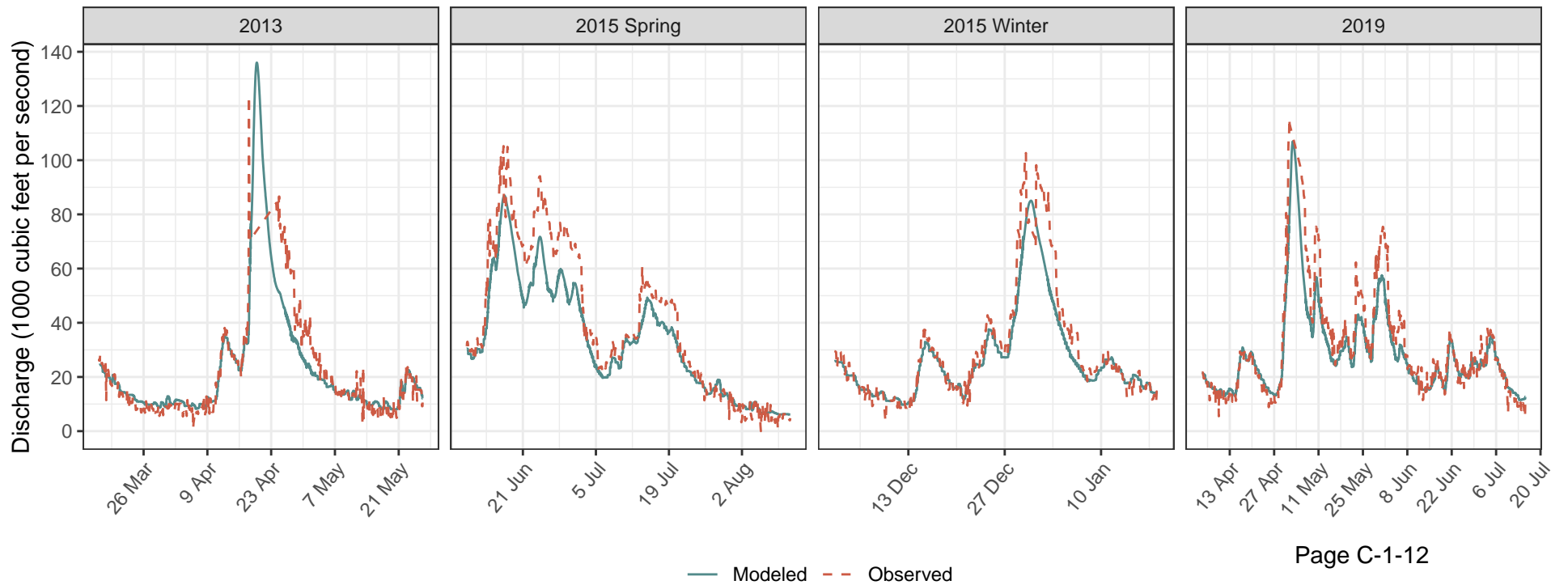
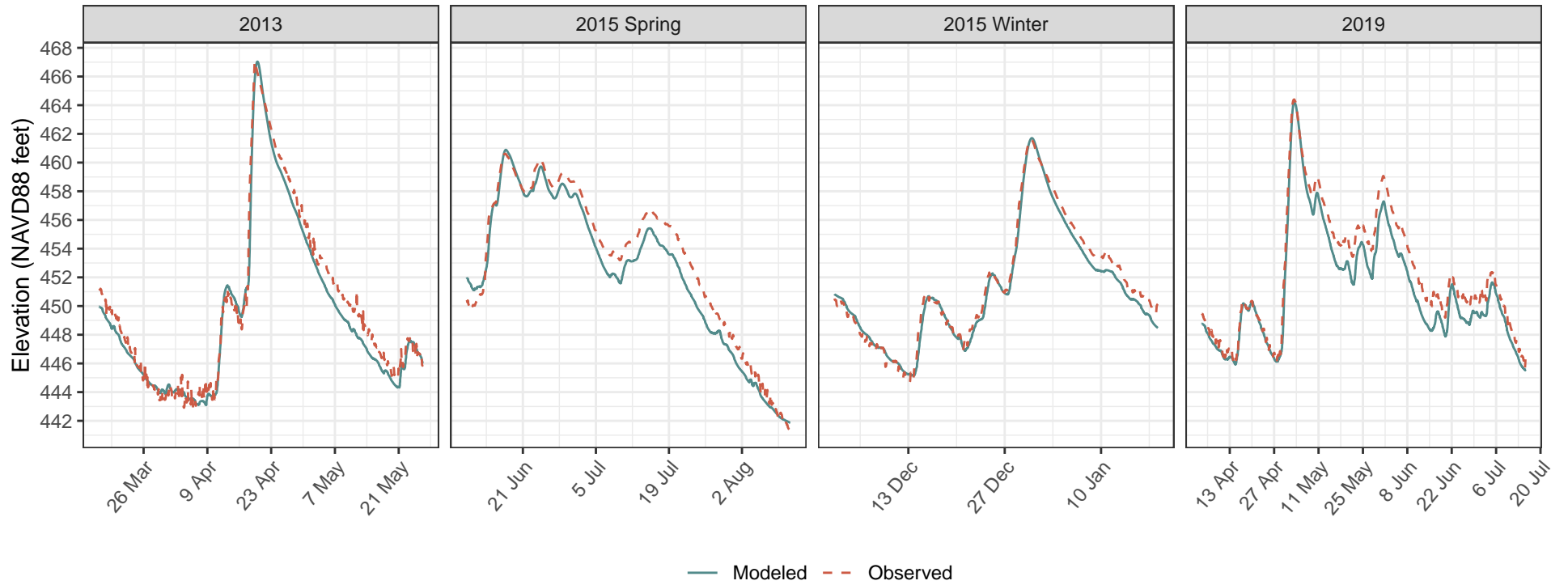


— Modeled - - - Observed



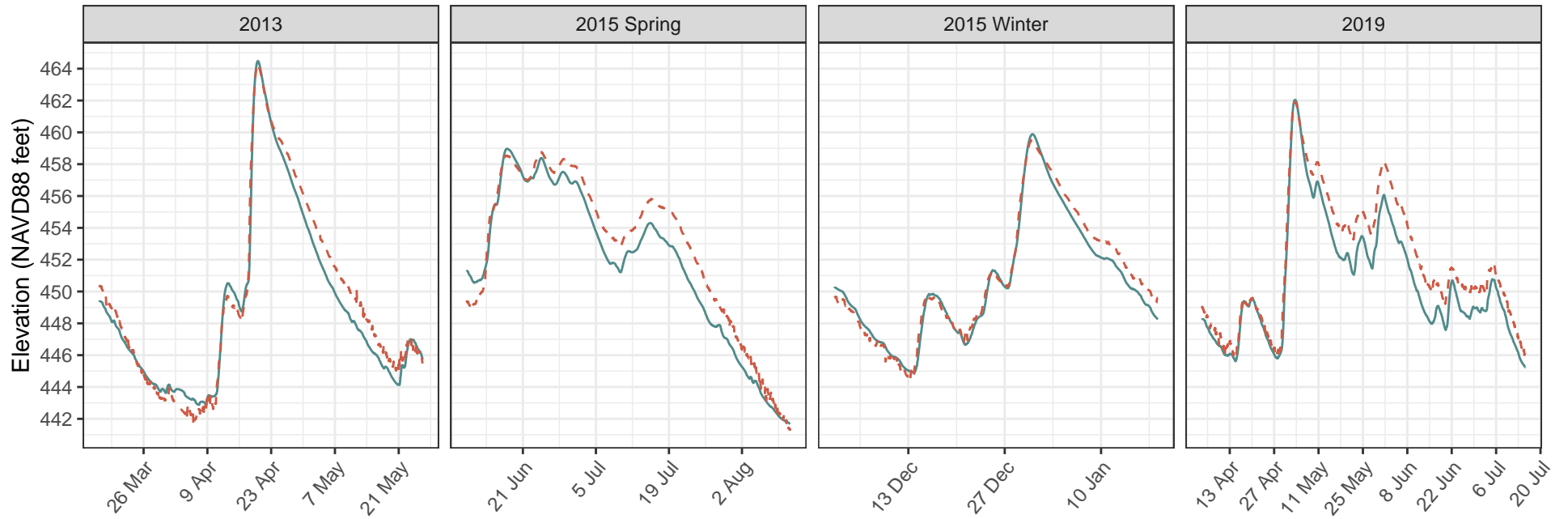
— Modeled - - - Observed

Gage STARVED ROCK L&D TAIL

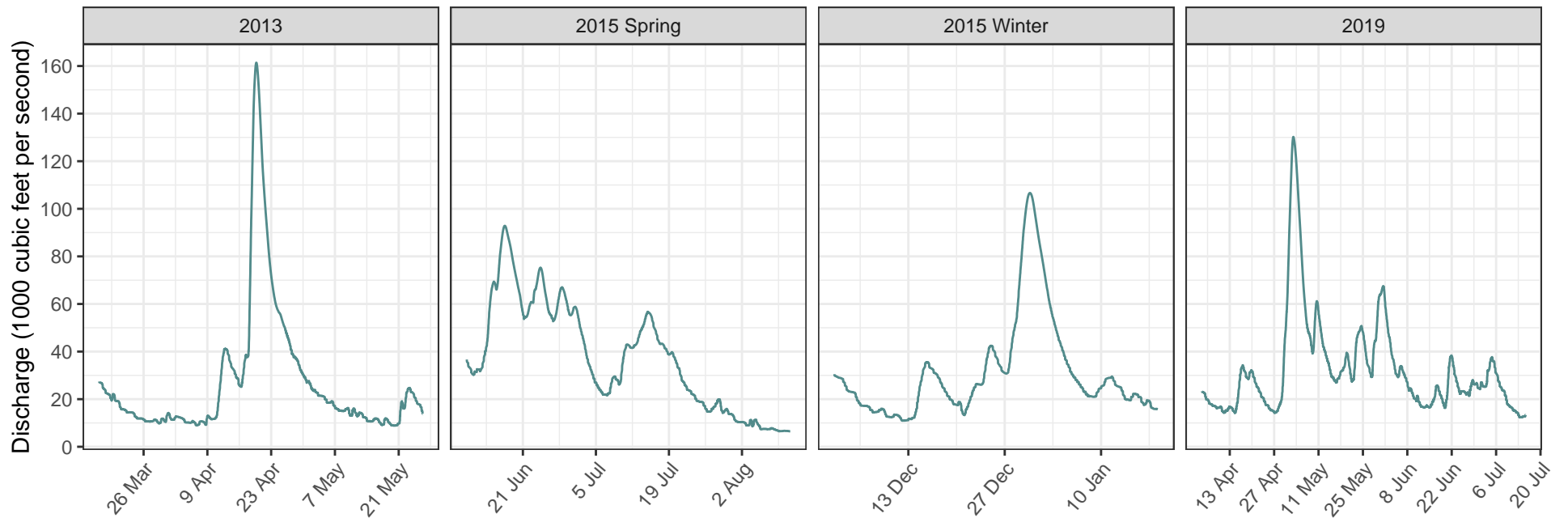


Illinois River, Vermil_FarmDiv Reach, River Mile 224.68

Gage LA SALLE



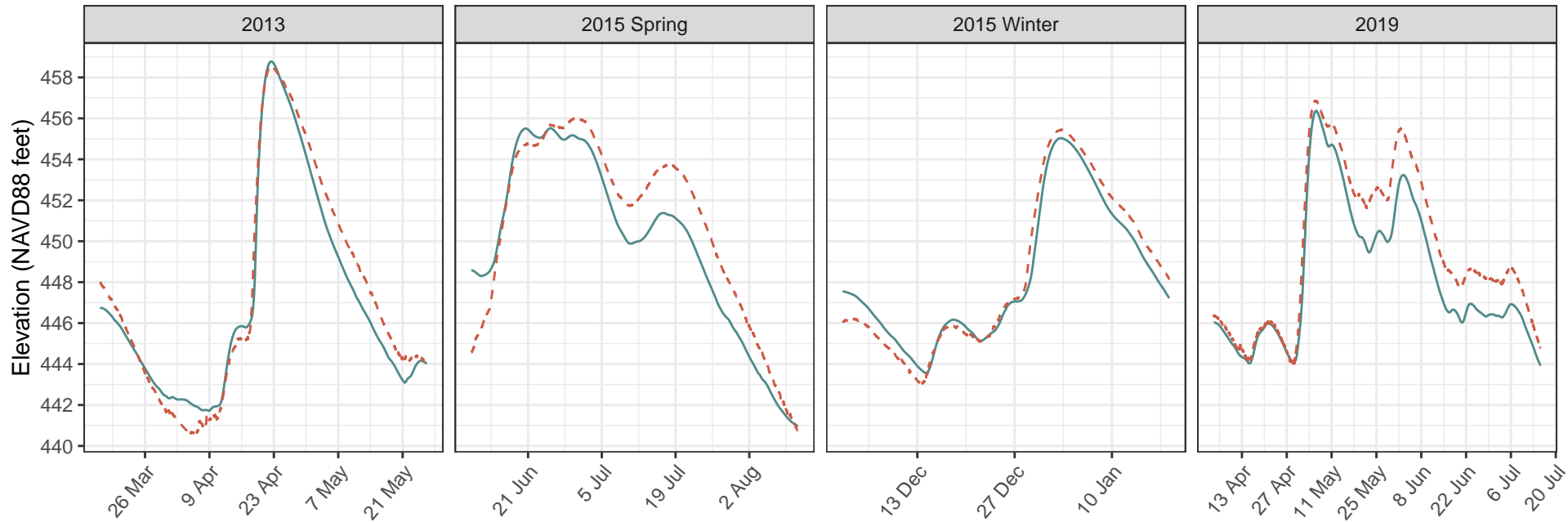
— Modeled - - - Observed



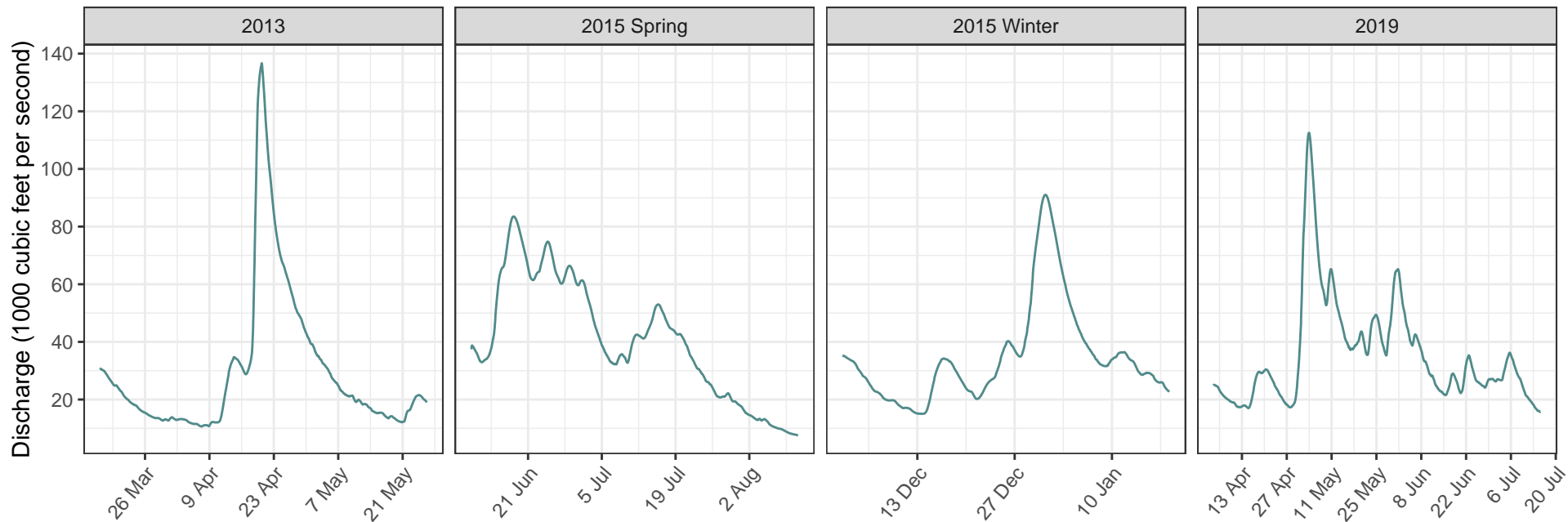
— Modeled - - - Observed

Illinois River, Vermil_FarmDiv Reach, River Mile 195.94

Gage HENRY

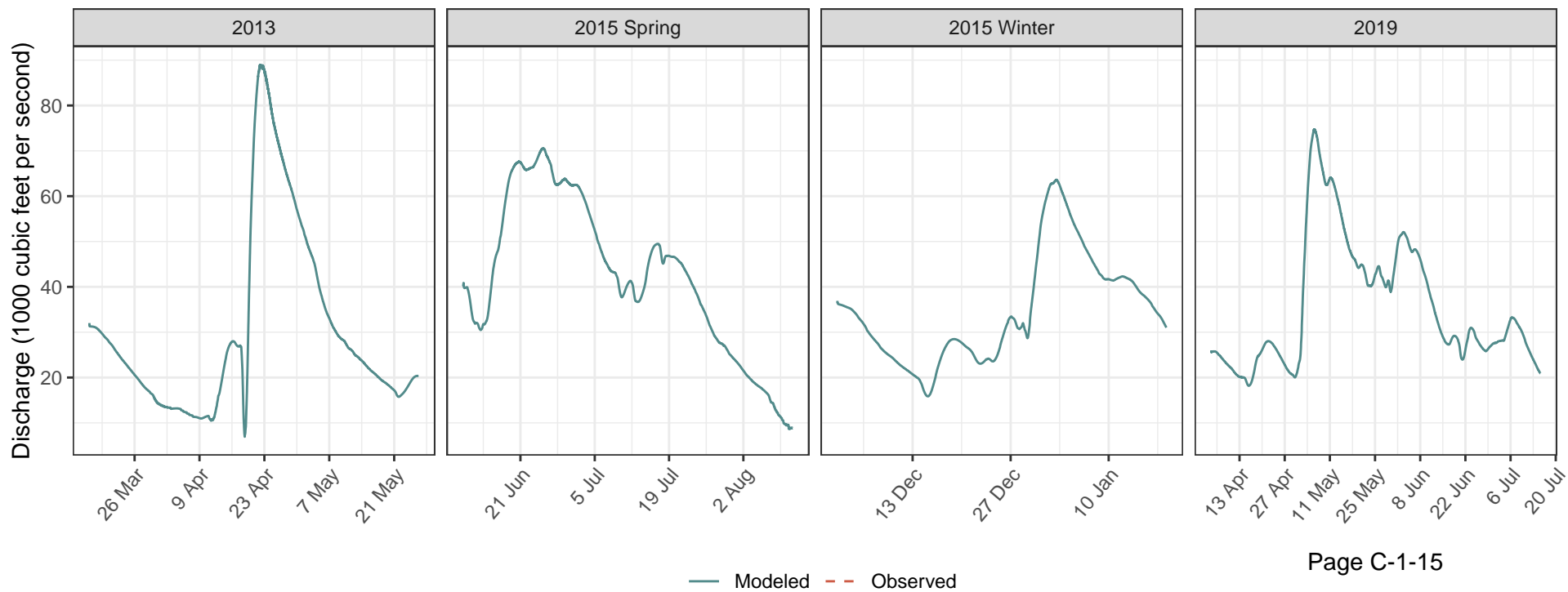
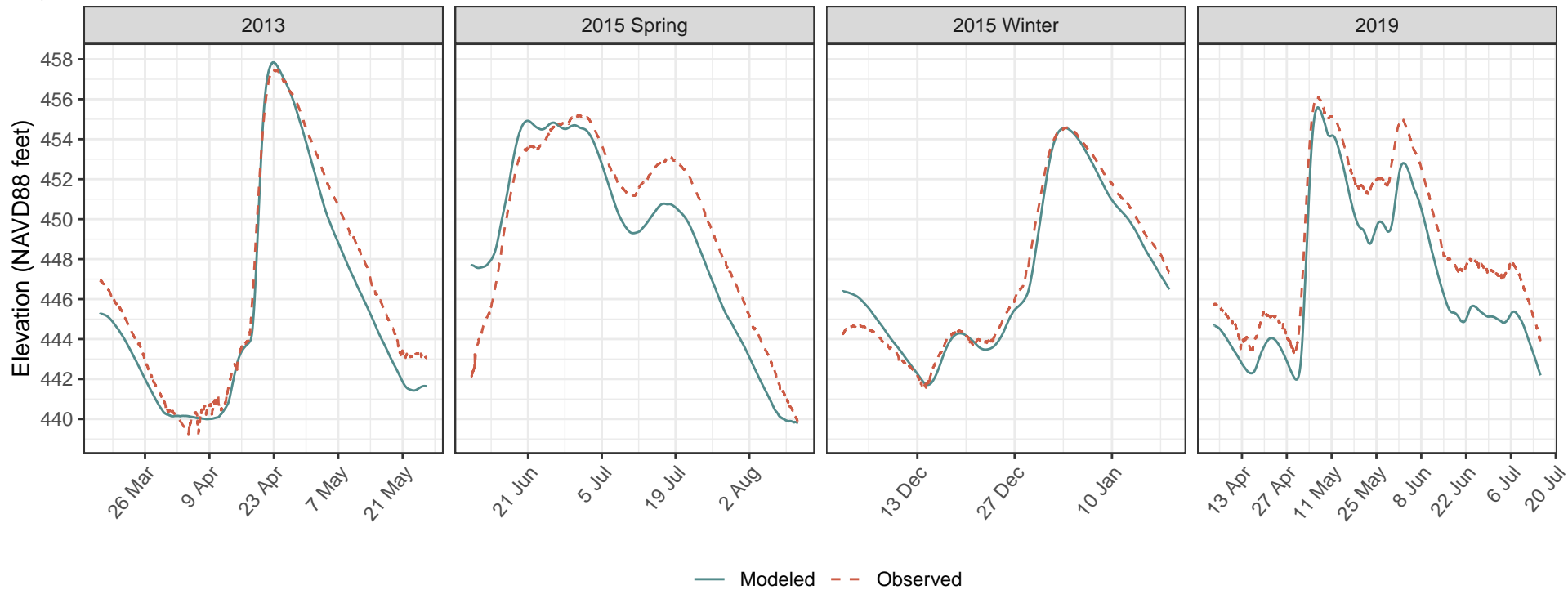


— Modeled - - - Observed

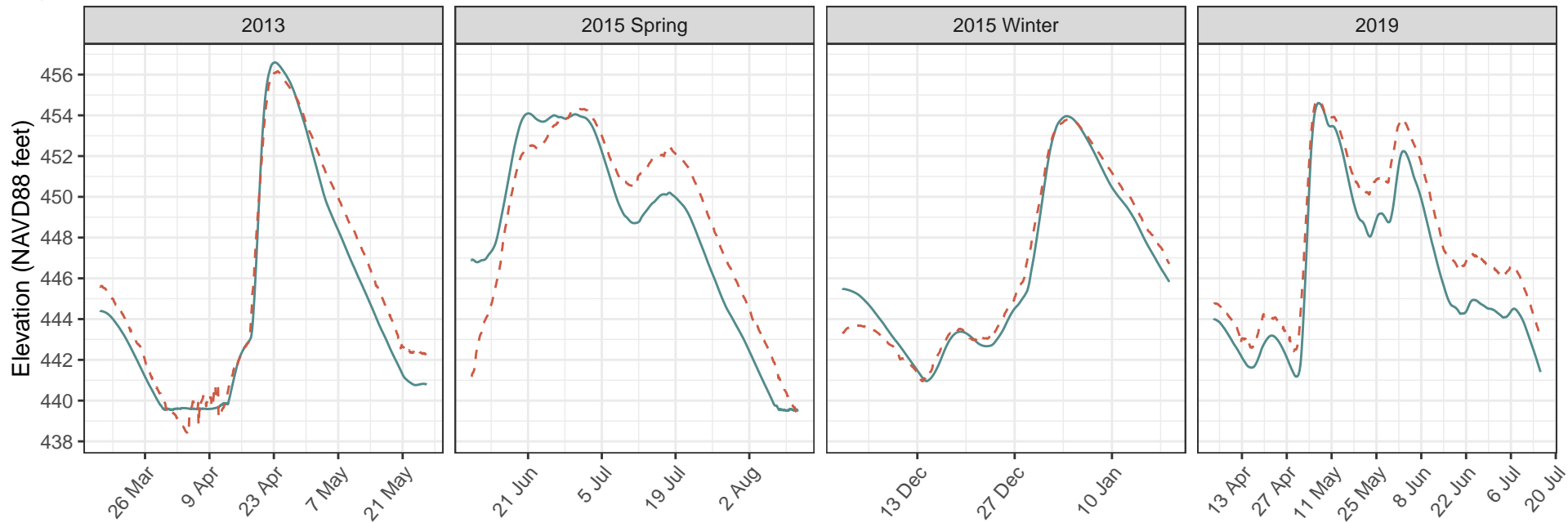


— Modeled - - - Observed

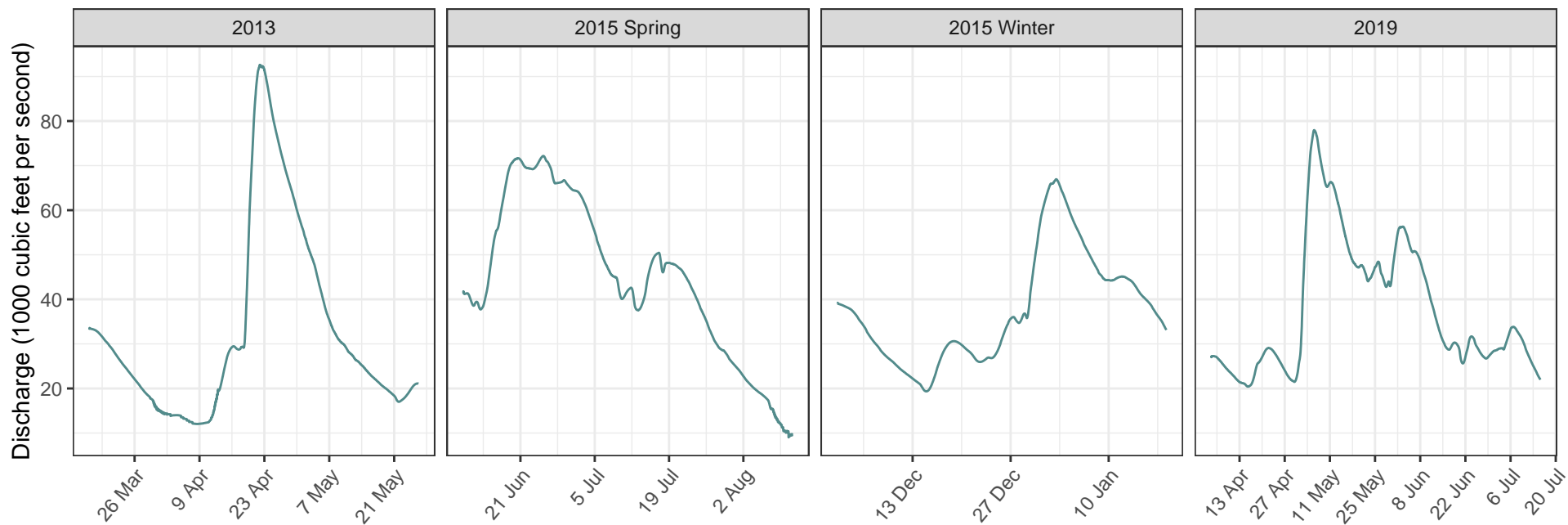
Gage PEORIA BOATYARD



Gage PEORIA L&D POOL

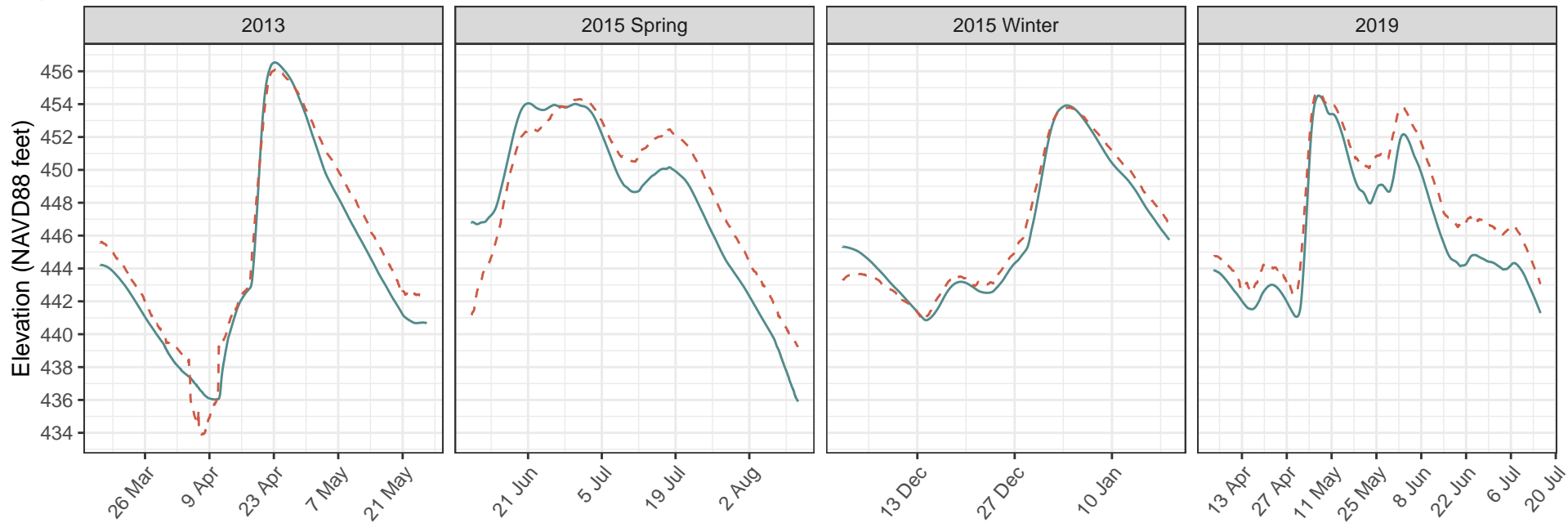


— Modeled - - - Observed

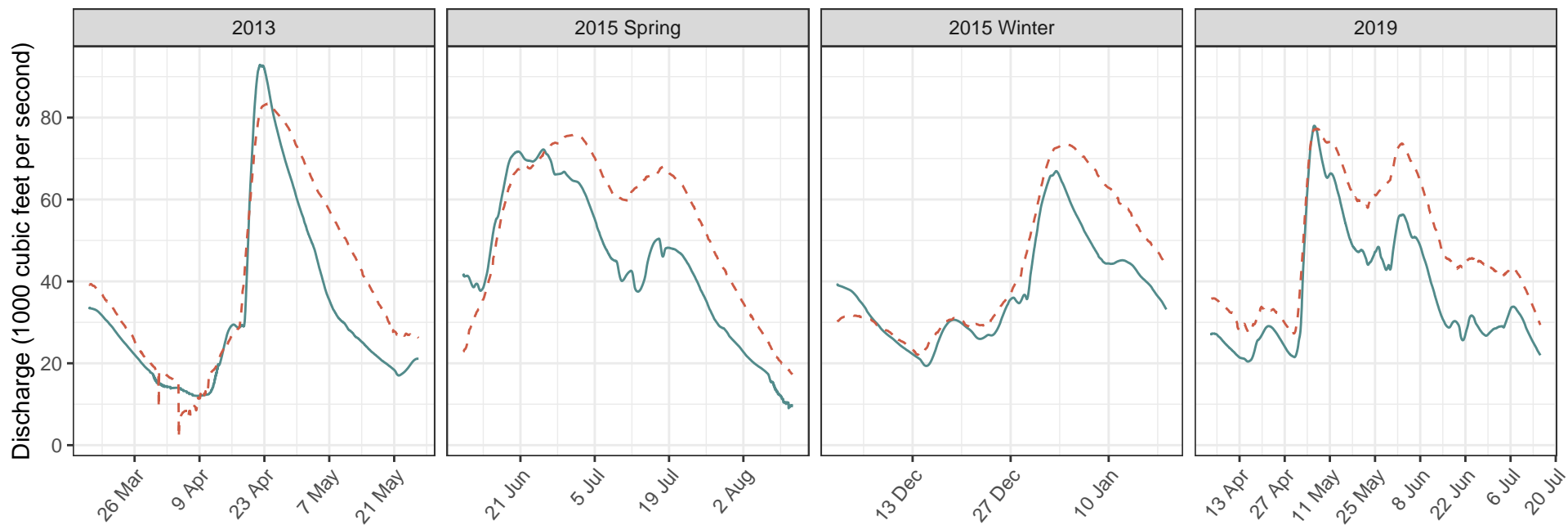


— Modeled - - - Observed

Gage PEORIA L&D TAIL

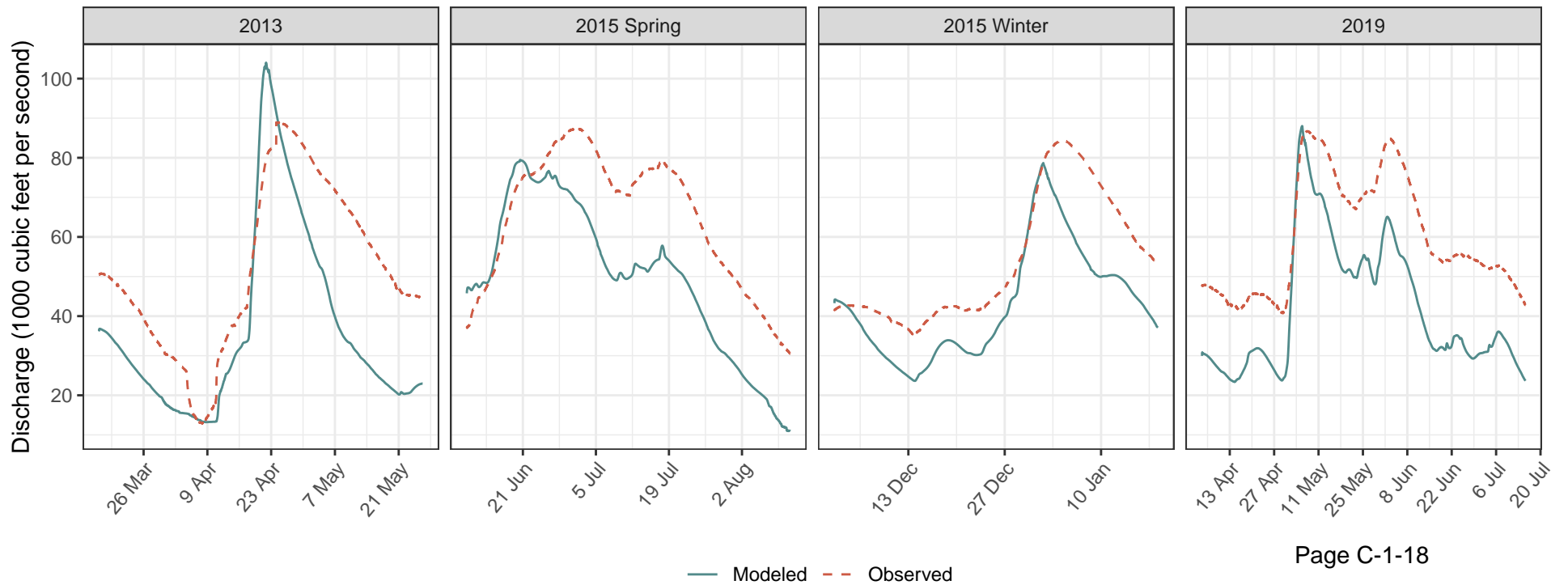
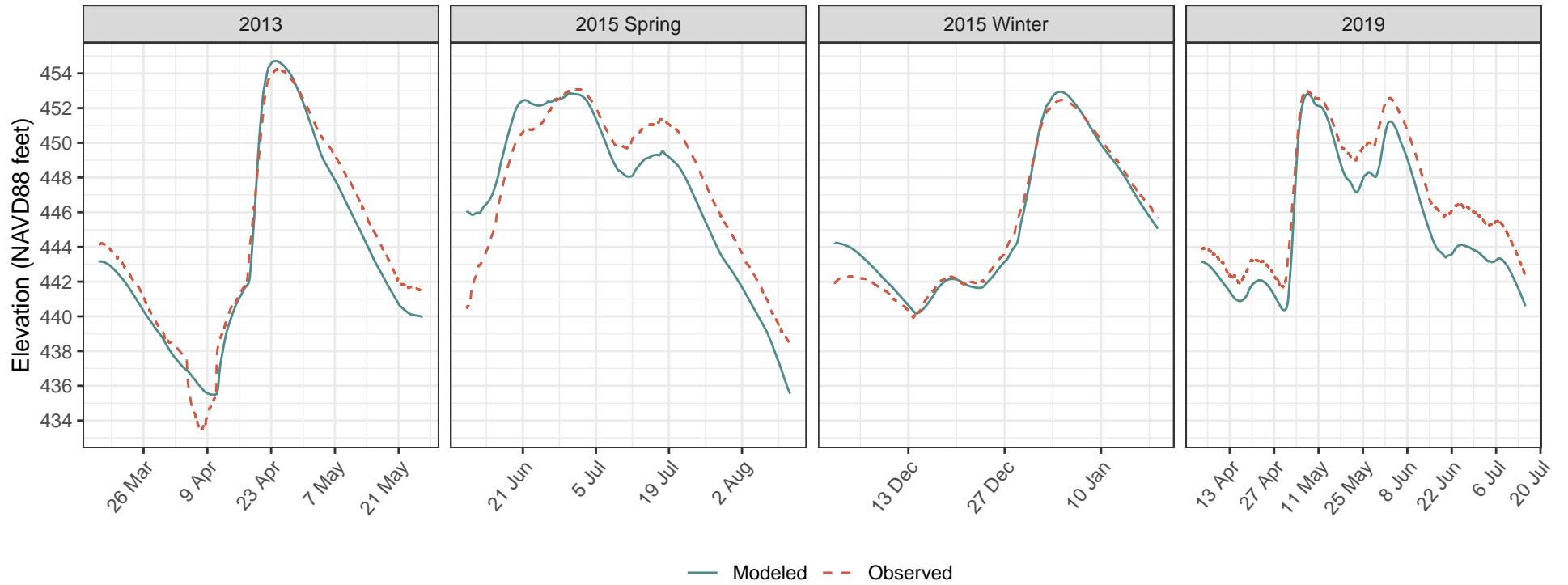


— Modeled - - - Observed

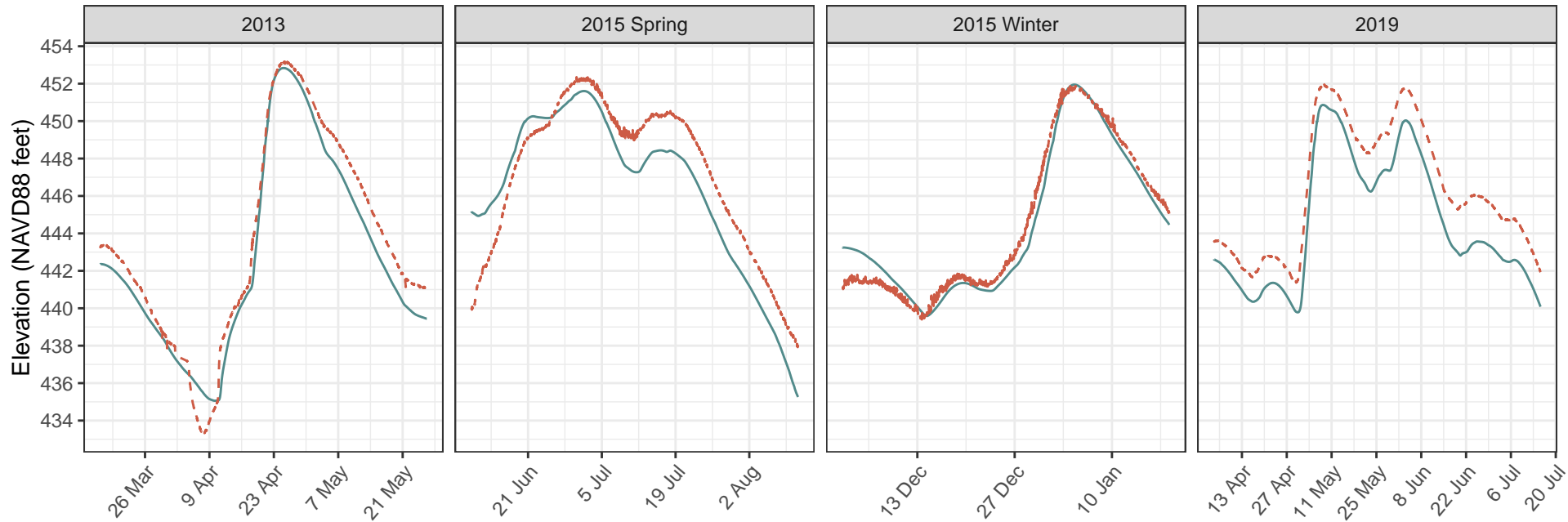


— Modeled - - - Observed

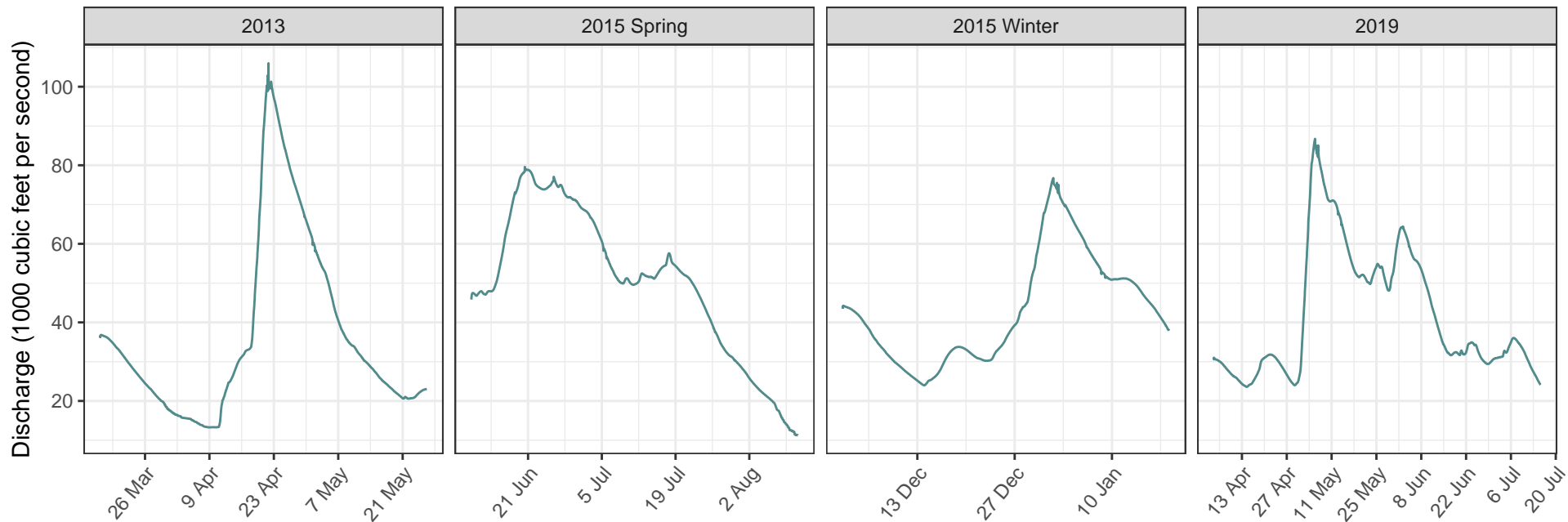
Gage KINGSTON MINES



Gage COPPERAS CREEK



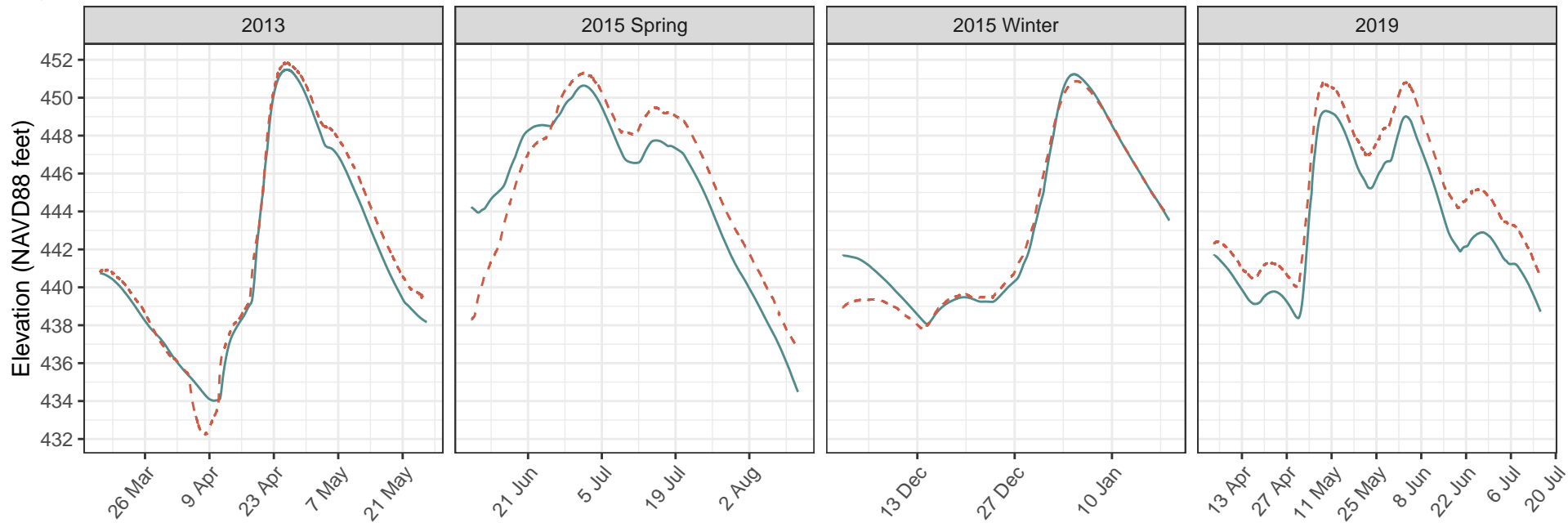
— Modeled - - - Observed



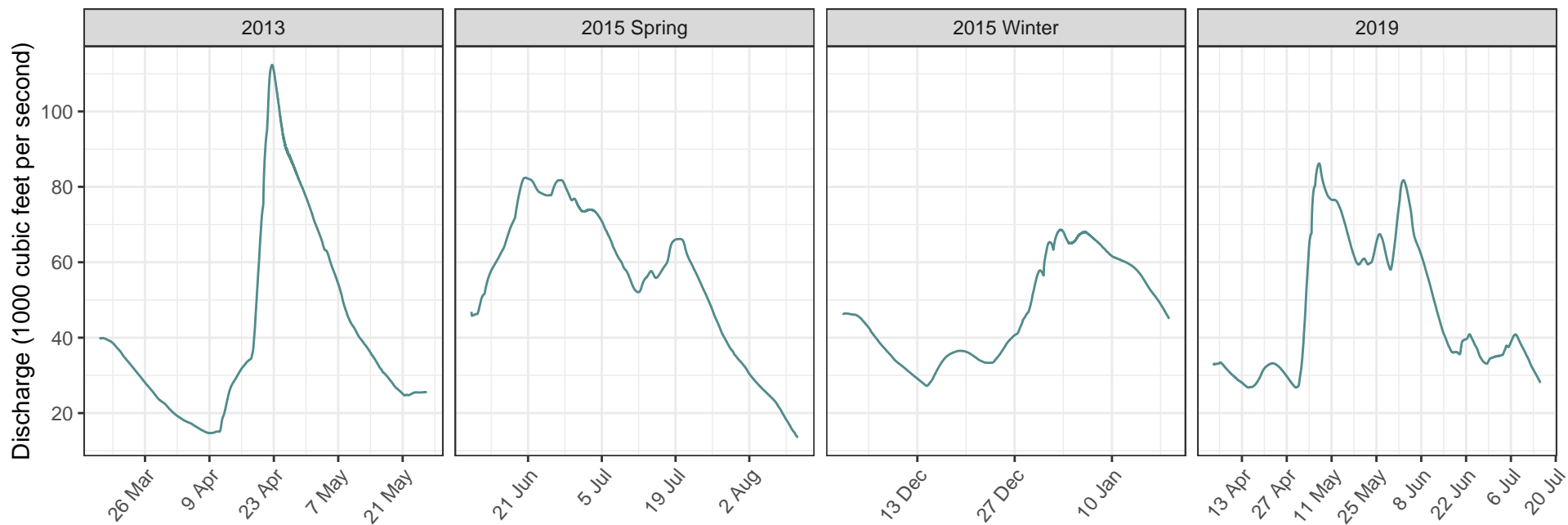
— Modeled - - - Observed

Illinois River, Spoon_Sangamon Reach, River Mile 119.59

Gage HAVANA



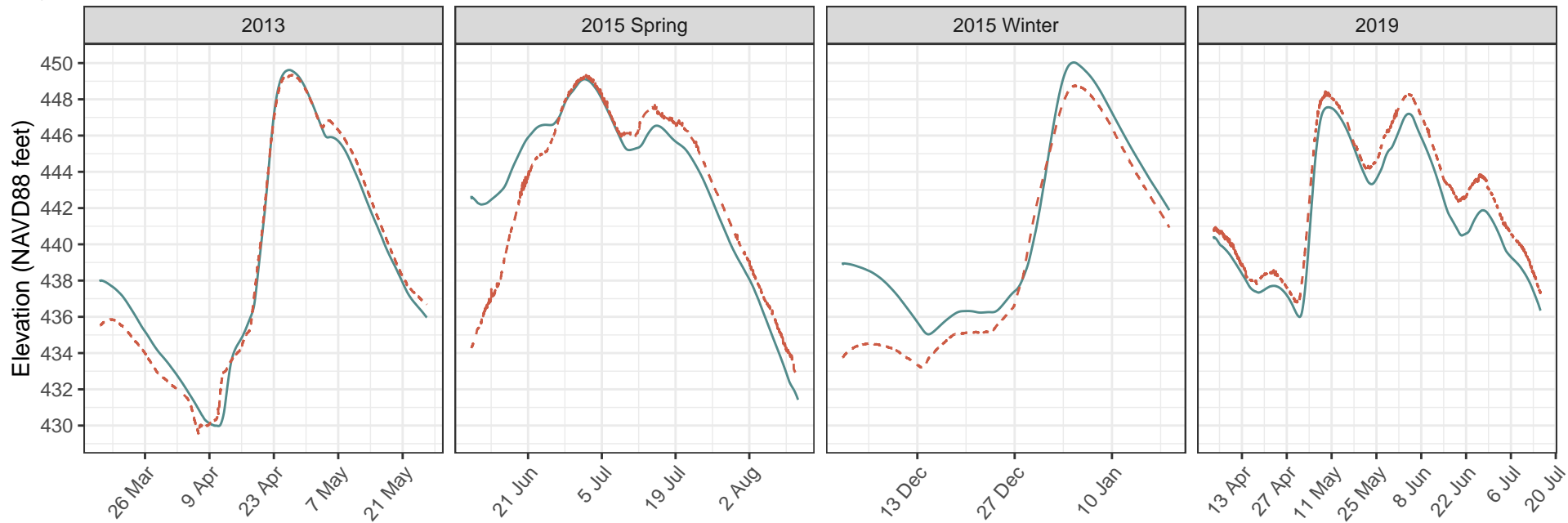
— Modeled - - - Observed



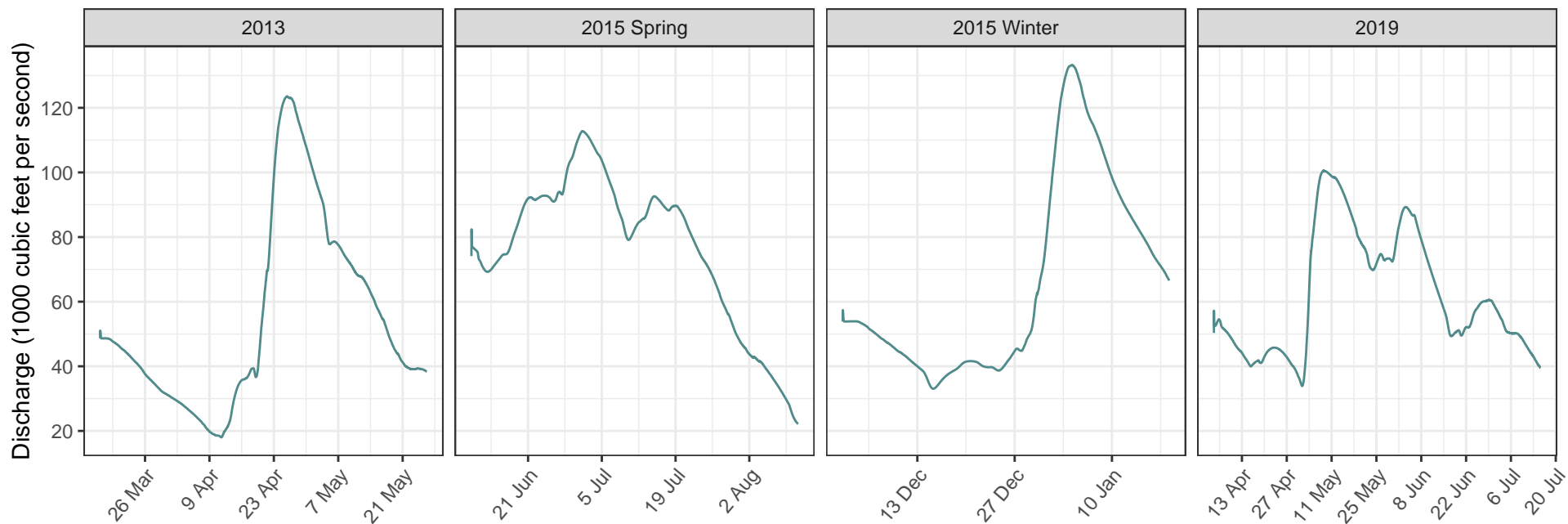
— Modeled - - - Observed

Illinois River, Sangamon_LaMoine Reach, River Mile 88.82

Gage BEARDSTOWN



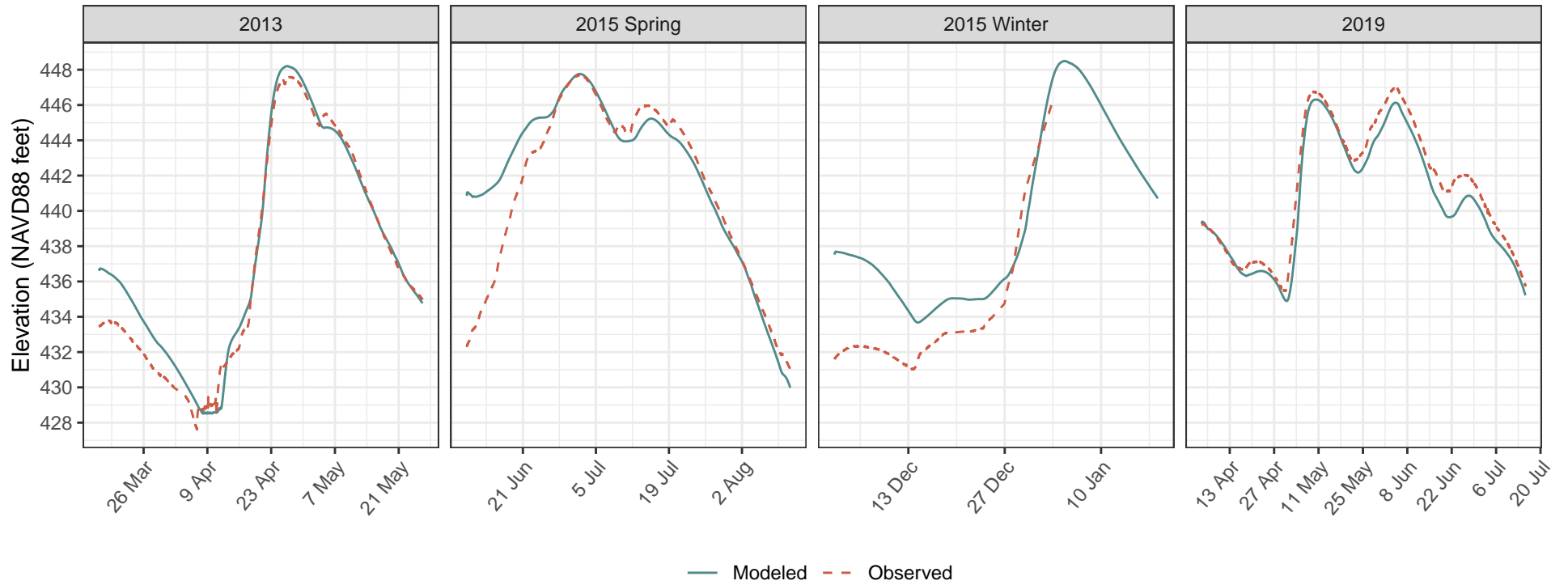
— Modeled - - - Observed



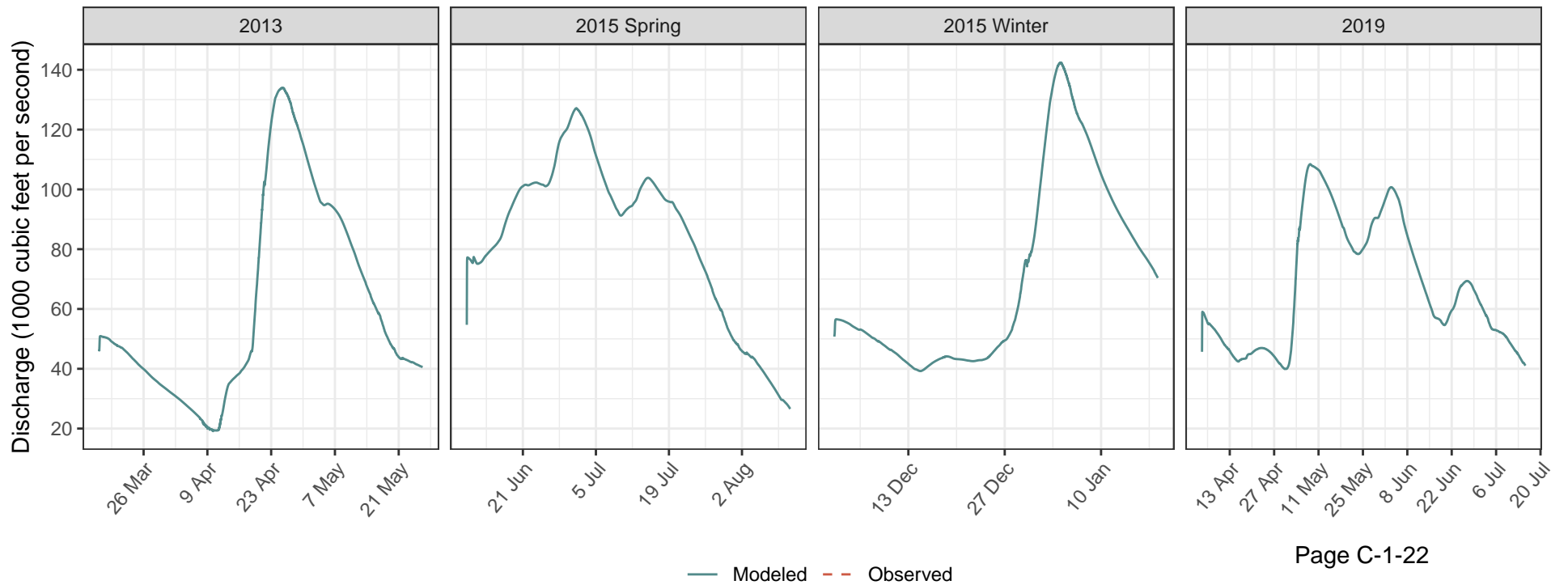
— Modeled - - - Observed

Illinois River, LaMoine_Macoupin Reach, River Mile 80.33

Gage LA GRANGE L&D POOL



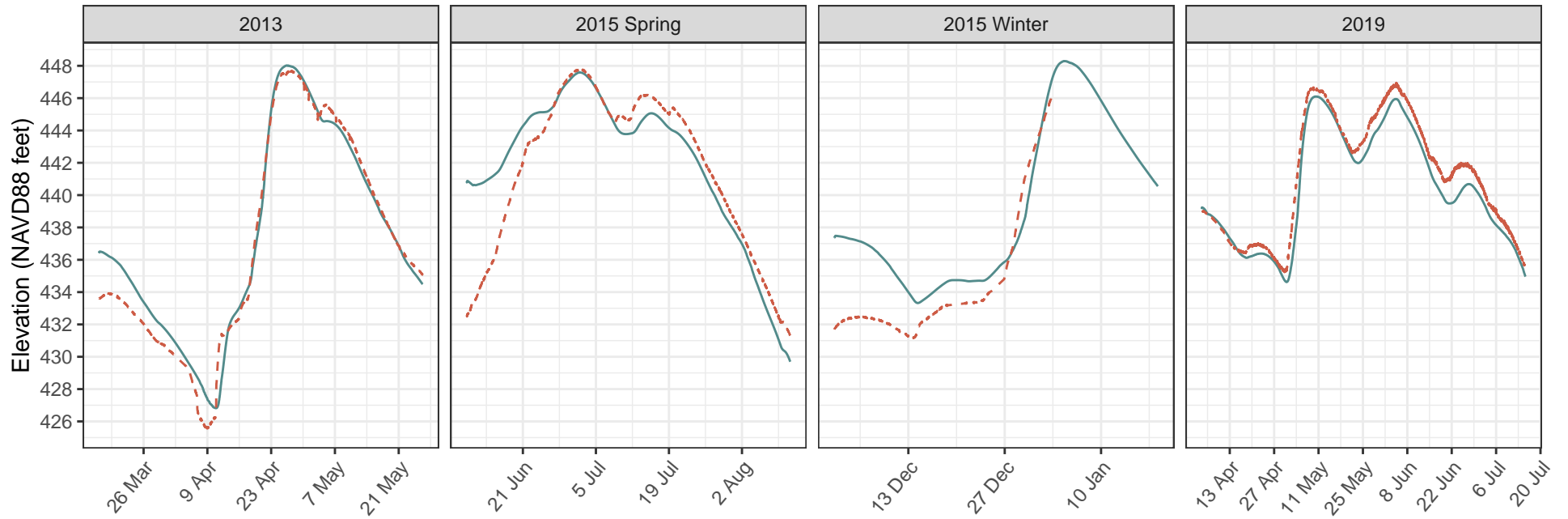
— Modeled - - - Observed



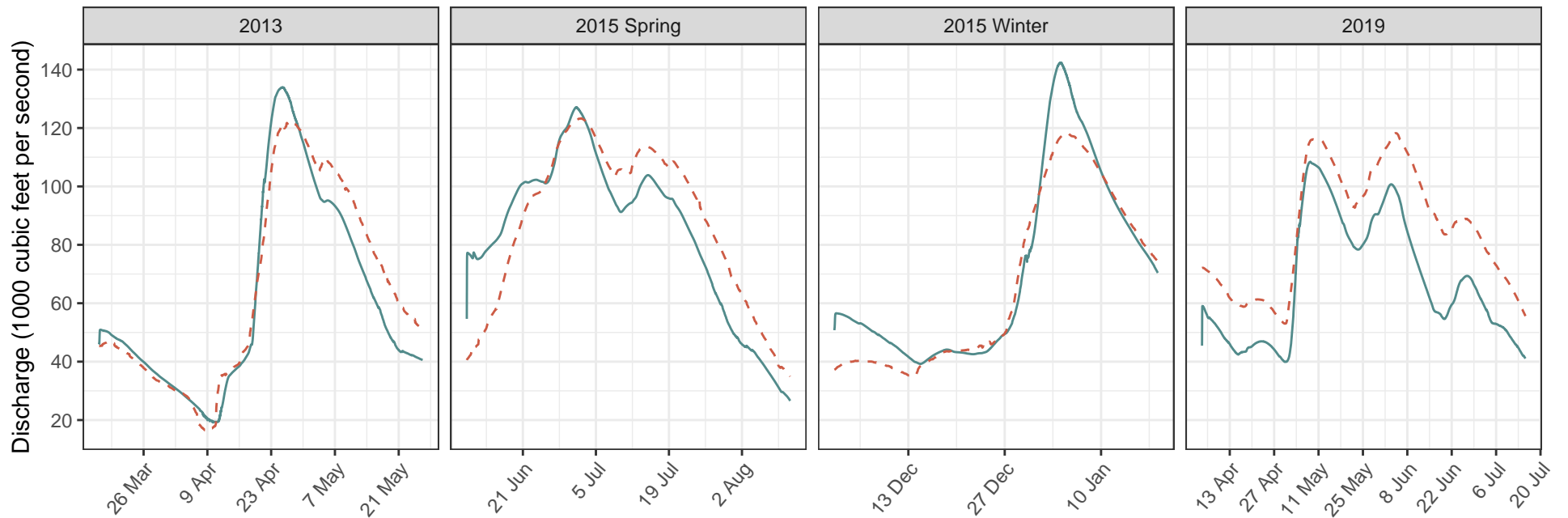
— Modeled - - - Observed

Illinois River, LaMoine_Macoupin Reach, River Mile 80.16

Gage LA GRANGE L&D



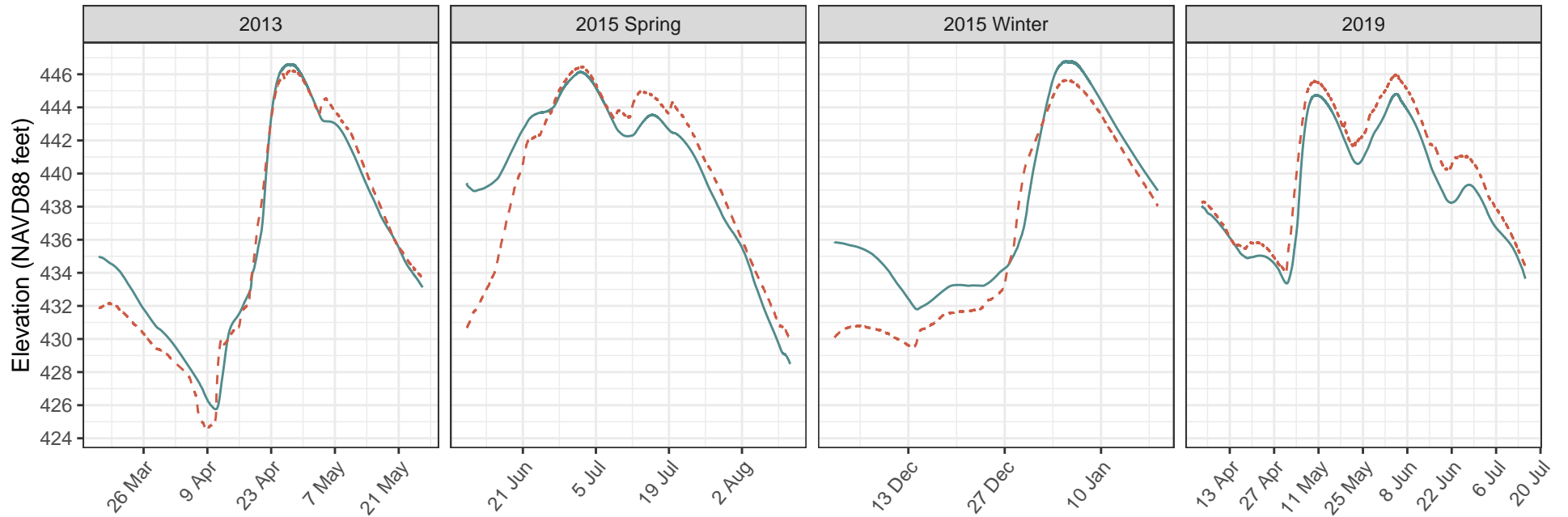
— Modeled - - - Observed



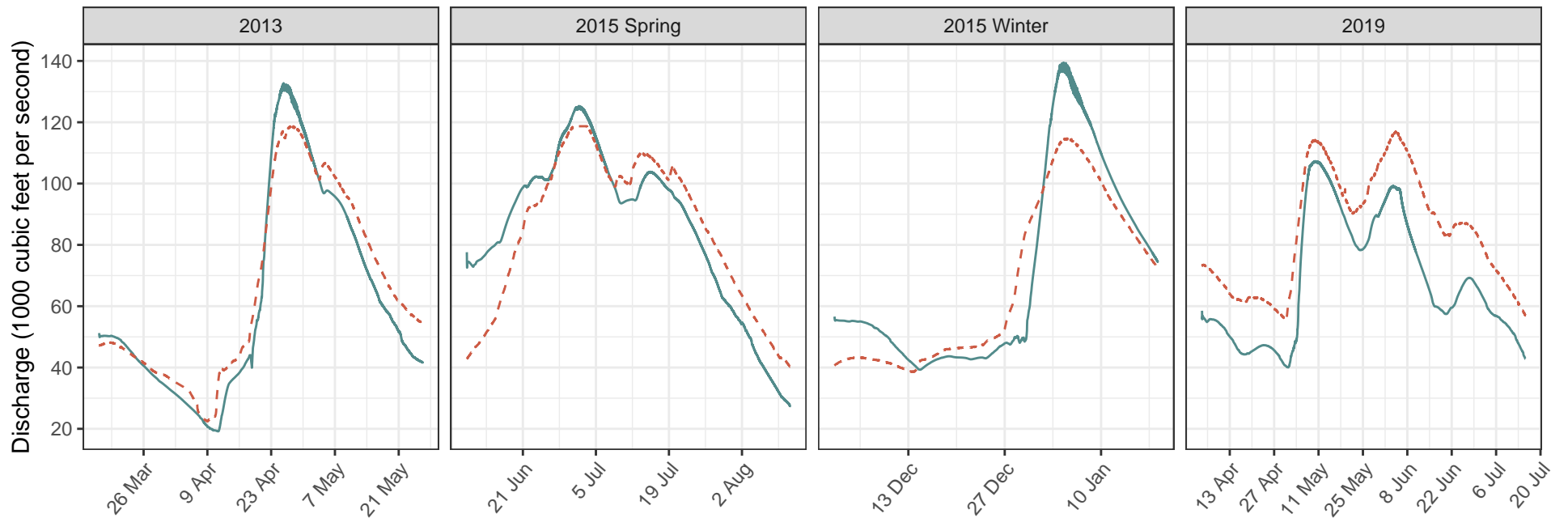
— Modeled - - - Observed

Illinois River, LaMoine_Macoupin Reach, River Mile 70.8

Gage MEREDOSIA



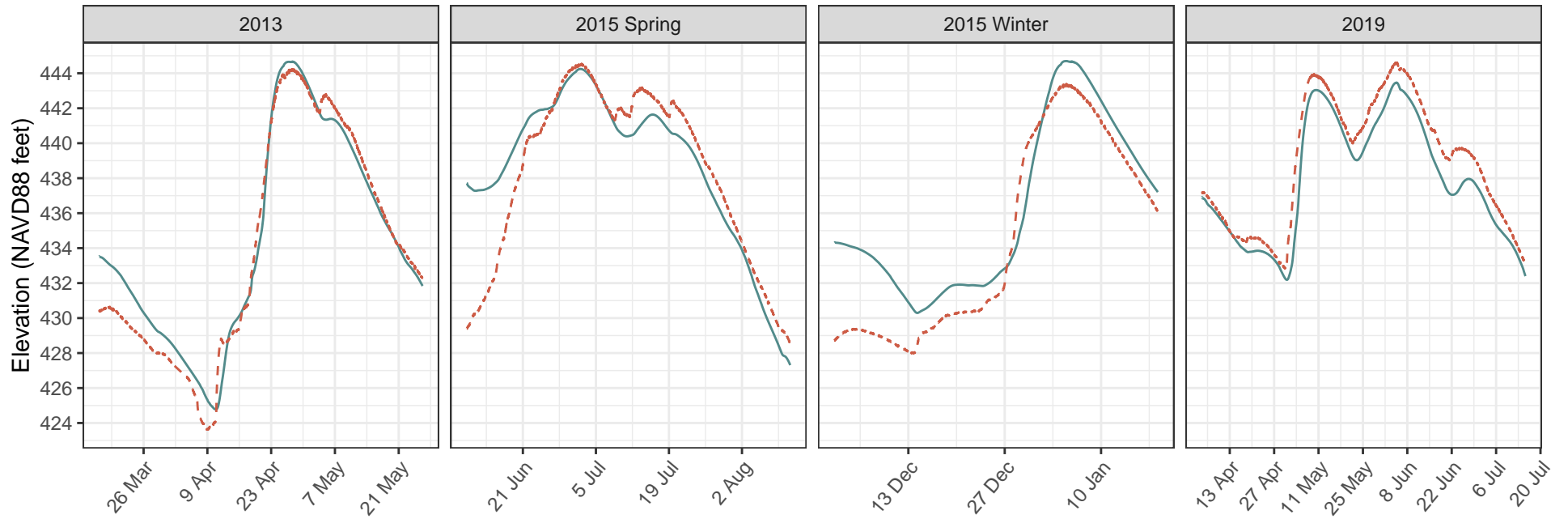
— Modeled - - - Observed



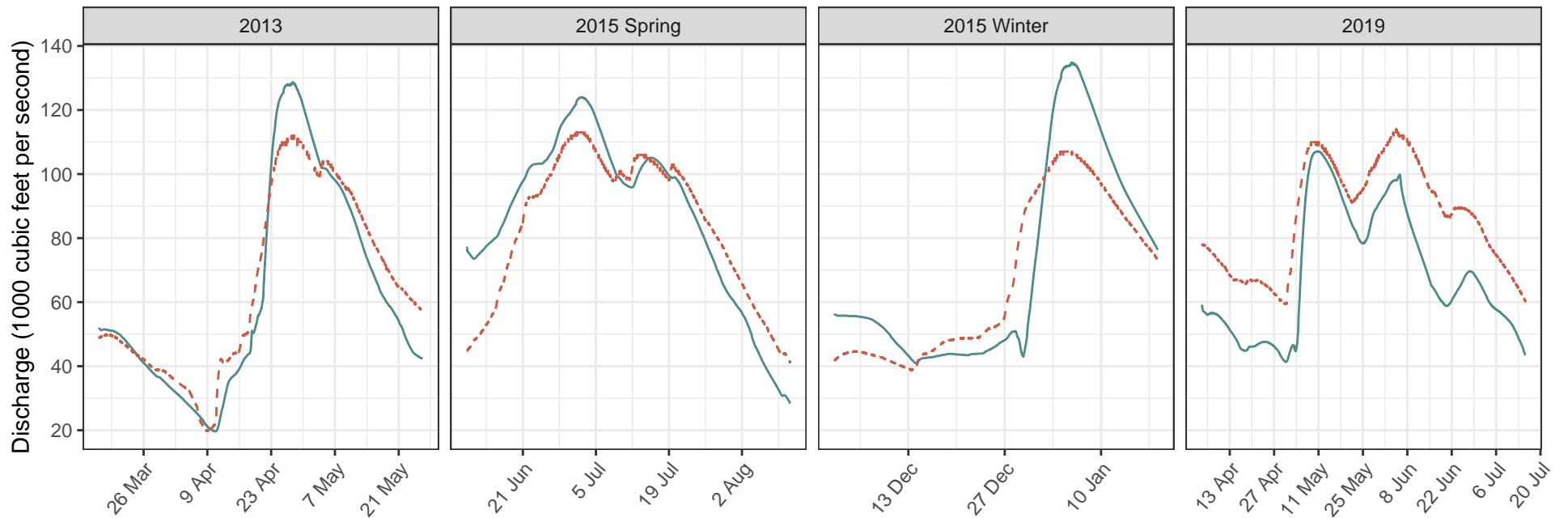
— Modeled - - - Observed

Illinois River, LaMoine_Macoupin Reach, River Mile 61.36

Gage VALLEY CITY



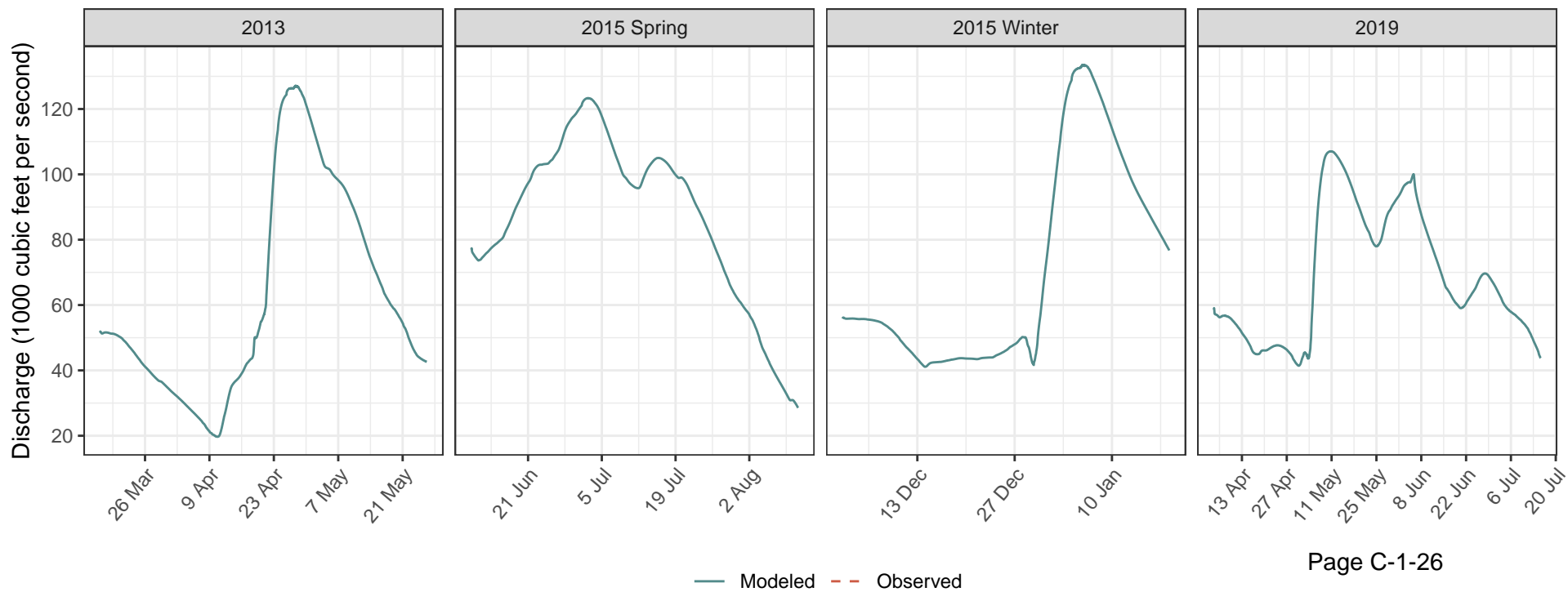
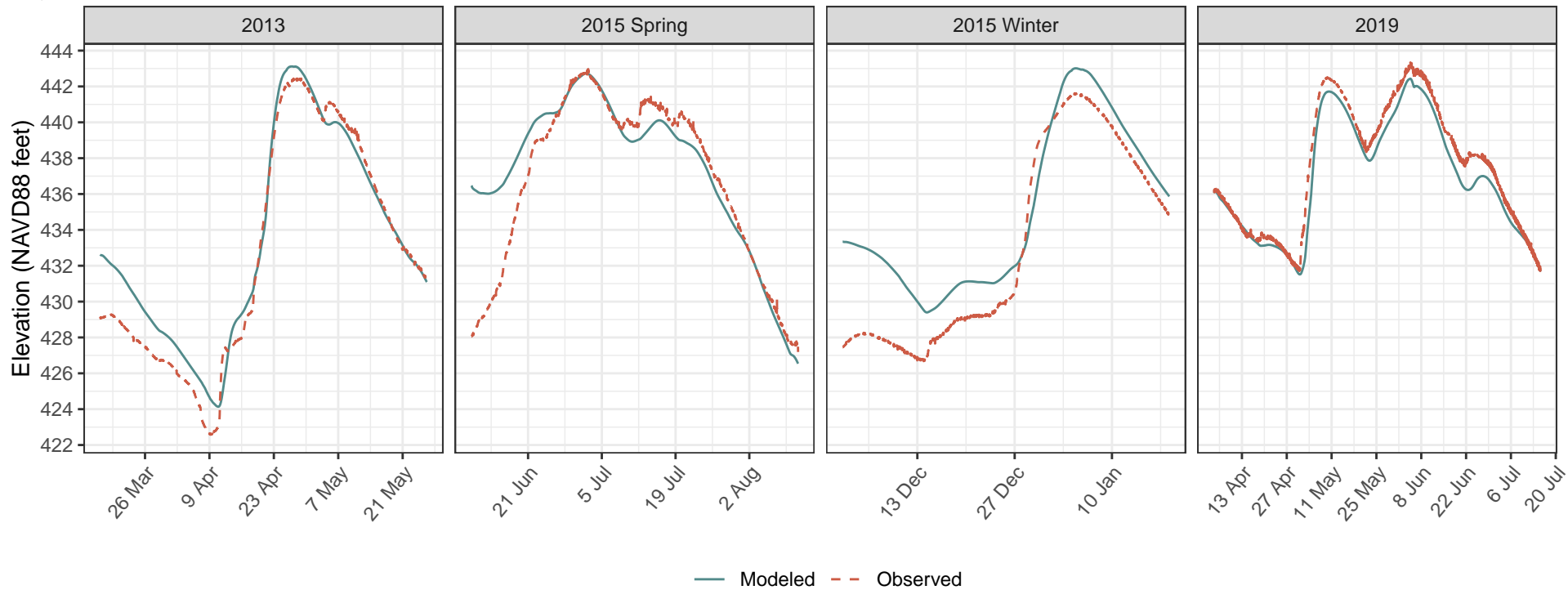
— Modeled - - - Observed



— Modeled - - - Observed

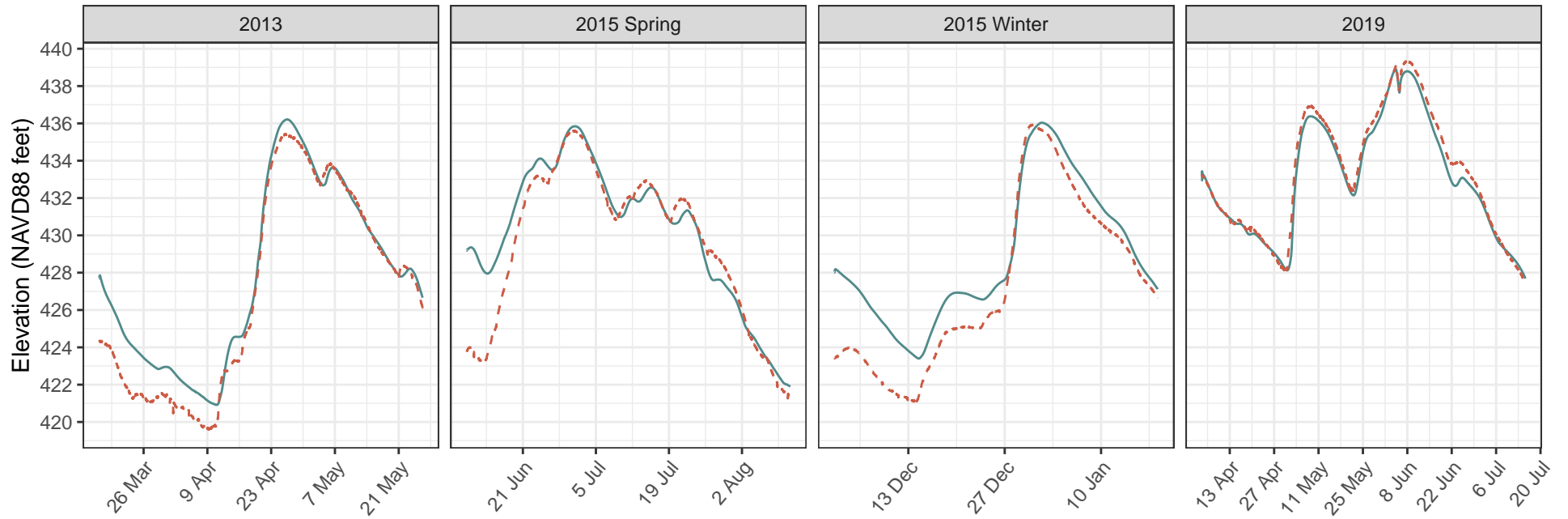
Illinois River, LaMoine_Macoupin Reach, River Mile 56

Gage FLORENCE

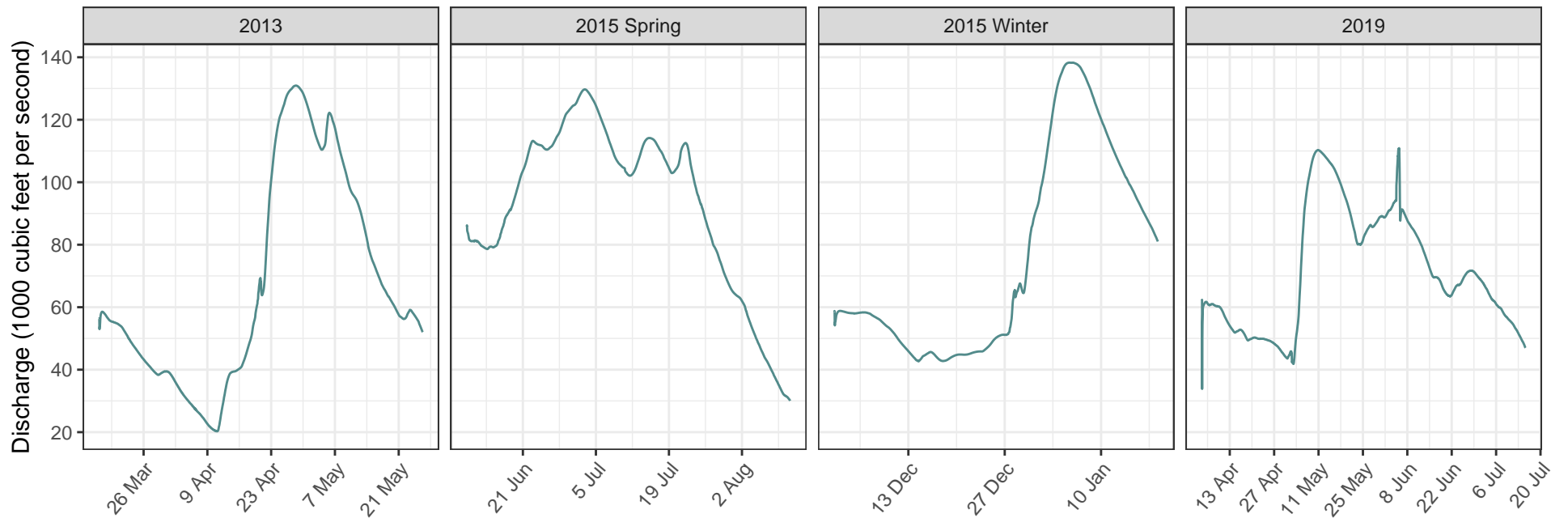


Illinois River, Macoupin_Miss Reach, River Mile 21.54

Gage HARDIN



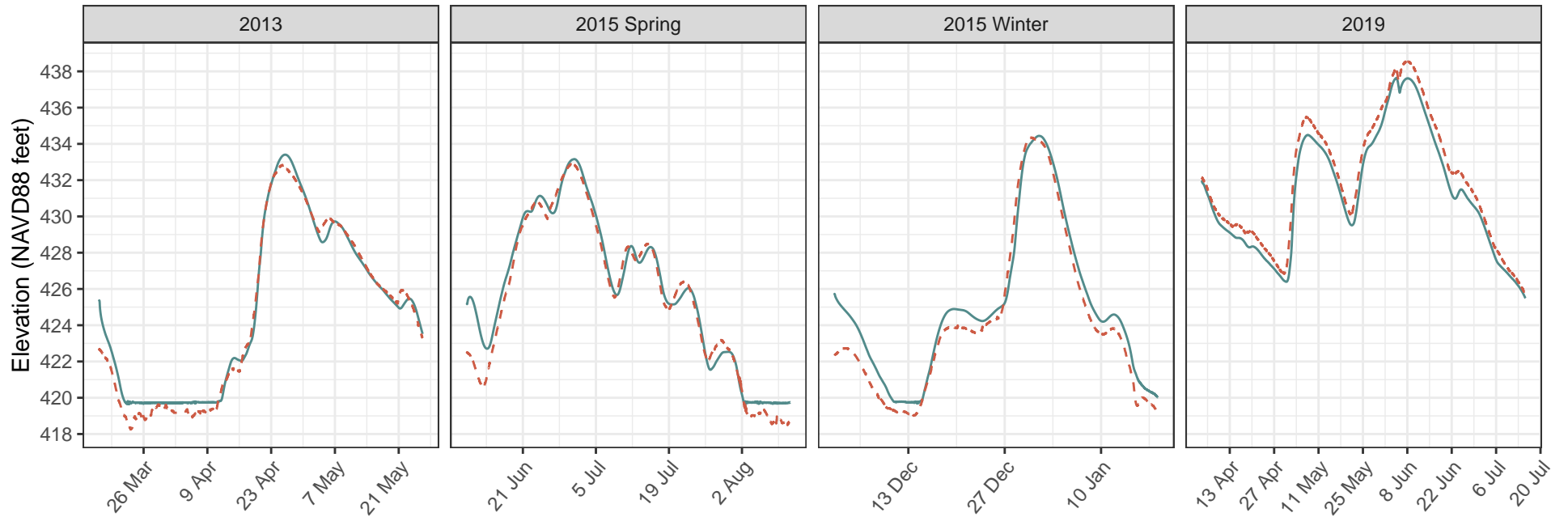
— Modeled - - - Observed



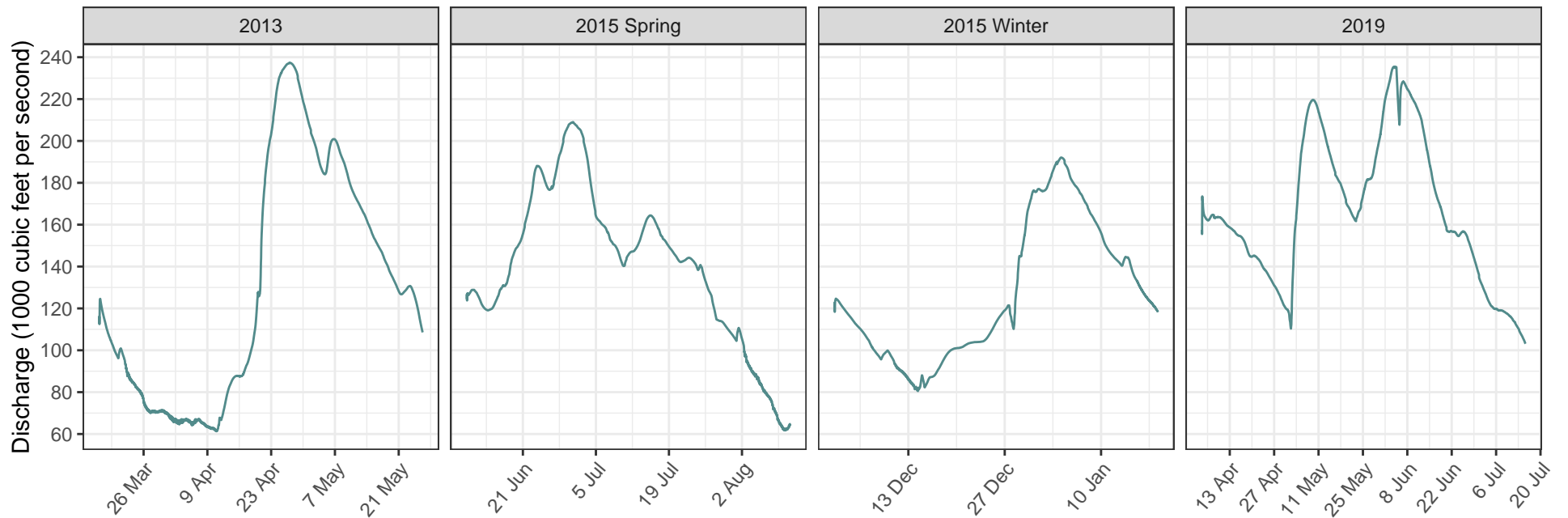
— Modeled - - - Observed

Illinois River, Macoupin_Miss Reach, River Mile 0

Gage GRAFTON



— Modeled - - - Observed



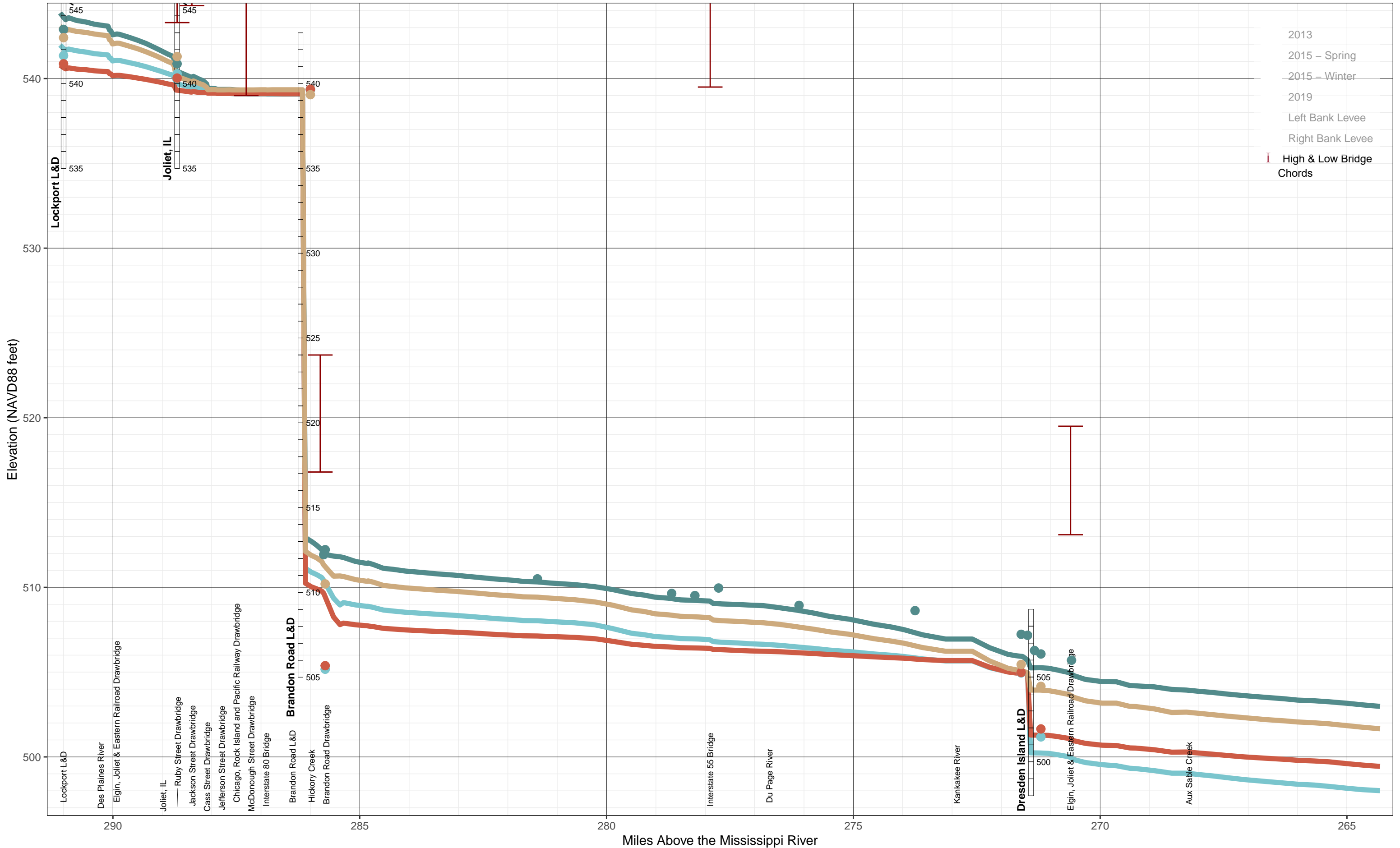
— Modeled - - - Observed

APPENDIX C-2

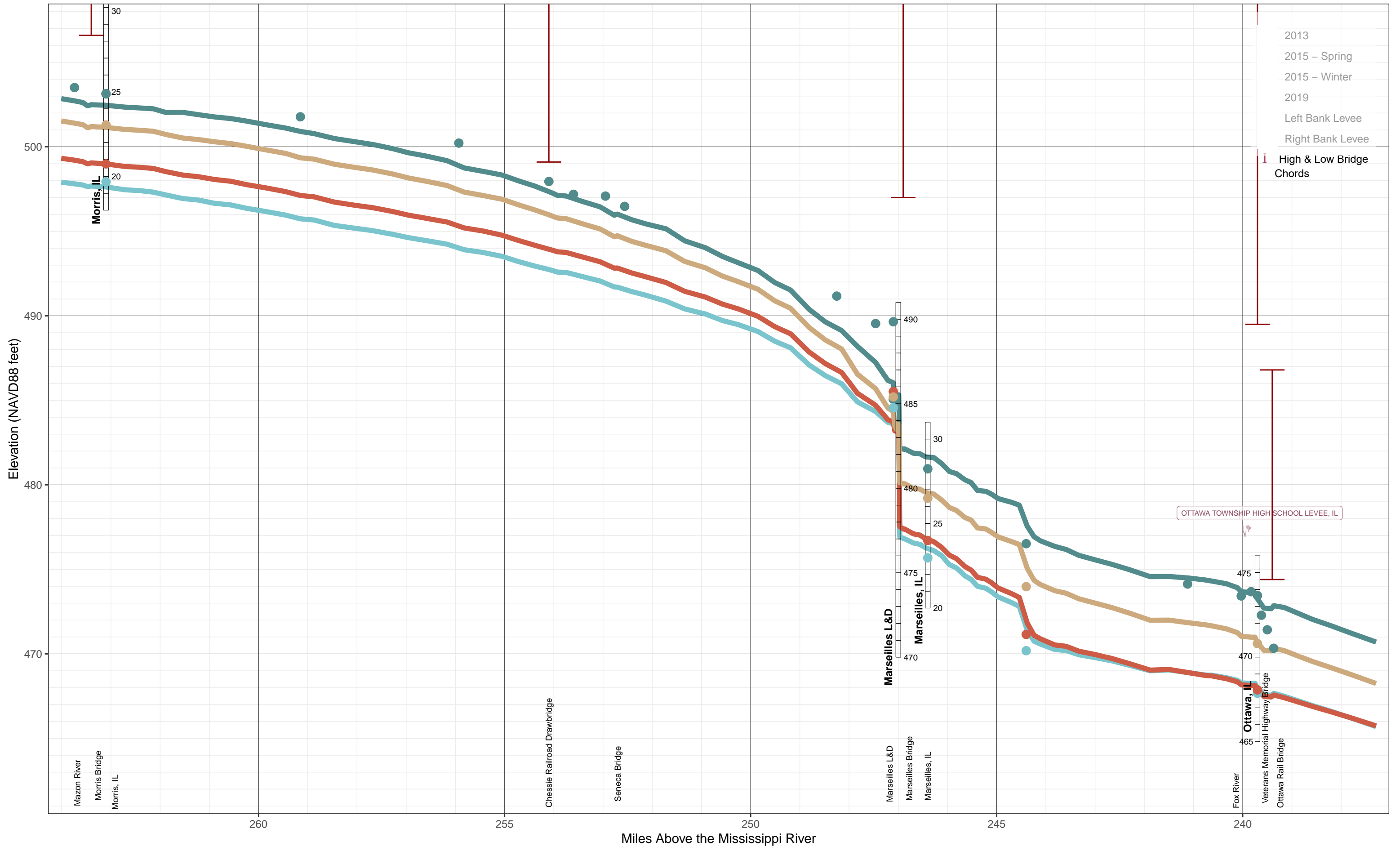
MODEL CALIBRATION PROFILE PLOTS

Symbol	Description
●	High Water Mark – Color corresponds to flood event
#	Levee is Non-Federal Segment – Terrain Data
*	Levee is Non-Federal Segment - NLD

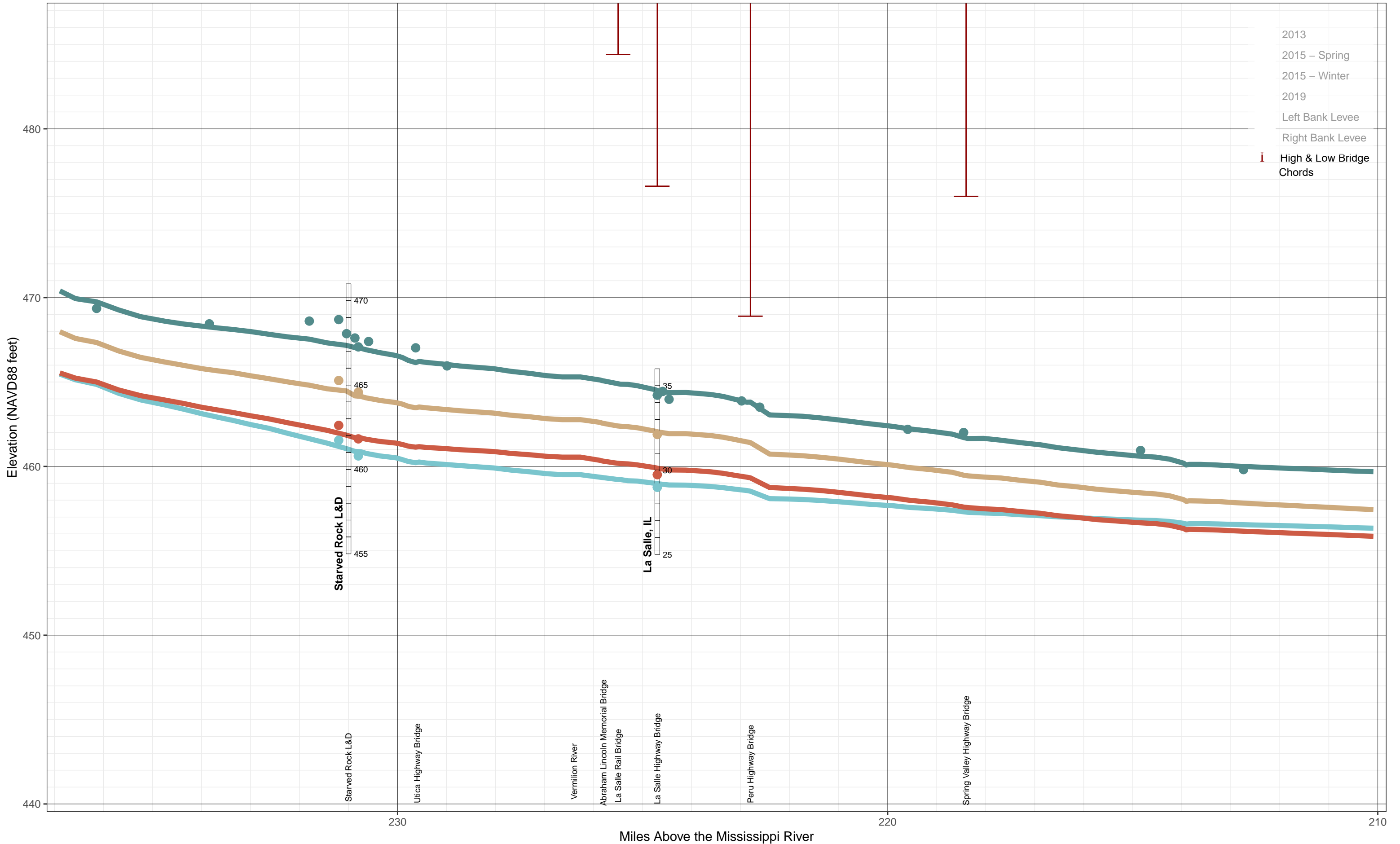
Upper Mississippi River Hydraulic Model – Illinois River



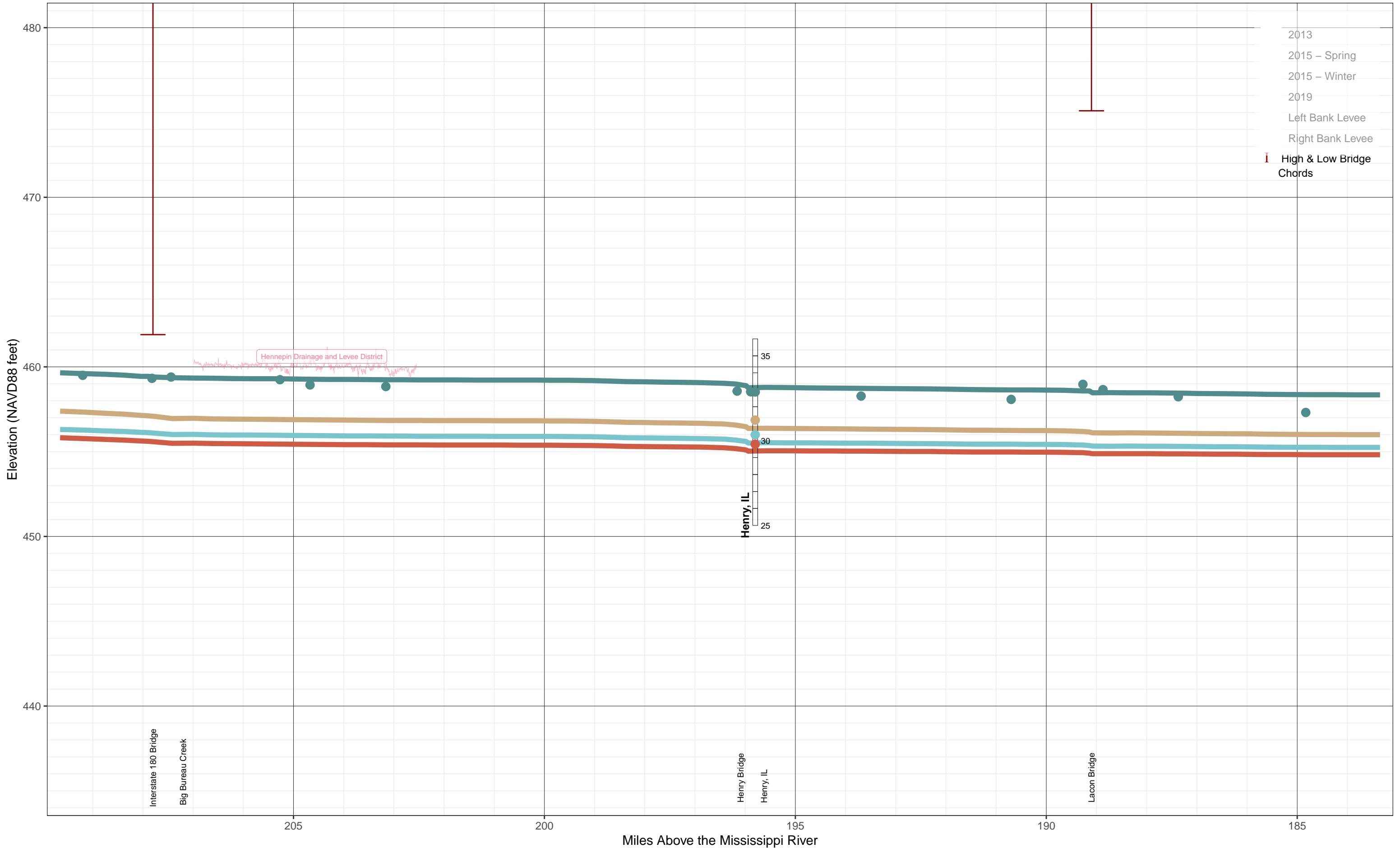
Upper Mississippi River Hydraulic Model – Illinois River



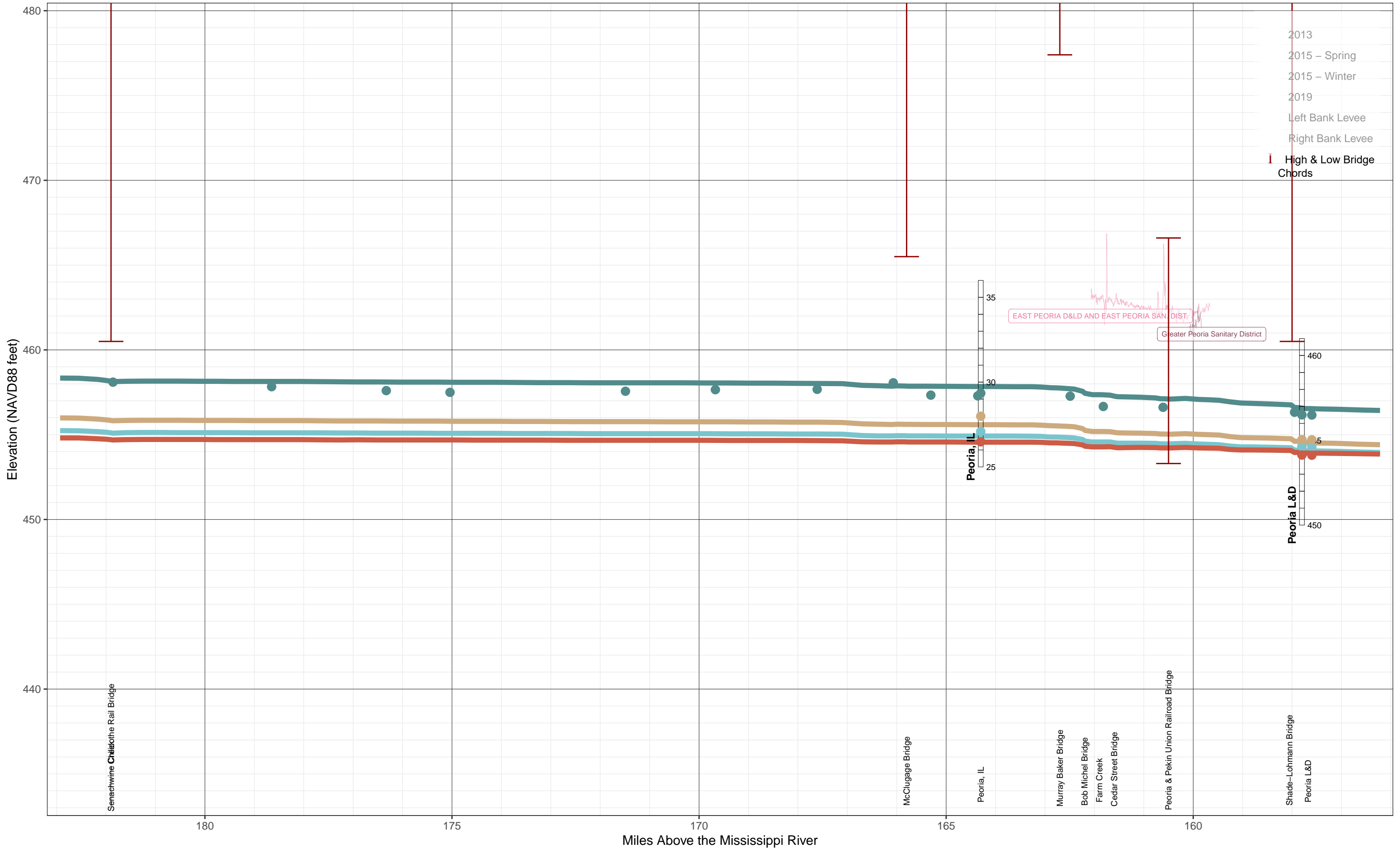
Upper Mississippi River Hydraulic Model – Illinois River



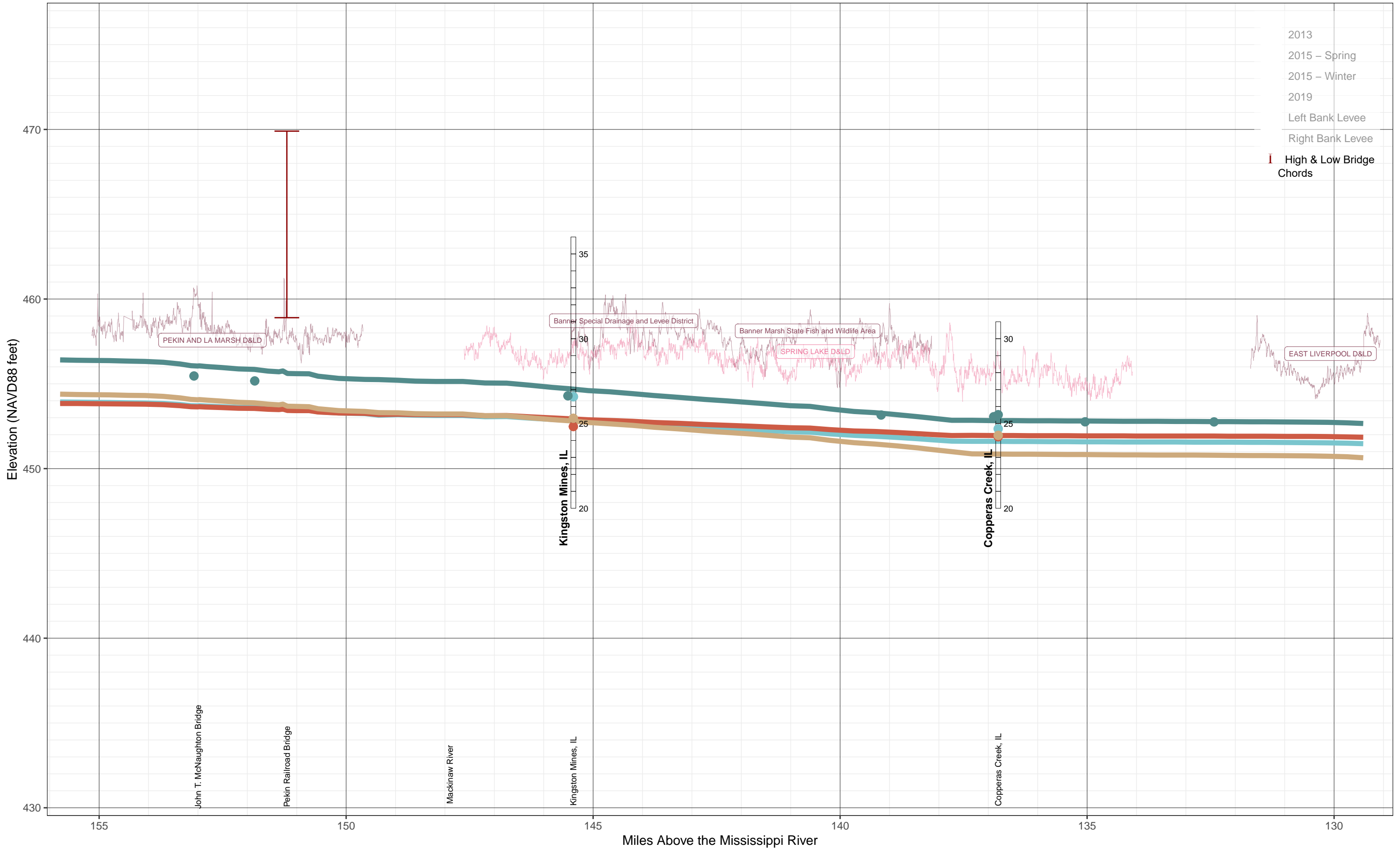
Upper Mississippi River Hydraulic Model – Illinois River



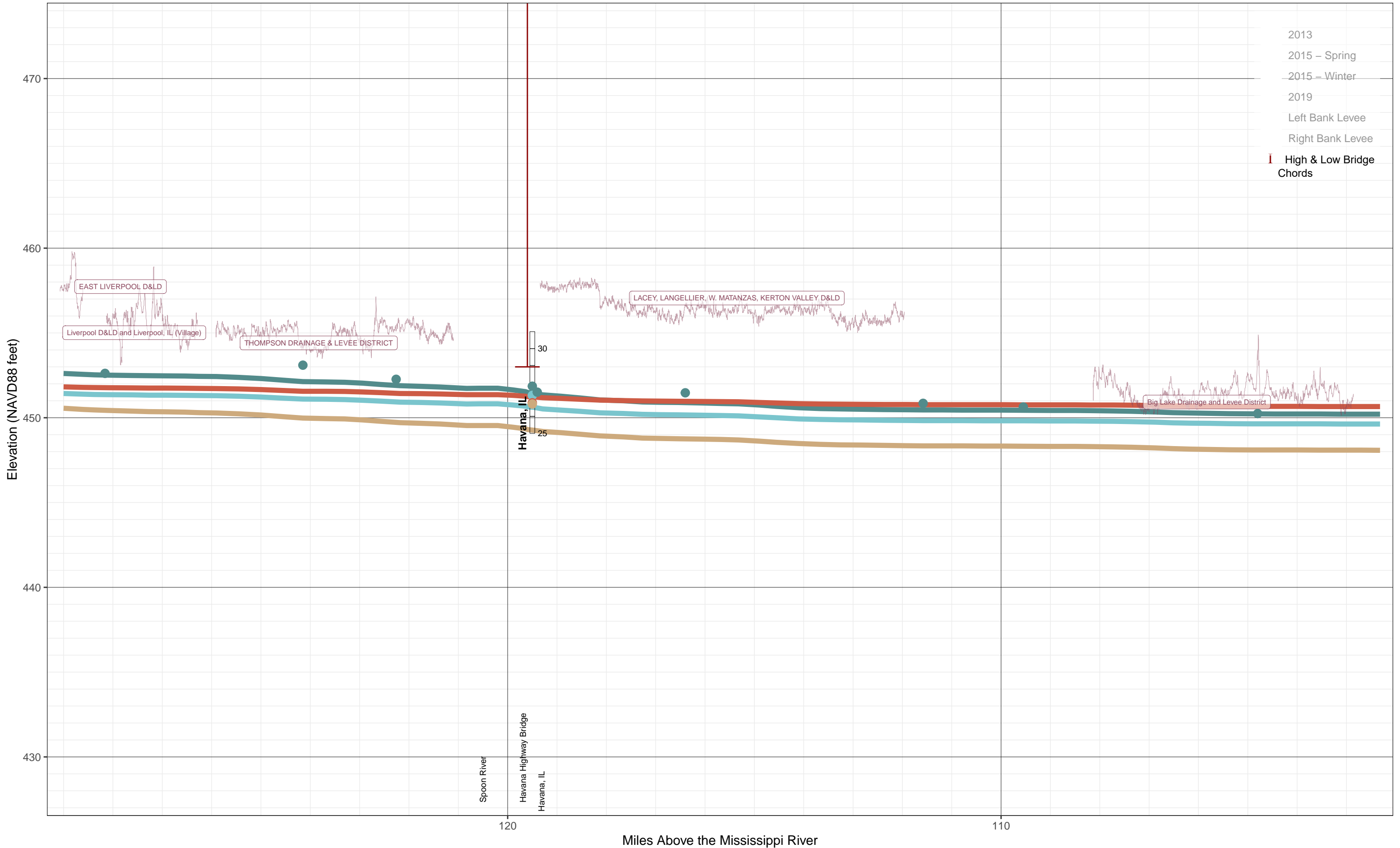
Upper Mississippi River Hydraulic Model – Illinois River



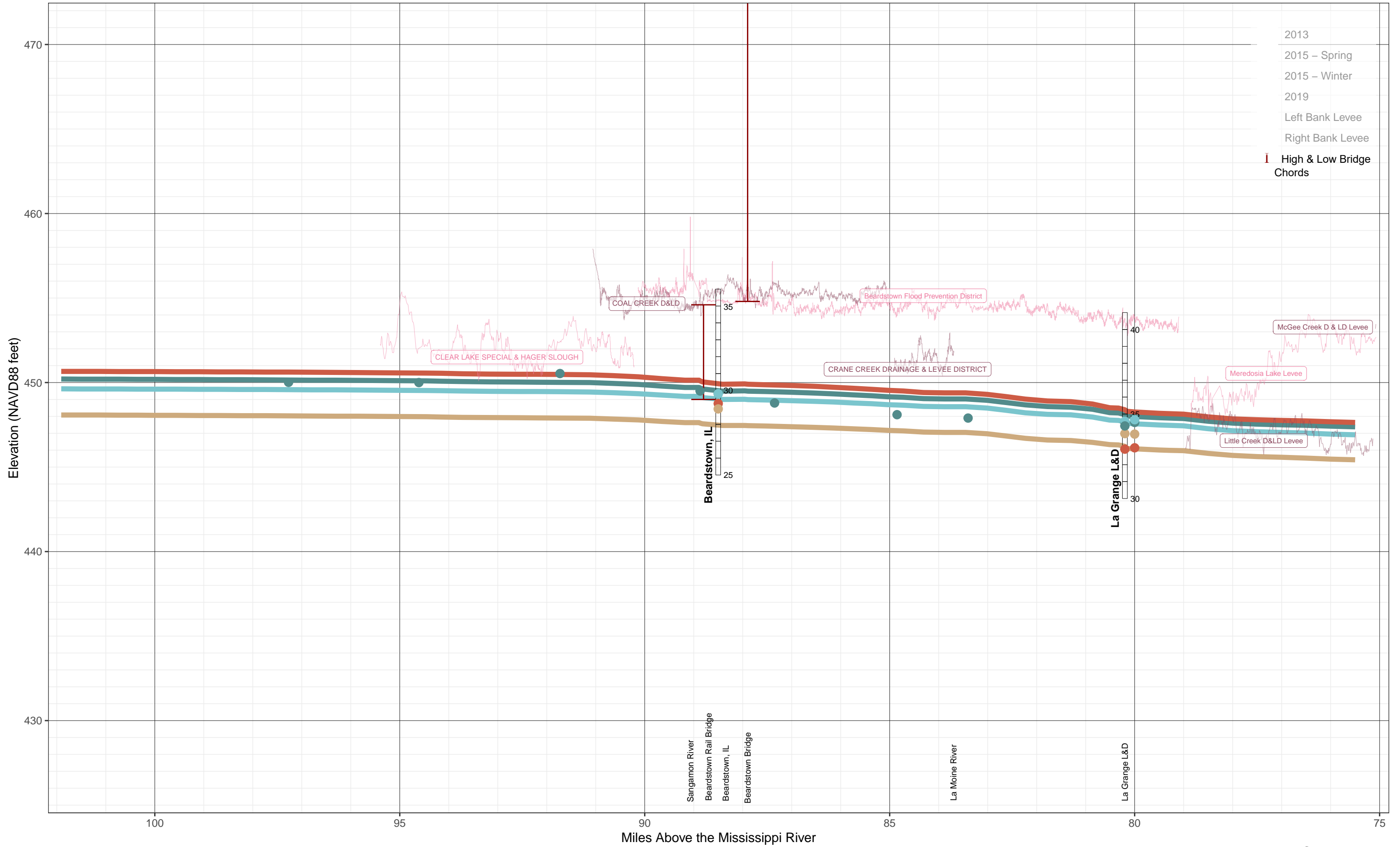
Upper Mississippi River Hydraulic Model – Illinois River



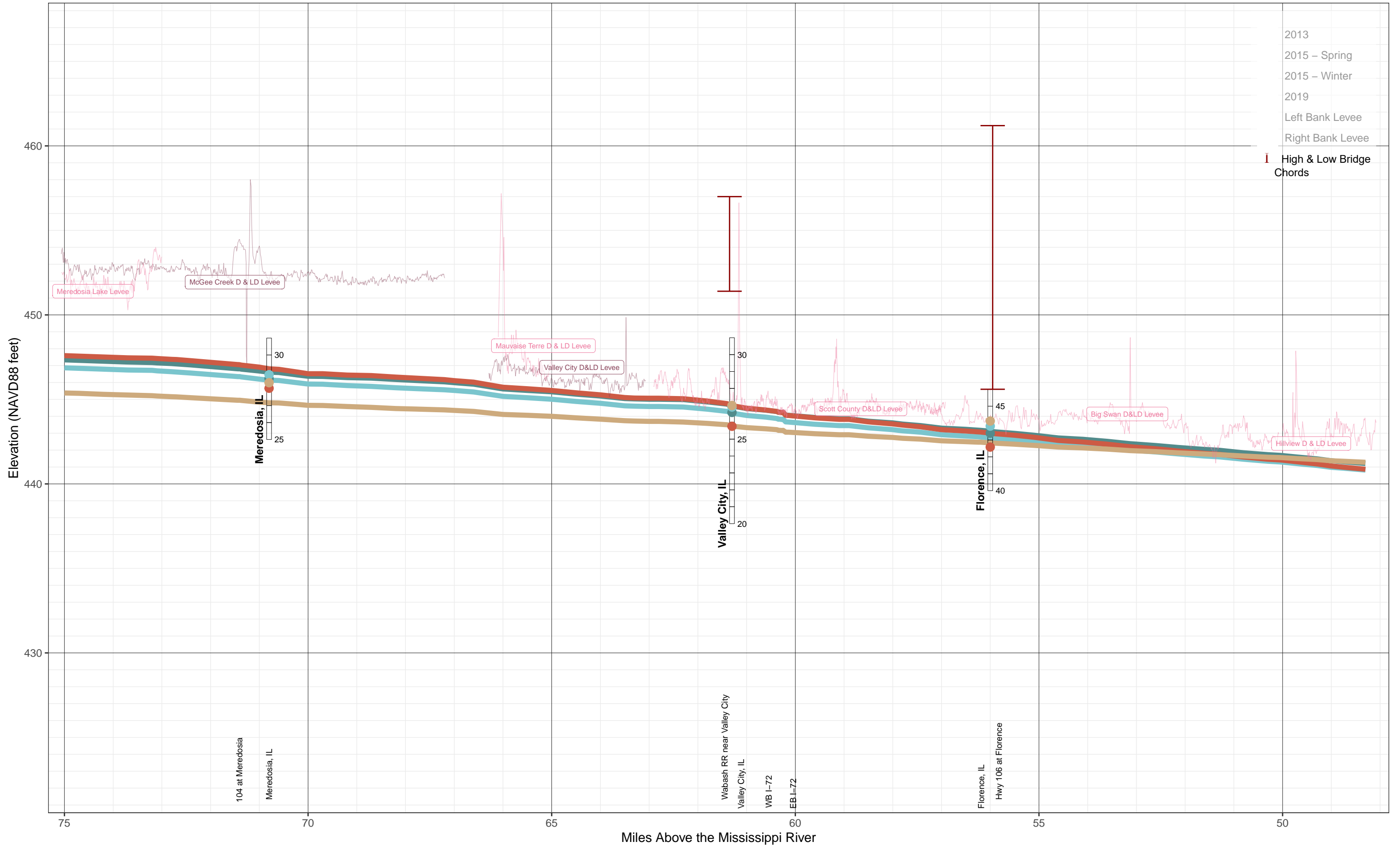
Upper Mississippi River Hydraulic Model – Illinois River



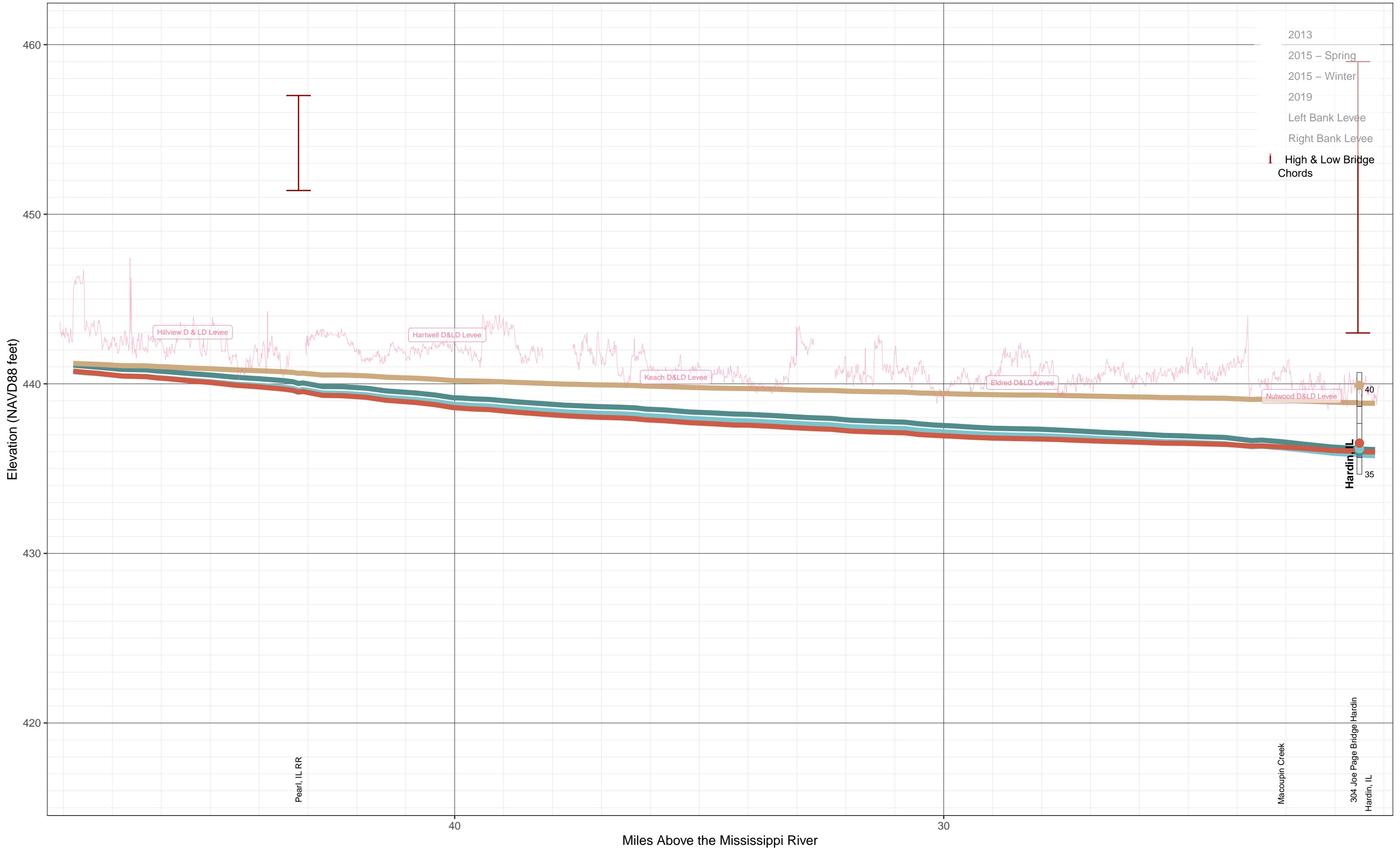
Upper Mississippi River Hydraulic Model – Illinois River



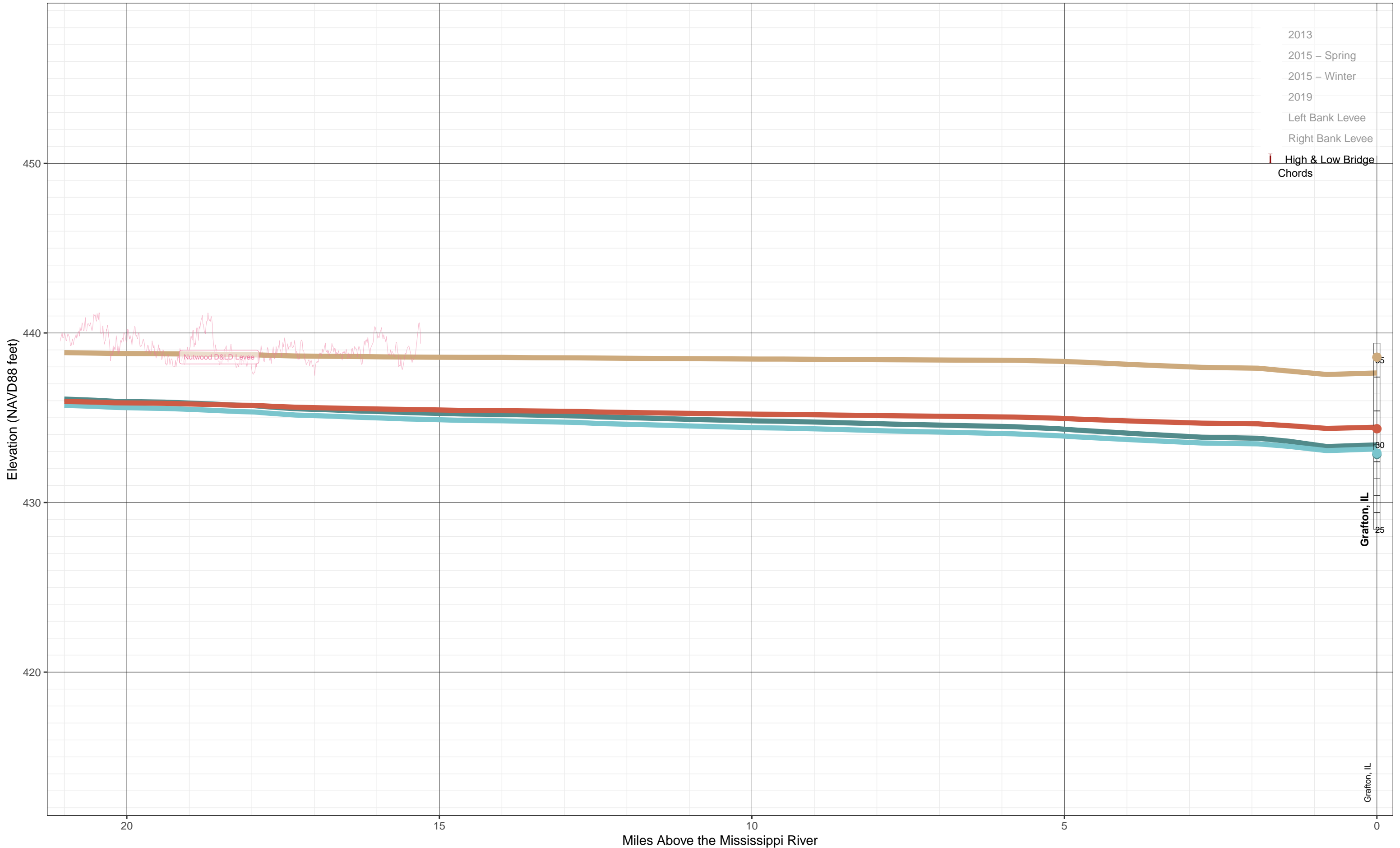
Upper Mississippi River Hydraulic Model – Illinois River



Upper Mississippi River Hydraulic Model – Illinois River



Upper Mississippi River Hydraulic Model – Illinois River



APPENDIX C-3

FLOW-ROUGHNESS FACTORS

Lockport L&D Tail to Brandon Road L&D Pool		Brandon Road L&D Tail to Dresden Island L&D Pool		Dresden Island L&D Tail to Marseilles L&D Pool		Marseilles USGS to Marseilles L&D Tail		Marseilles L&D Tail to Starved Rock L&D Pool		Starved Rock L&D Tail to Henry, IL	
RS 290.07 to RS 286.16		RS 286.1 to RS 271.47		RS 271.41 to RS 246.99		RS 246.87 to RS 244.54		RS 244.38 to RS 231.04		RS 230.87 to RS 195.98	
Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor
0	1	0	1	0	1	0	1.2	0	0.8	0	0.8
5000	1	10000	1	15000	1	20000	1	20000	0.85	20000	0.85
10000	1	20000	1	30000	1	40000	0.8	40000	0.9	40000	0.95
15000	1.05	30000	1.05	45000	1	60000	0.8	60000	0.9	60000	1.05
20000	1.1	40000	1.05	60000	1.05	80000	0.8	80000	1.05	80000	1.15
25000	1.1	50000	1.05	75000	1.2	100000	0.8	100000	1.2	100000	1.25
30000	1.1	60000	1.05	90000	1.2	120000	0.8	120000	1.2	120000	1.3
35000	1.1	70000	1.05	105000	1.2	140000	0.8	140000	1.2	140000	1.3
40000	1.1	80000	1.05	120000	1.2	160000	0.8	160000	1.2	160000	1.3
45000	1.1	90000	1.05	135000	1.2	180000	0.8	180000	1.2	180000	1.3
50000	1.1	100000	1.05	150000	1.2	200000	0.8	200000	1.2	200000	1.3
55000	1.1	110000	1.05	165000	1.2	220000	0.8	220000	1.2	220000	1.3
60000	1.1	120000	1.05	180000	1.2	240000	0.8	240000	1.2	240000	1.3
65000	1.1	130000	1.05	195000	1.2	260000	0.8	260000	1.2	260000	1.3
70000	1.1	140000	1.05	210000	1.2	280000	0.8	280000	1.2	280000	1.3
75000	1.1	150000	1.05	225000	1.2	300000	0.8	300000	1.2	300000	1.3
80000	1.1	160000	1.05	240000	1.2	320000	0.8	320000	1.2	320000	1.3
85000	1.1	170000	1.05	255000	1.2	340000	0.8	340000	1.2	340000	1.3

Henry, IL to Peoria L&D Pool		Peoria L&D Tail to Havana, IL		Havana, IL to LaGrange L&D Pool		La Grange L&D Tail to Valley City, IL		Valley City, IL to Florence, IL		Florence, IL to Apple Creek		Apple Creek to Grafton, IL	
RS 195.94 to RS 157.81		RS 157.74 to RS 119.64		RS 119.59 to RS 80.2		RS 80.16 to RS 61.34		RS 61.3 to RS 58.5		RS 58 to RS 38.7		RS 38.2 to RS 0	
Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor	Flow	Factor
0	0.95	0	0.8	0	1	0	1	0	0.95	0	0.95	0	0.95
20000	0.95	15000	0.8	15000	1	15000	1	7500	0.95	7500	0.95	7500	0.95
40000	0.85	30000	0.8	30000	1	30000	1	15000	0.95	15000	0.95	15000	0.95
60000	0.8	45000	0.8	45000	1	45000	1.013	22500	0.95	22500	0.95	22500	0.95
80000	1.05	60000	1	60000	1	60000	1.015	30000	0.95	30000	0.95	30000	0.95
100000	1.2	75000	1.2	75000	1.05	75000	1.018	37500	0.95	37500	0.938	37500	0.95
120000	1.2	90000	1.2	90000	1.1	90000	1.043	45000	0.988	45000	0.943	45000	0.95
140000	1.2	105000	1.2	105000	1.1	105000	1.073	52500	1.013	52500	0.943	52500	0.95
160000	1.2	120000	1.2	120000	1.1	120000	1.073	60000	1.025	60000	0.993	60000	0.9
180000	1.2	135000	1.2	135000	1.1	135000	1.073	67500	1.038	67500	1	67500	0.9
200000	1.2	150000	1.2	150000	1.1	150000	1.073	75000	1.05	75000	1.018	75000	0.9
220000	1.2	165000	1.2	165000	1.1	165000	1.073	82500	1.038	82500	1.018	82500	0.85
240000	1.2	180000	1.2	180000	1.1	180000	1.073	90000	1.068	90000	1.018	90000	0.85
260000	1.2	195000	1.2	195000	1.1	195000	1.073	97500	1.093	97500	1.023	97500	0.853
280000	1.2	210000	1.2	210000	1.1	210000	1.073	105000	1.105	105000	1.025	105000	0.853
300000	1.2	225000	1.2	225000	1.1	225000	1.073	112500	1.083	112500	1.033	112500	0.853
320000	1.2	240000	1.2	240000	1.1	240000	1.073	120000	1.075	120000	1.033	120000	0.853
340000	1.2	255000	1.2	255000	1.1	255000	1.073	127500	1.075	127500	1.033	127500	0.848
								135000	1.075	135000	1.033	135000	0.848
								142500	1.075	142500	1.033	142500	0.848
								150000	1.075	150000	1.033	150000	0.848
								157500	1.075	157500	1.033	157500	0.848
								165000	1.075	165000	1.033	165000	0.848
								172500	1.075	172500	1.033	172500	0.848
								180000	1.075	180000	1.033	180000	0.848