
APPENDIX H - SIMULATED VERSUS OBSERVED HYDROGRAPHS OF CALIBRATION TARGET SPRINGS

Appendix H includes hydrographs and duration curves of the observed and simulated spring flows during the transient model simulation period (2005 through 2018) for 28 target springs. Data gaps on select springflow hydrographs represent periods of no available data. It is noted that observed springflow data was reported using various springflow measurement methods, which may represent discharge from a single spring vent or cumulative discharge from a group of springs. A substantial quality assurance effort was conducted by the Districts during compilation and analysis of springflow data. The best available data was then used as transient calibration targets.

The hydrograph on the top of each page illustrates a monthly time-series of spring discharge. The flow-duration curve on the bottom of each page represents spring discharge and the corresponding percentage of time that a particular discharge is exceeded for each calibration target spring. The same dataset was used to construct each hydrograph and flow-duration curve pair.

Note: The following definitions apply to all figures included in this appendix. Additional information regarding the presented statistics is included in Chapter 4.

ME = mean error

MAE = mean absolute error

R^2 = coefficient of determination

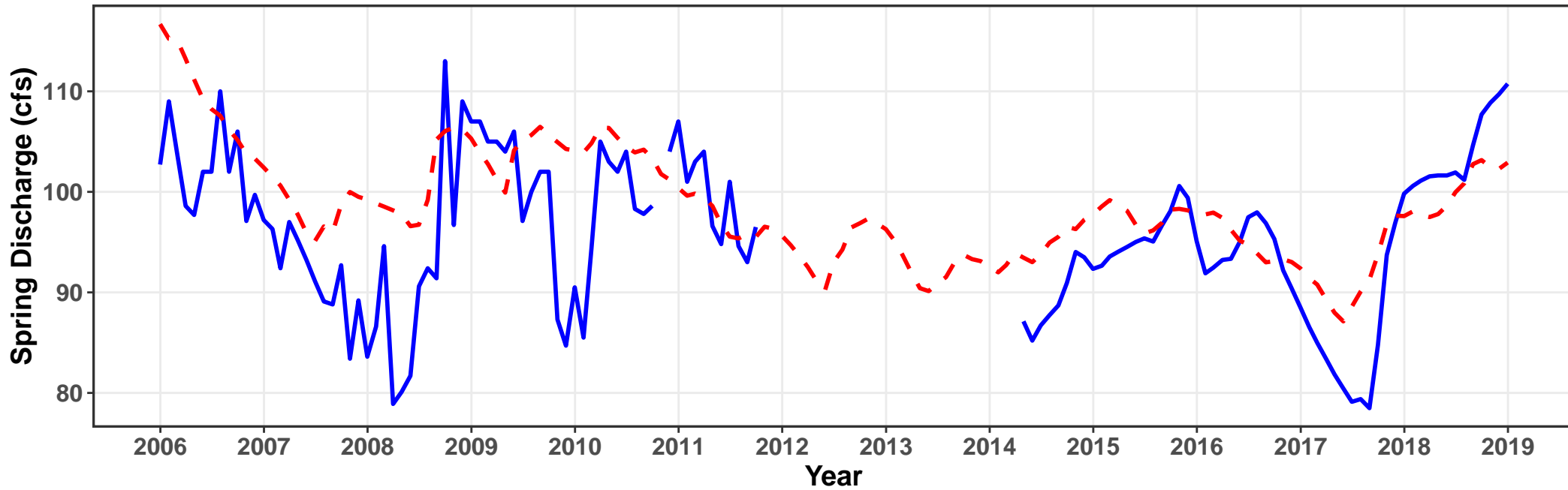
NSE = Nash-Sutcliffe efficiency coefficient

cfs = cubic feet per second

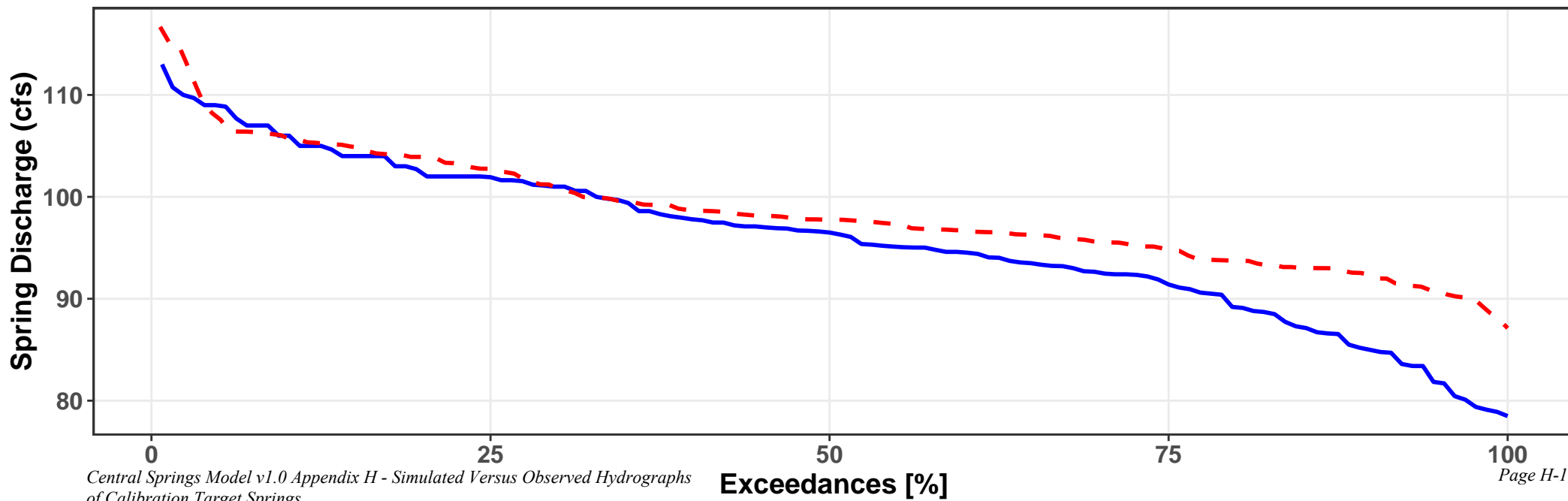
Alexander Springs

ME = 3.7 MAE = 5.6 $R^2 = 0.3791$ NSE = 0.14

— Observed — Simulated



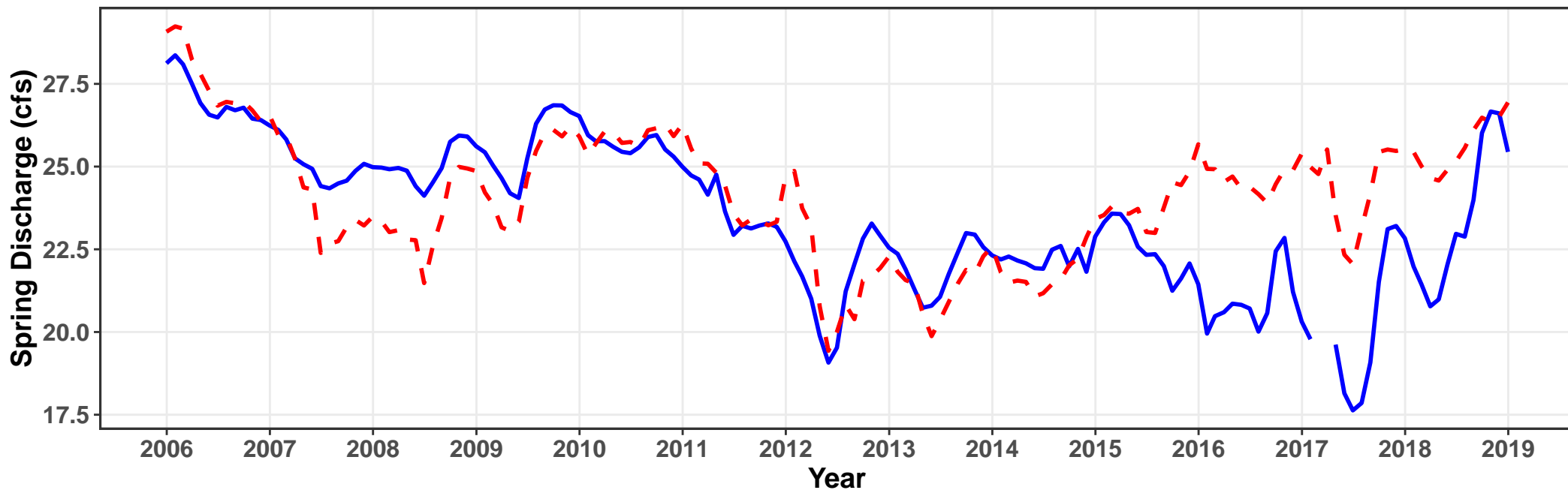
Flow-Duration Curve



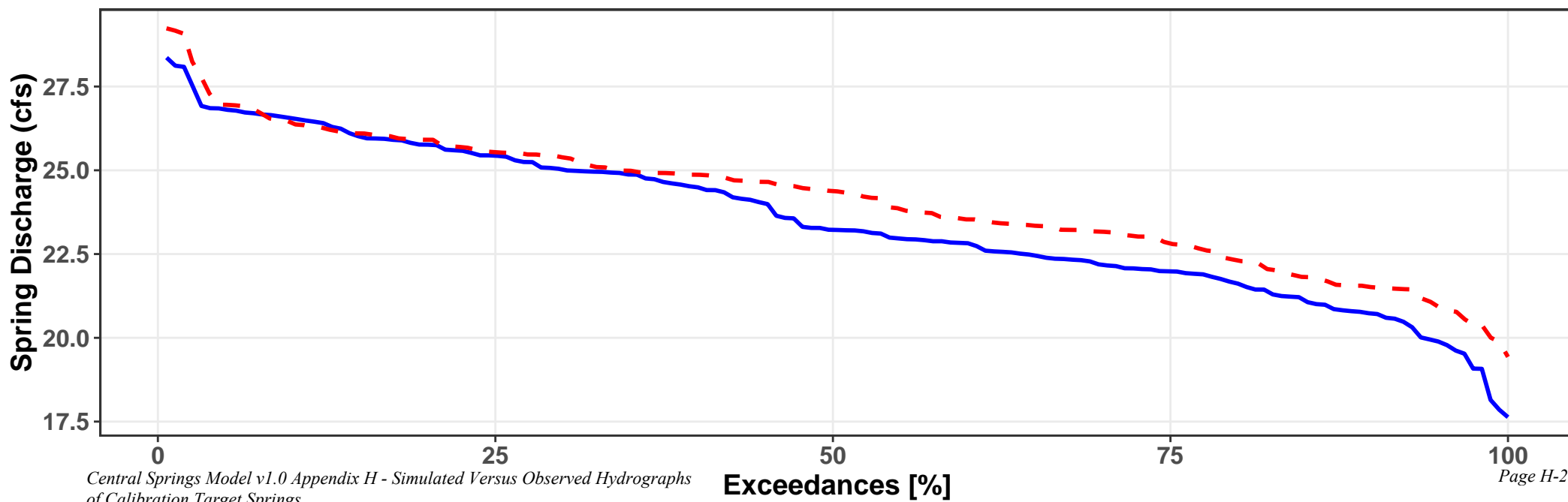
Apopka Springs

ME = 0.6 MAE = 1.4 $R^2 = 0.3898$ NSE = 0.262

— Observed — Simulated



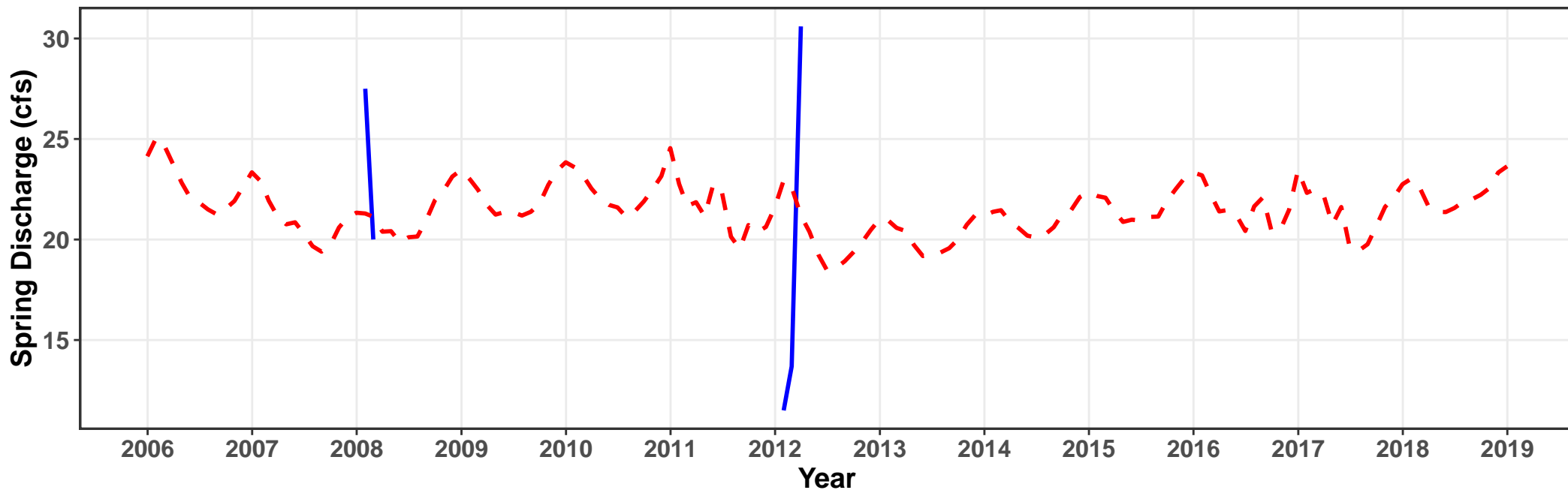
Flow-Duration Curve



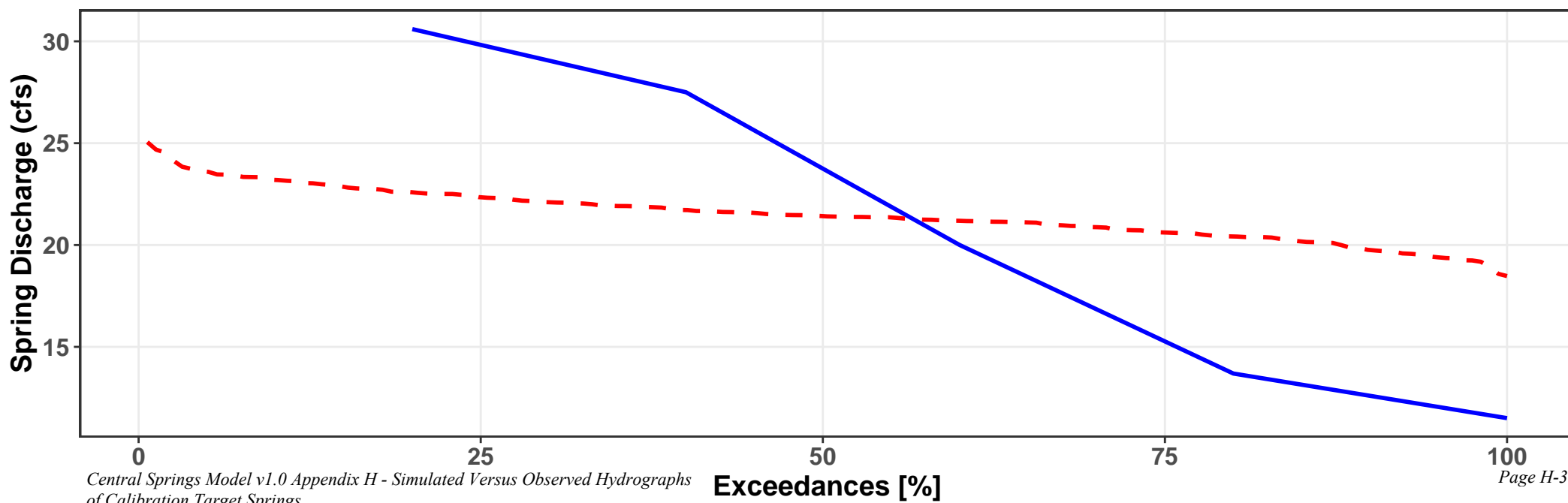
Blue Spring – Marion

ME = 1.2 MAE = 7.4 $R^2 = 0.7514$ NSE = -0.217

— Observed — Simulated



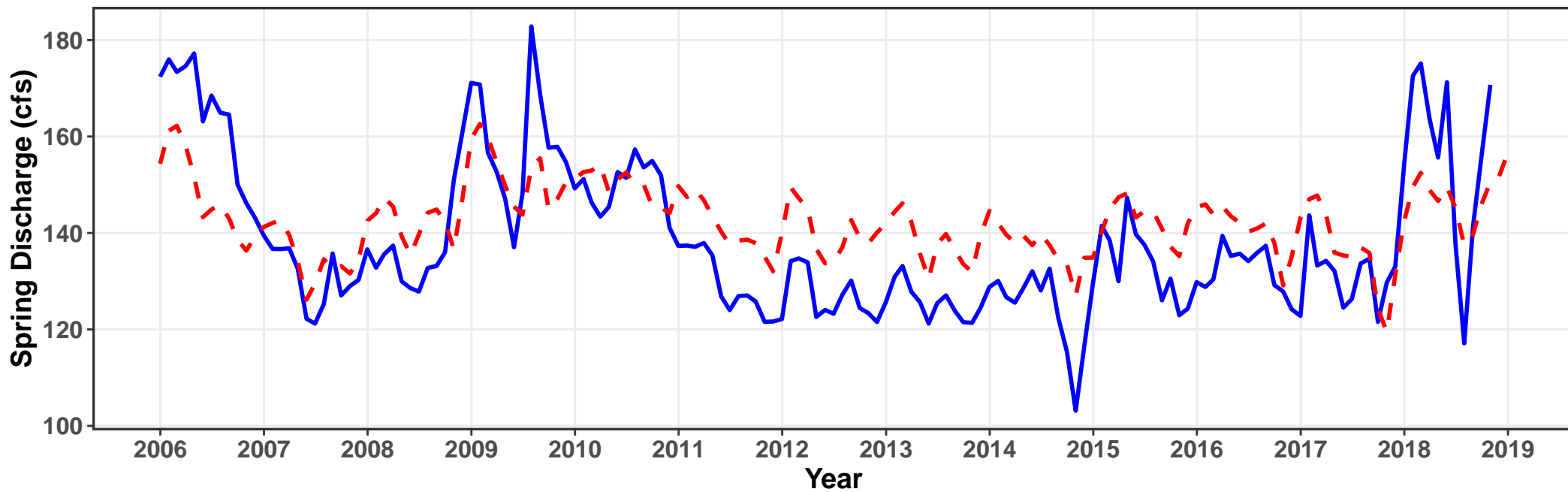
Flow–Duration Curve



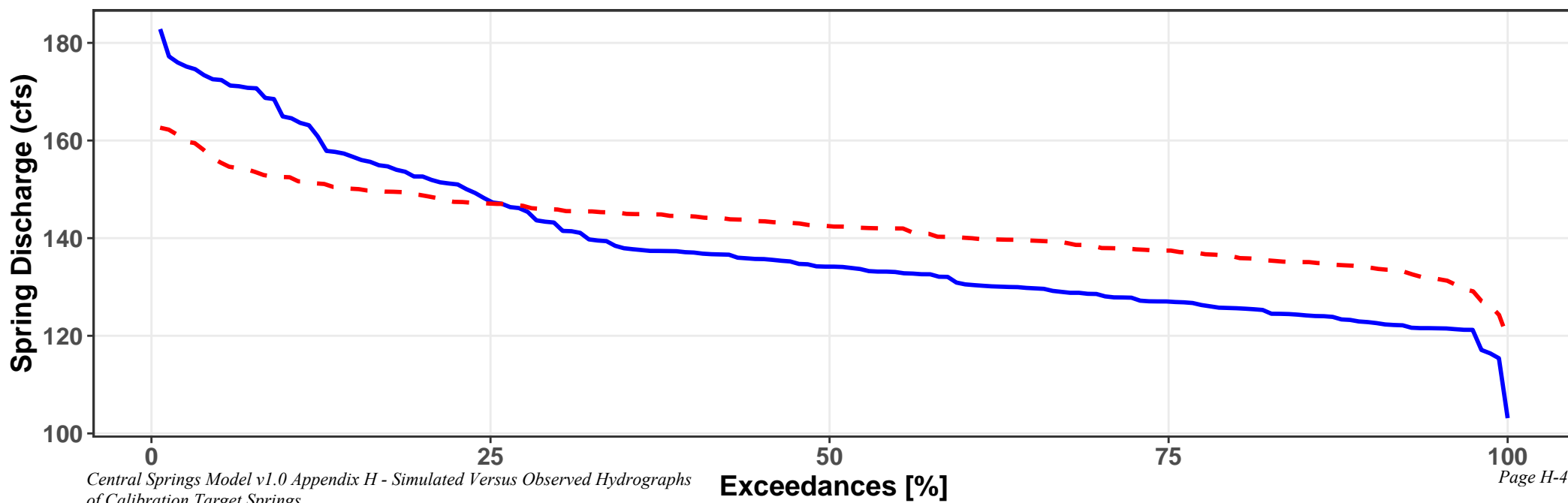
Blue Spring Org City

ME = 4 MAE = 10.4 $R^2 = 0.5677$ NSE = 0.426

— Observed - - Simulated



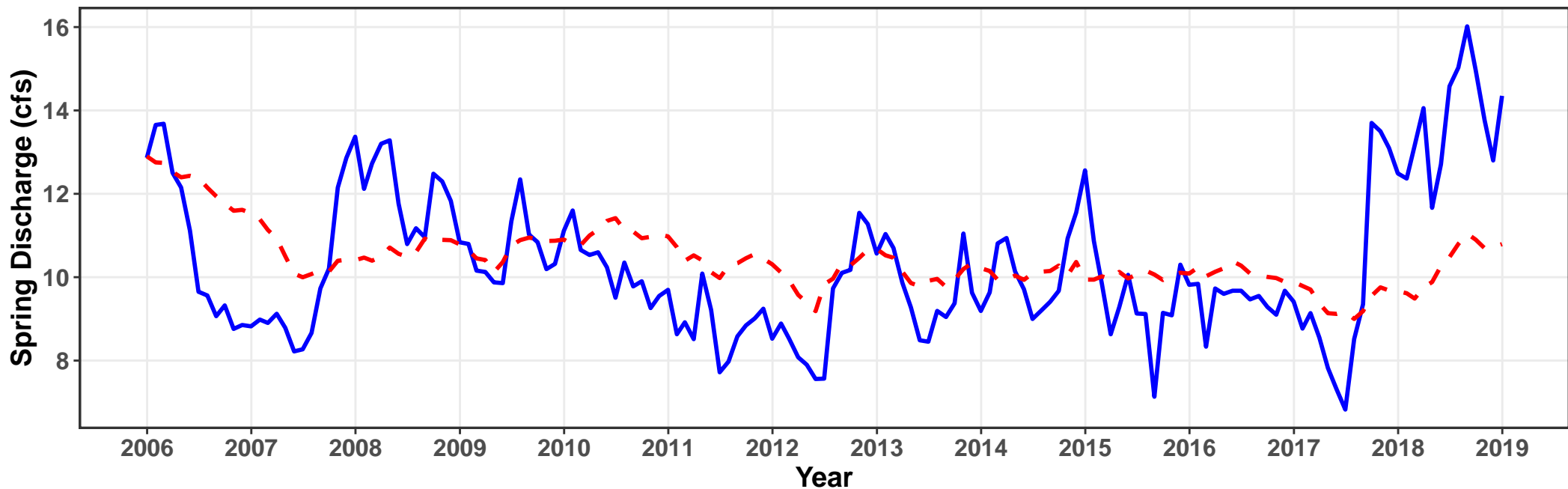
Flow-Duration Curve



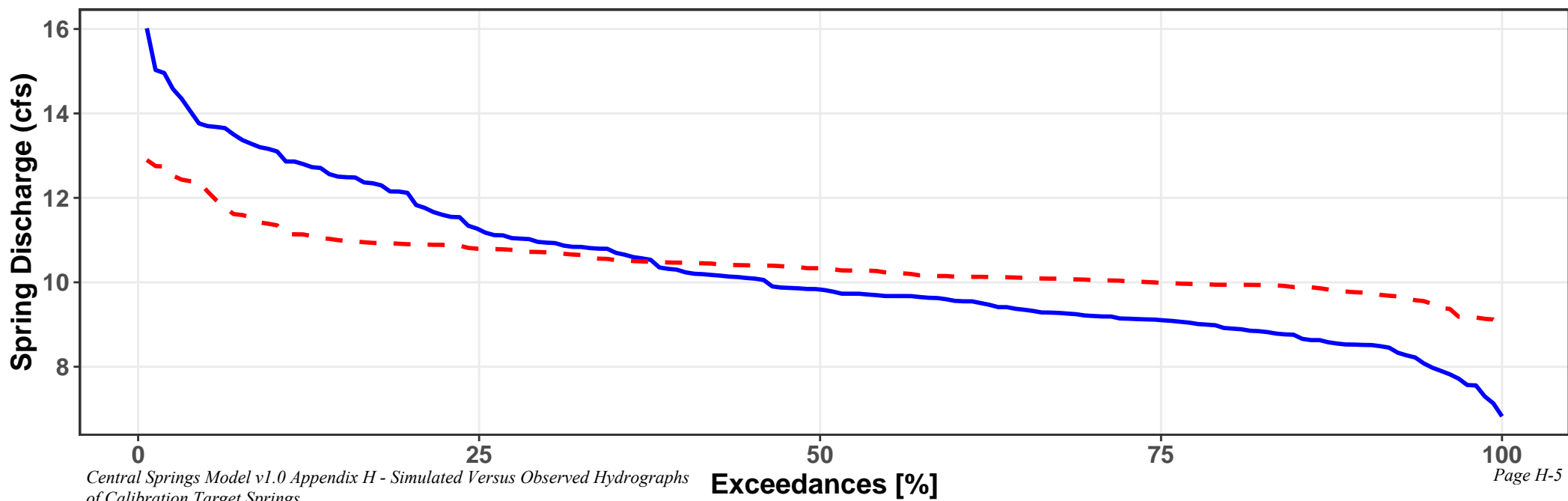
Bugg Springs

ME = 0.1 MAE = 1.3 $R^2 = 0.0974$ NSE = 0.083

— Observed - - Simulated



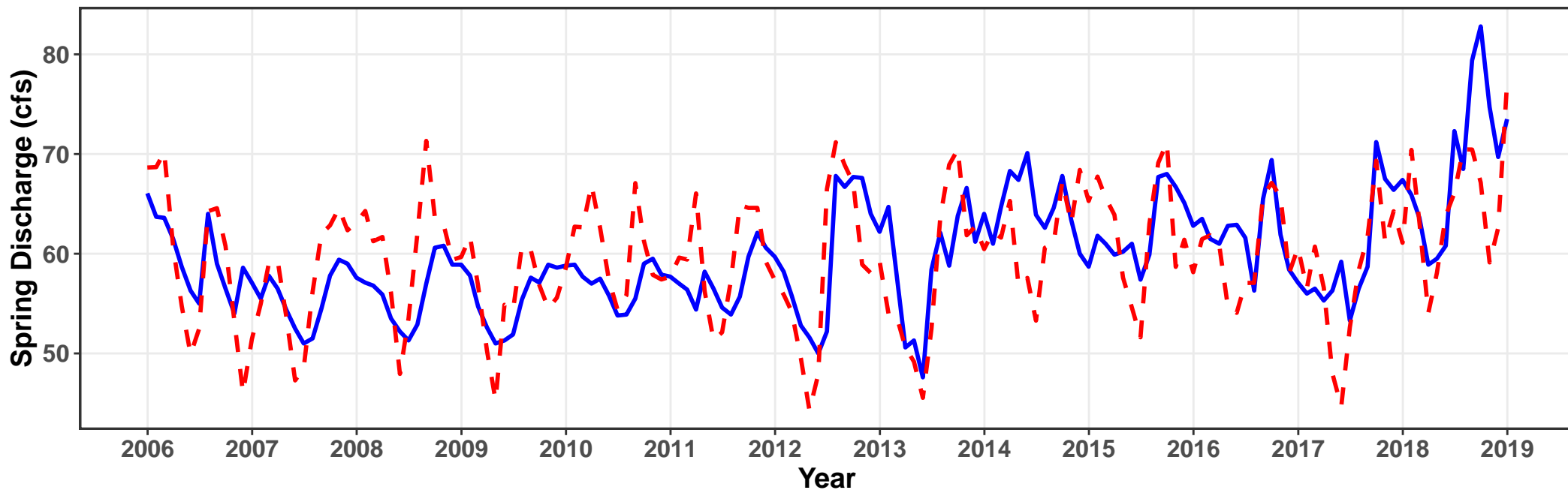
Flow-Duration Curve



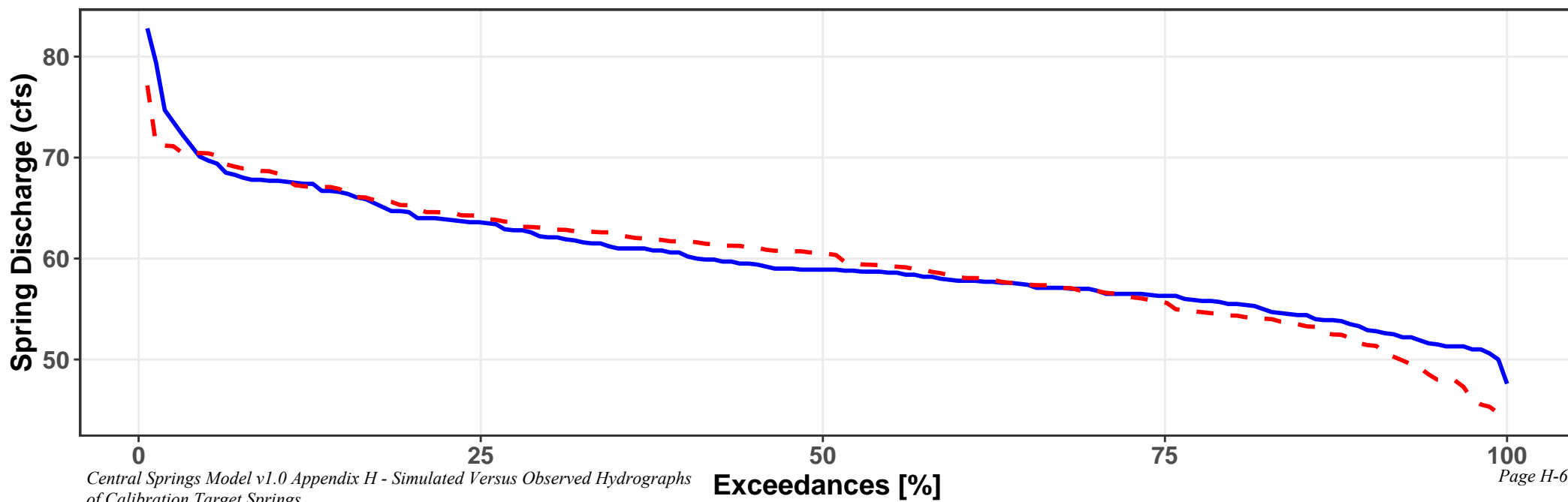
Chassahowitzka Spring Main

ME = -0.2 MAE = 4.3 $R^2 = 0.3549$ NSE = 0.097

— Observed - - Simulated



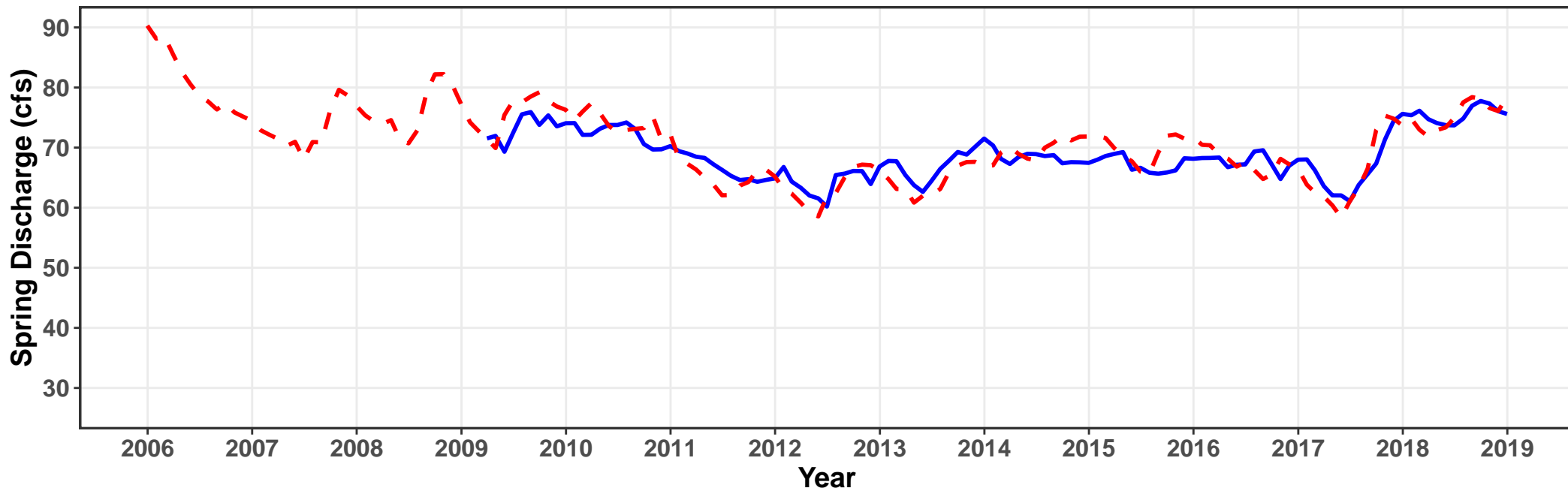
Flow-Duration Curve



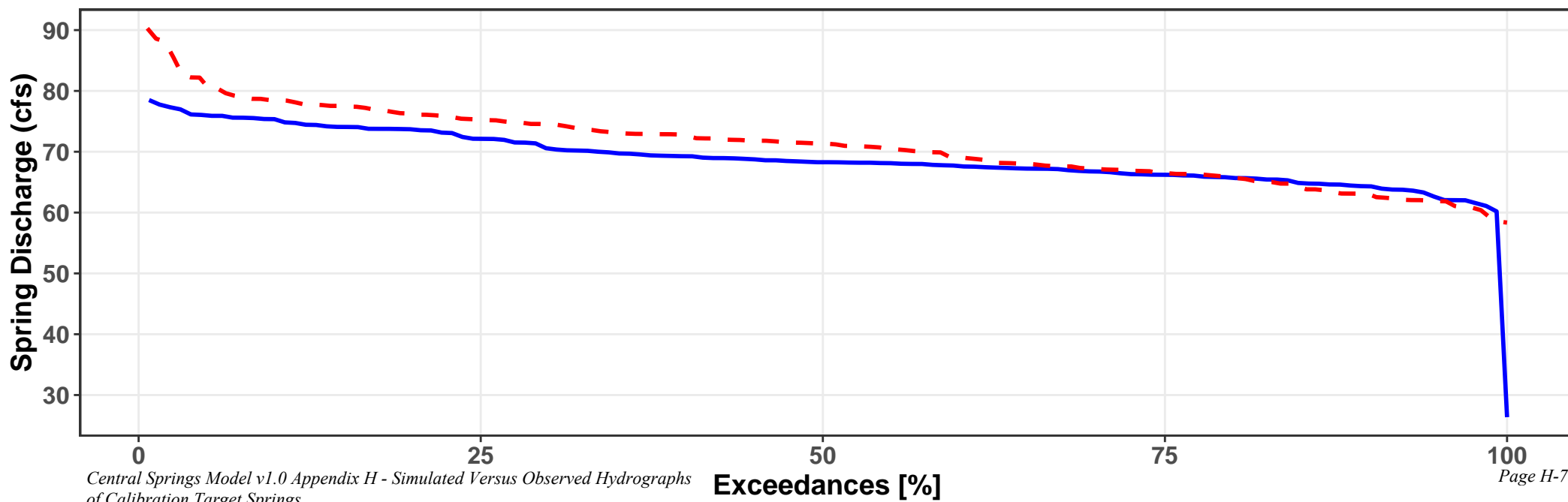
Croaker Hole Spring

ME = 1.2 MAE = 3 $R^2 = 0.1395$ NSE = -0.377

— Observed — Simulated



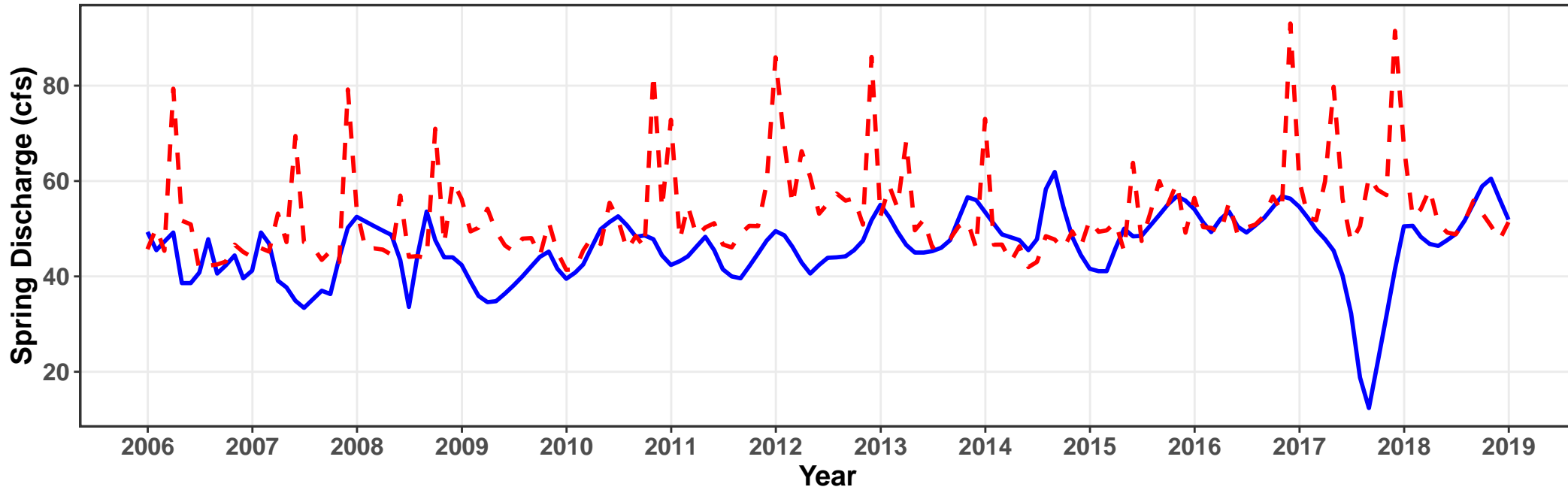
Flow-Duration Curve



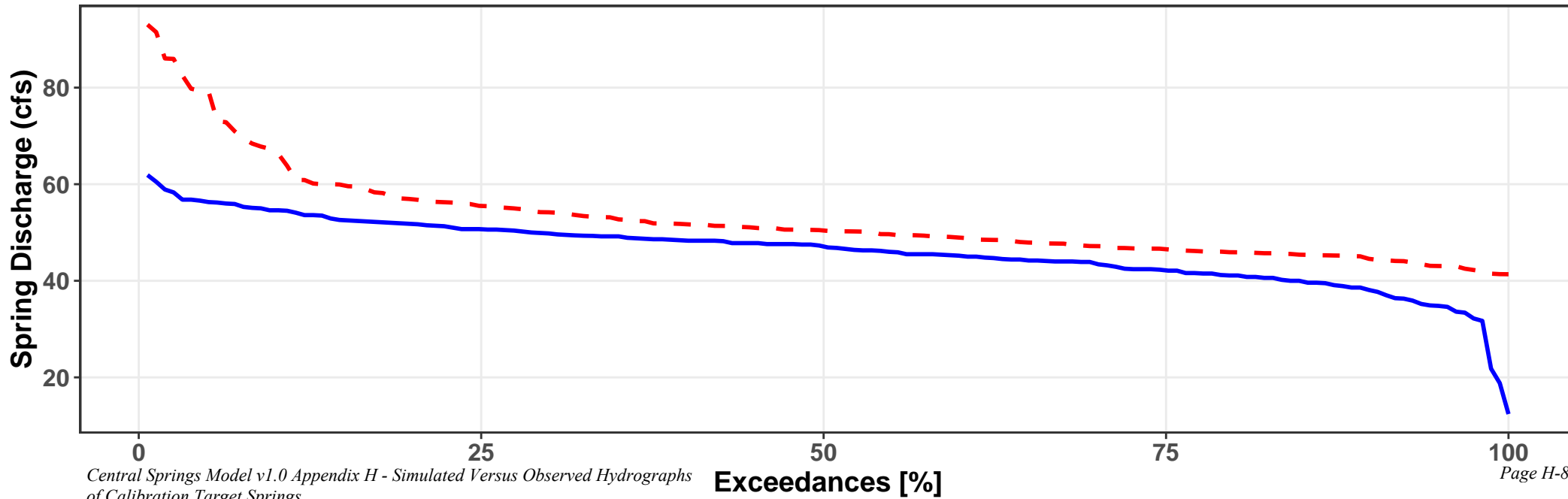
Crystal Main Spring (Pasco)

ME = 6.8 MAE = 9 $R^2 = 0.0102$ NSE = -2.443

— Observed - - Simulated



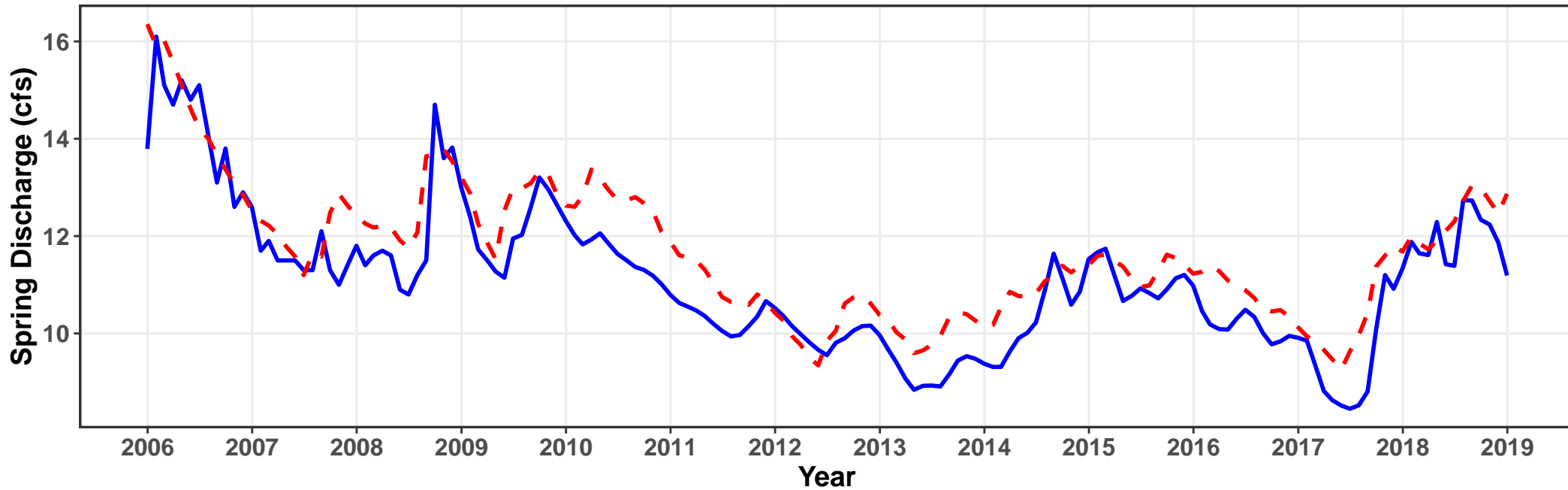
Flow-Duration Curve



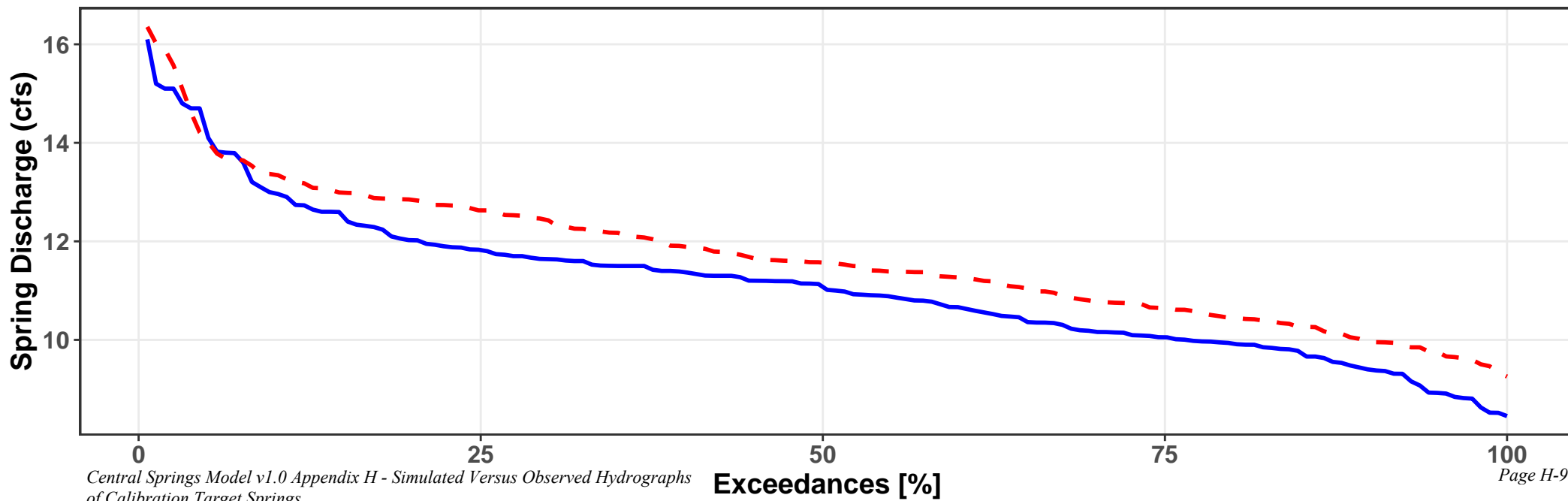
Fern Hammock Springs

ME = 0.6 MAE = 0.7 $R^2 = 0.8639$ NSE = 0.711

— Observed - - Simulated



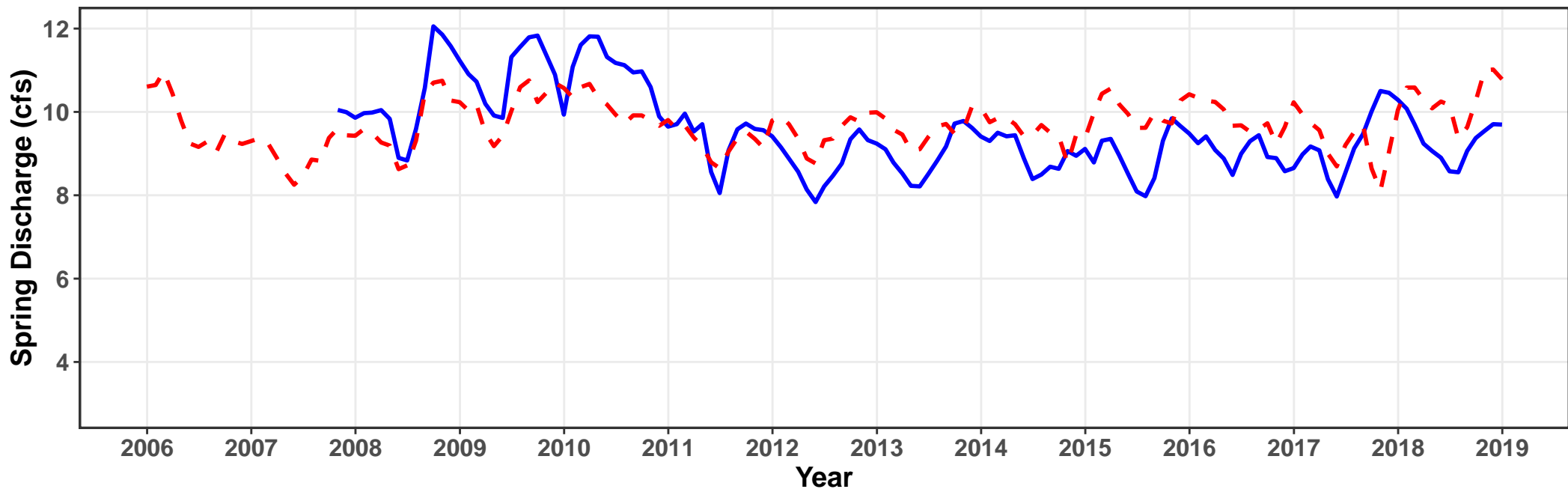
Flow-Duration Curve



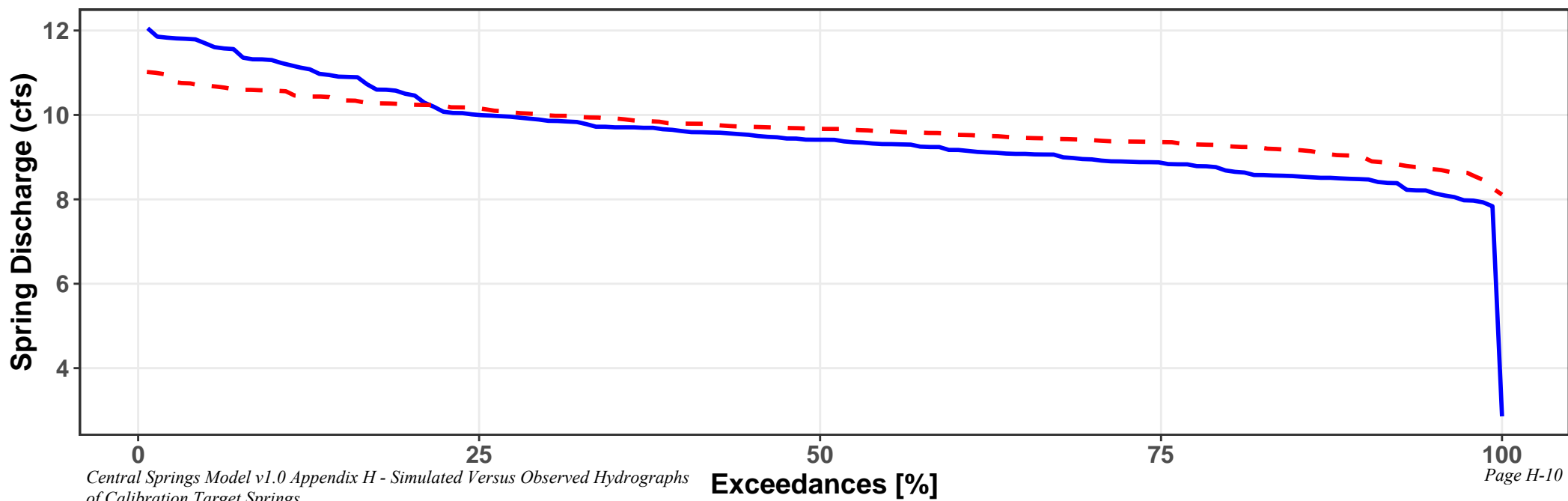
Gemini Spring

ME = 0.2 MAE = 0.8 $R^2 = 0.1251$ NSE = 0.07

— Observed - - Simulated



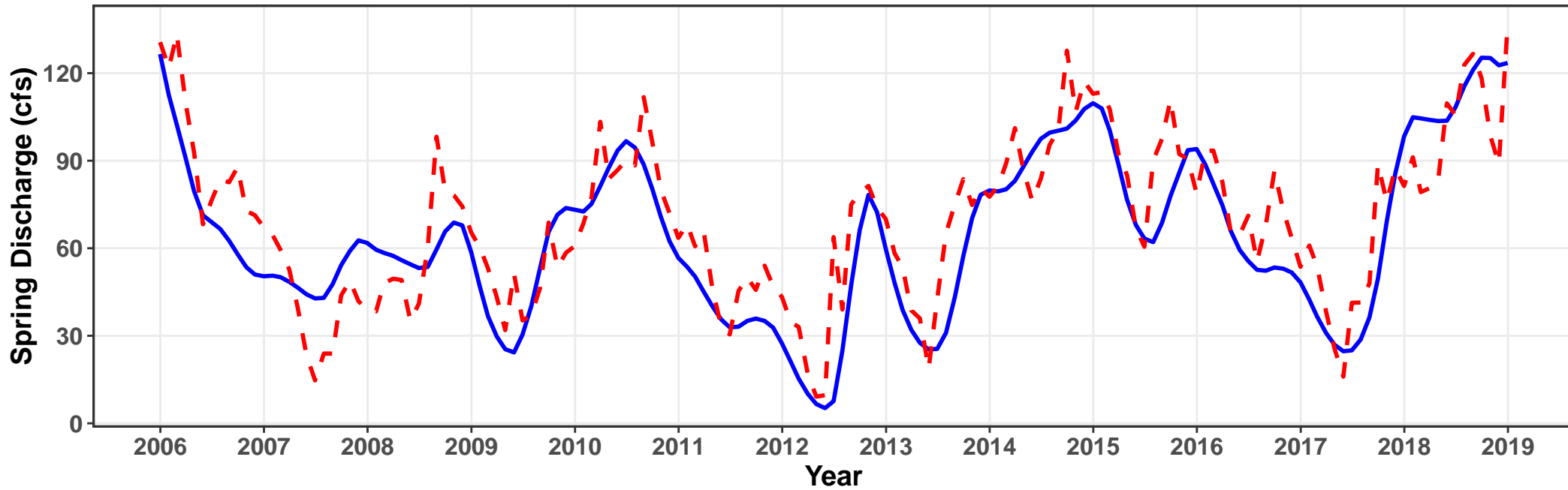
Flow-Duration Curve



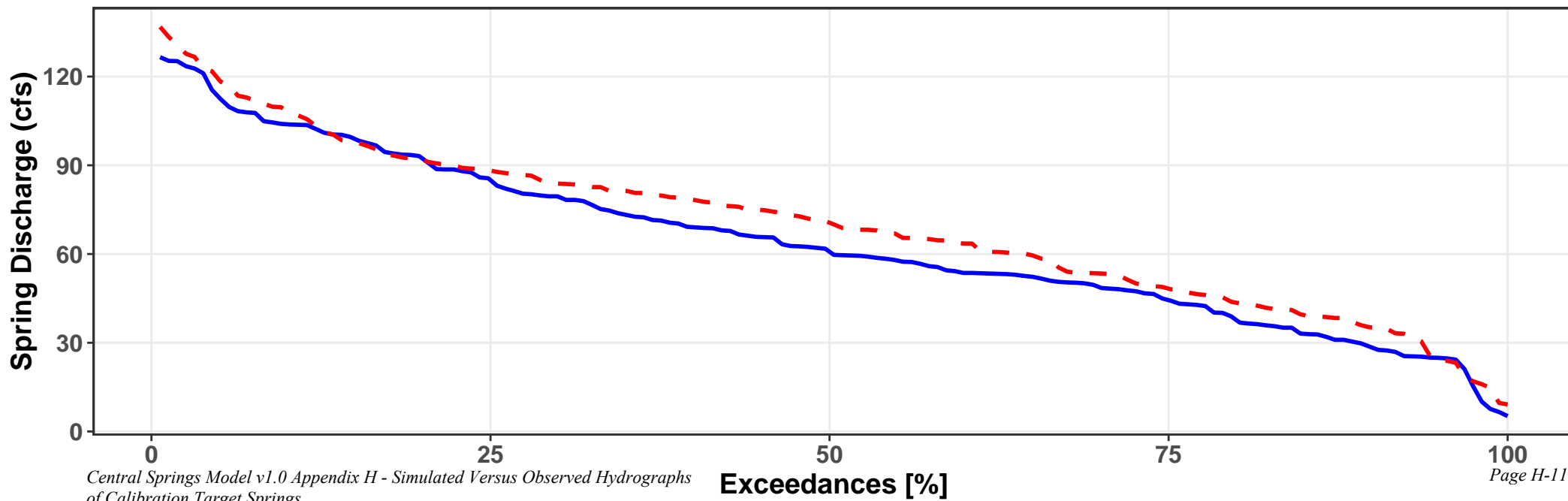
Gum Spring Main

ME = 5.5 MAE = 12.9 $R^2 = 0.7305$ NSE = 0.675

— Observed - - Simulated



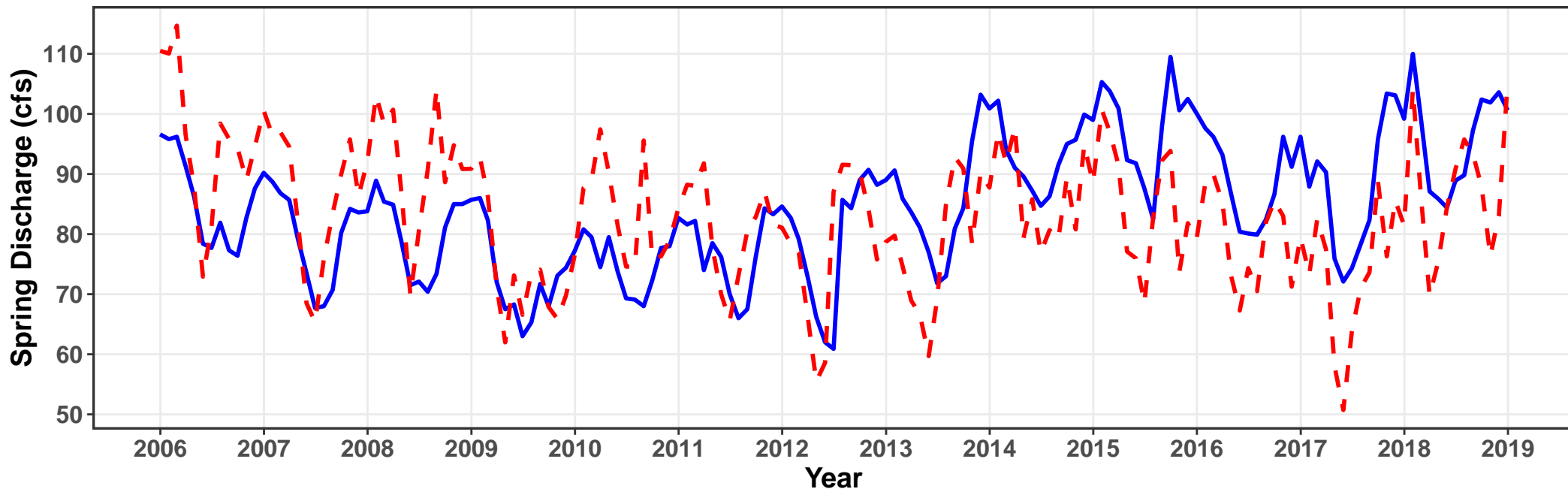
Flow-Duration Curve



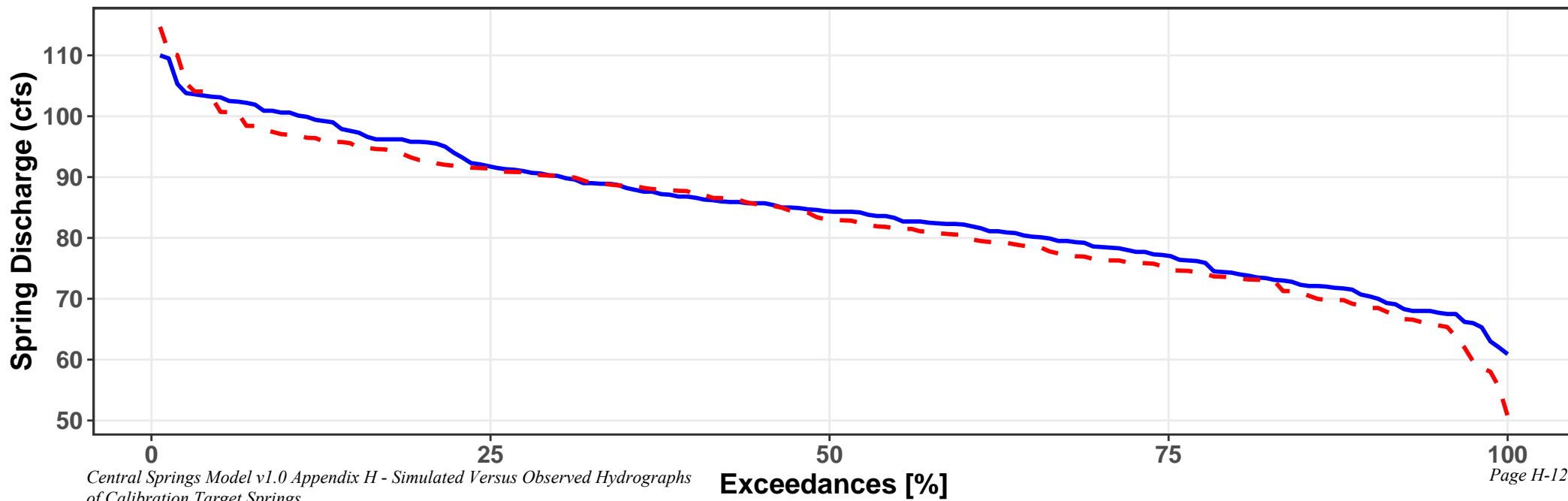
Homosassa Spring #1

ME = -1.4 MAE = 9.6 $R^2 = 0.2271$ NSE = -0.135

— Observed - - Simulated



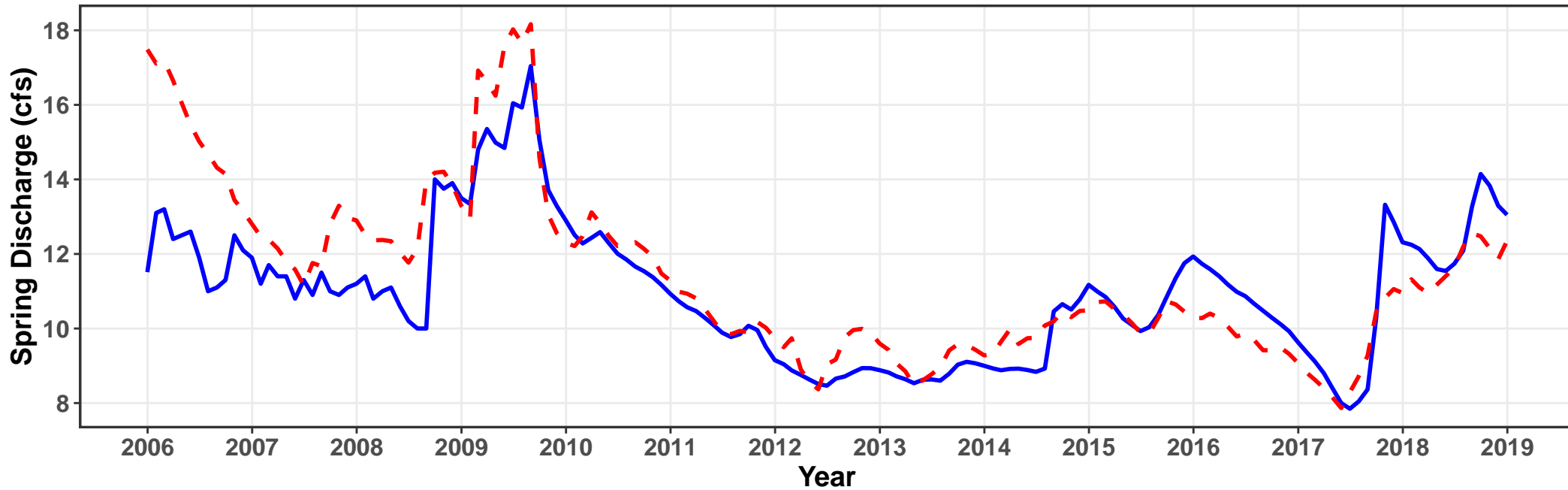
Flow-Duration Curve



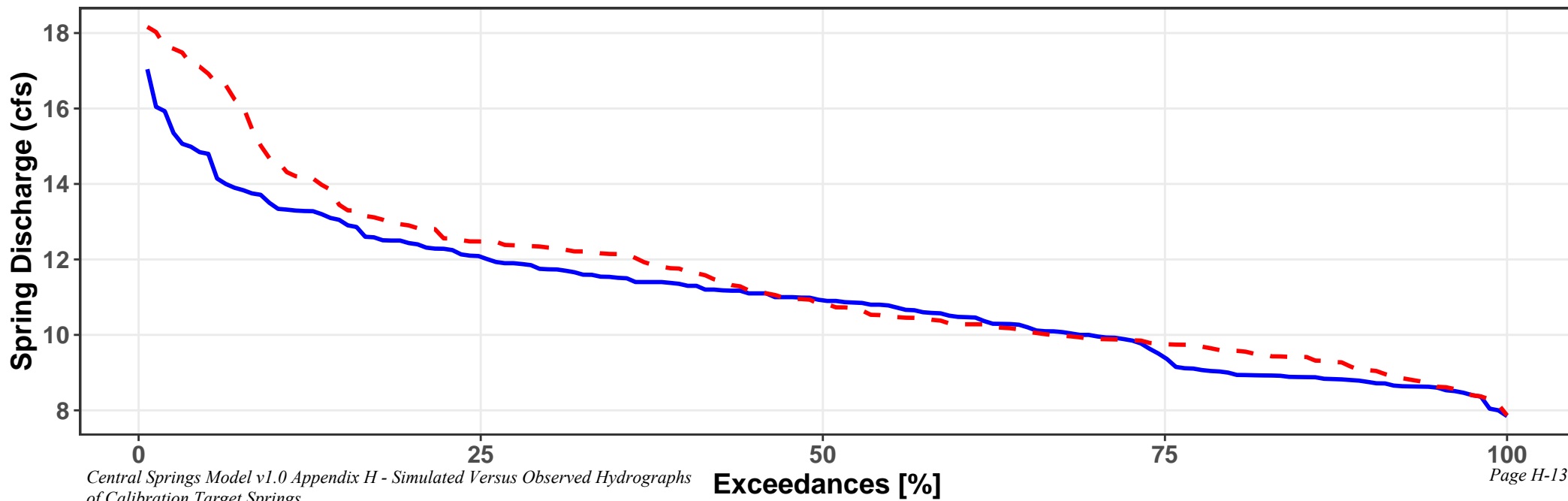
Juniper Springs

ME = 0.4 MAE = 0.9 $R^2 = 0.6878$ NSE = 0.462

— Observed — Simulated



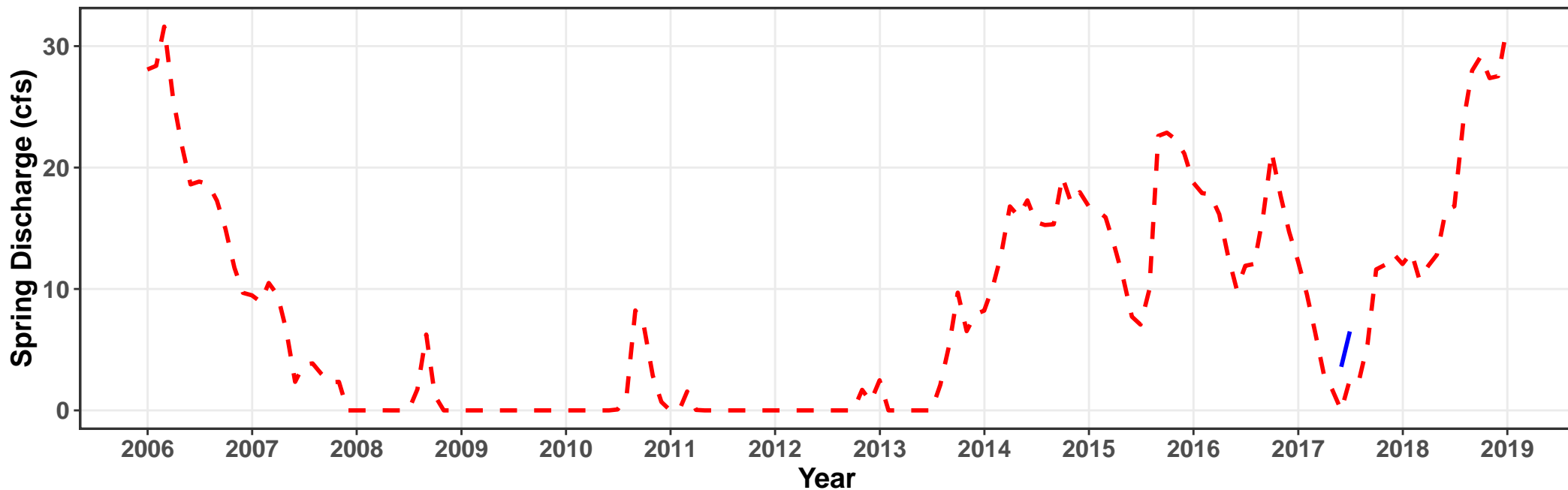
Flow-Duration Curve



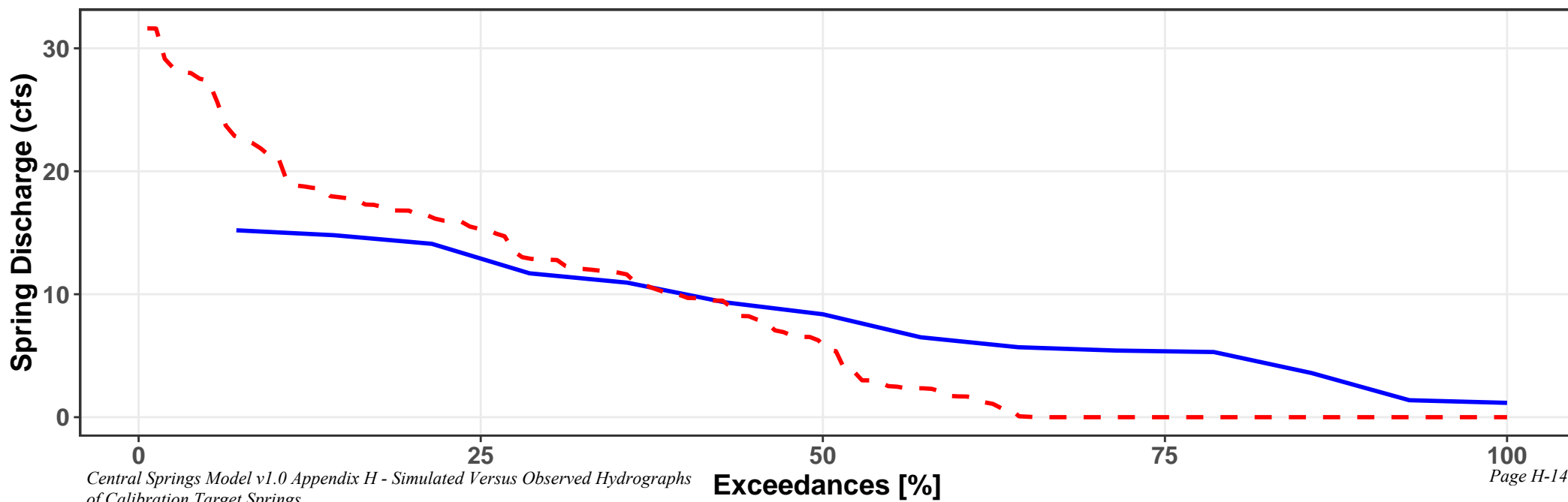
Levy Blue Spring

ME = 5.8 MAE = 7.7 $R^2 = 0.1273$ NSE = -4.026

— Observed — Simulated



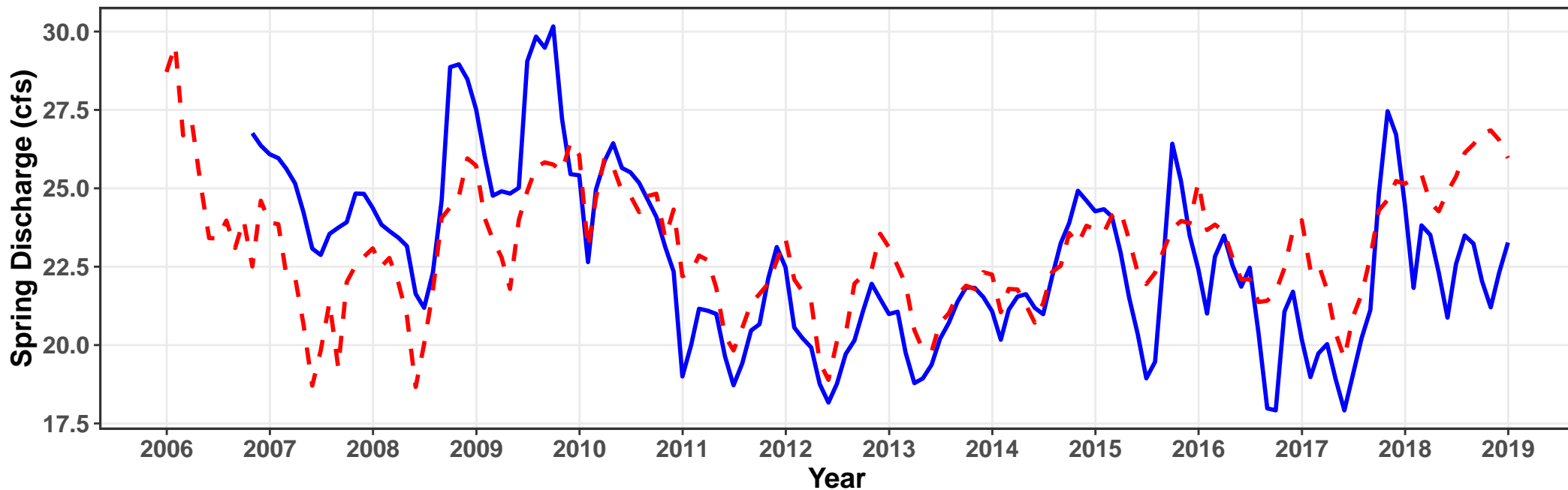
Flow-Duration Curve



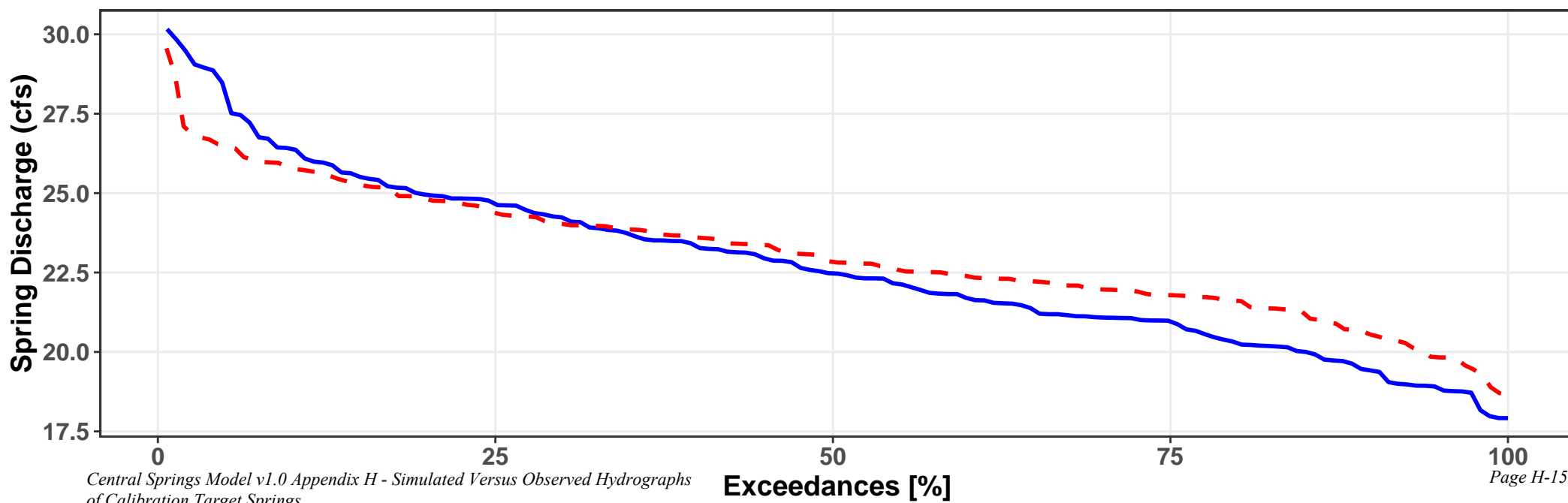
Ponce De Leon Spring

ME = 0.2 MAE = 1.7 $R^2 = 0.4001$ NSE = 0.393

— Observed — Simulated



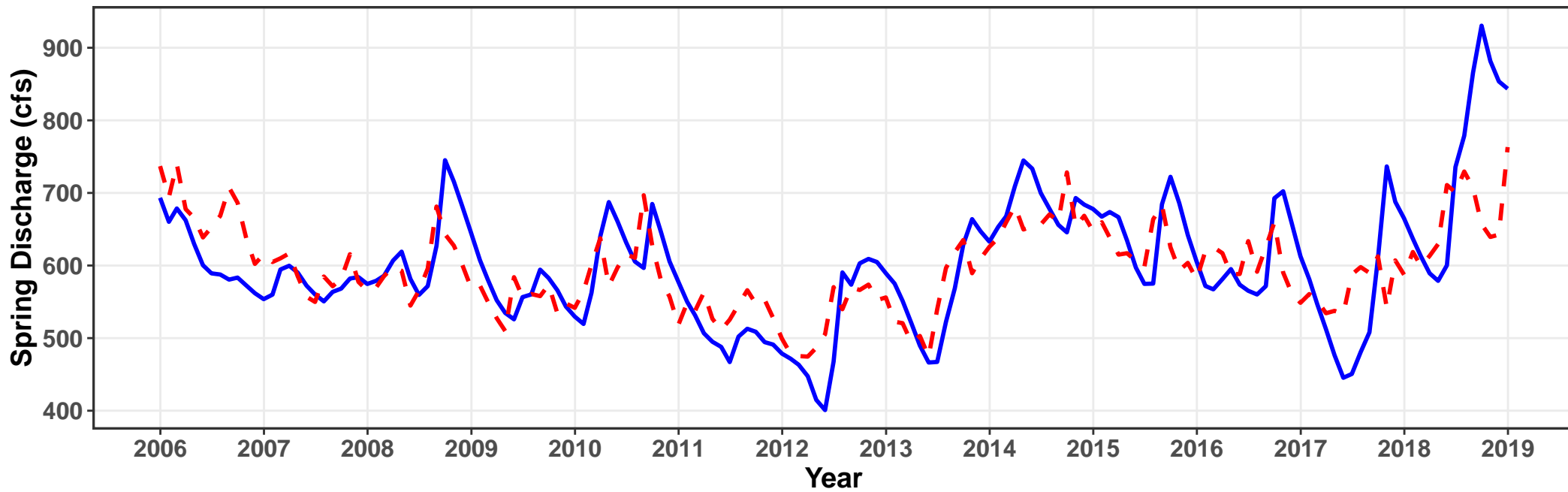
Flow-Duration Curve



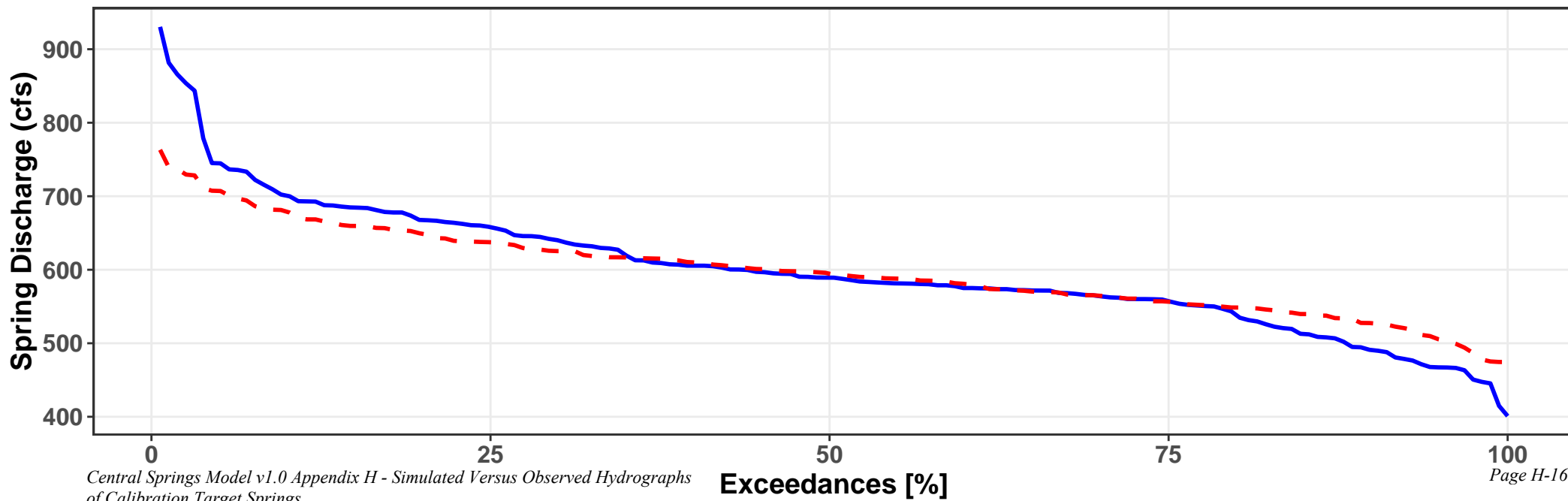
Rainbow Spring #1

ME = -3.5 MAE = 47.8 $R^2 = 0.4567$ NSE = 0.455

— Observed - - Simulated



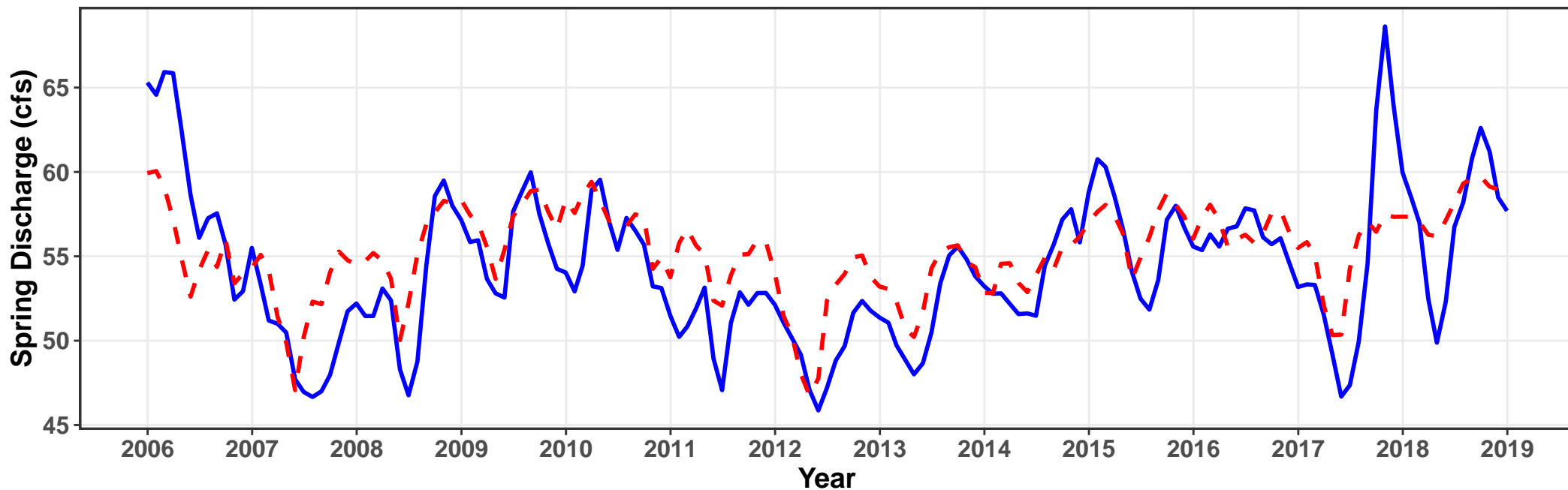
Flow-Duration Curve



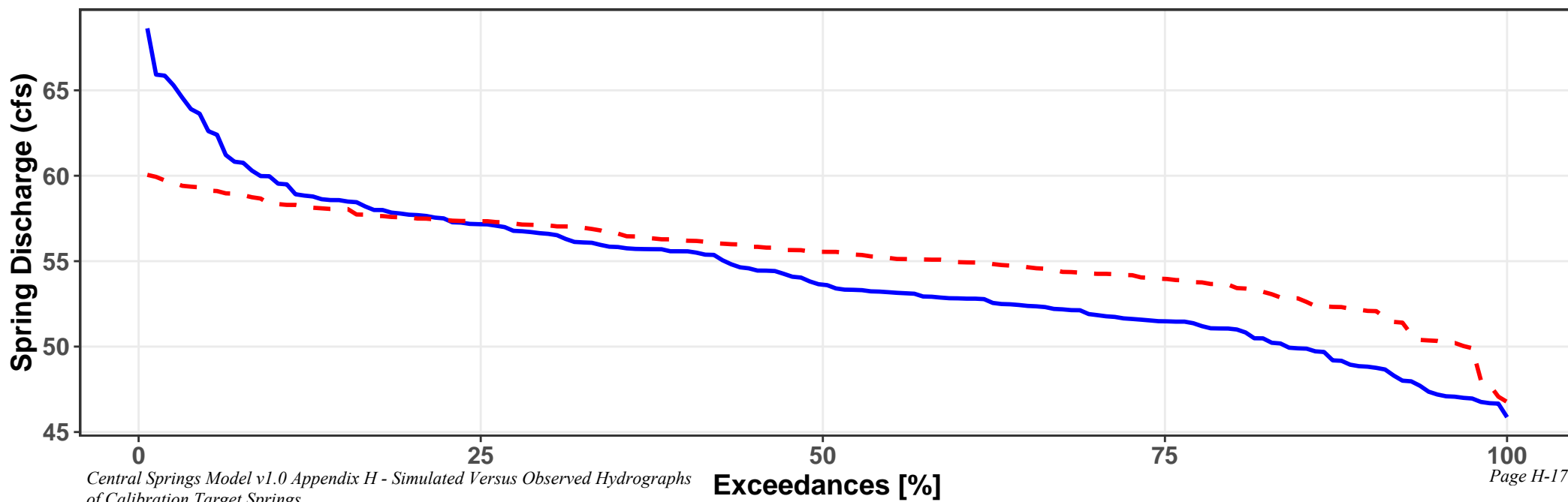
Rock Springs

ME = 1 MAE = 2.4 $R^2 = 0.567$ NSE = 0.49

— Observed - - Simulated



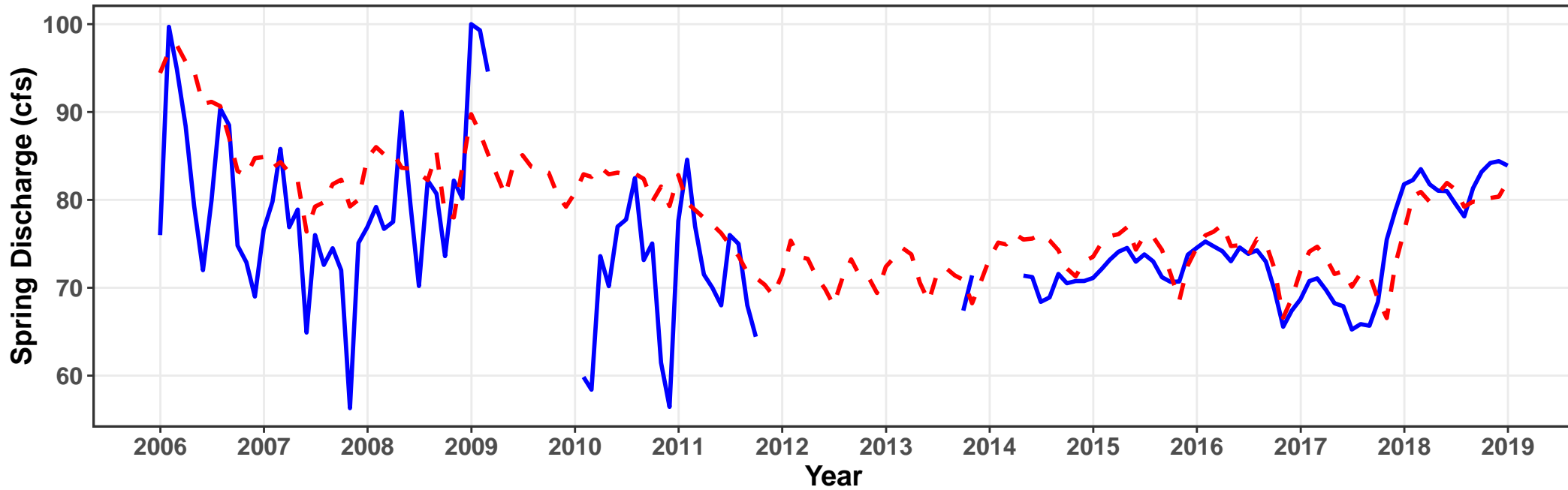
Flow-Duration Curve



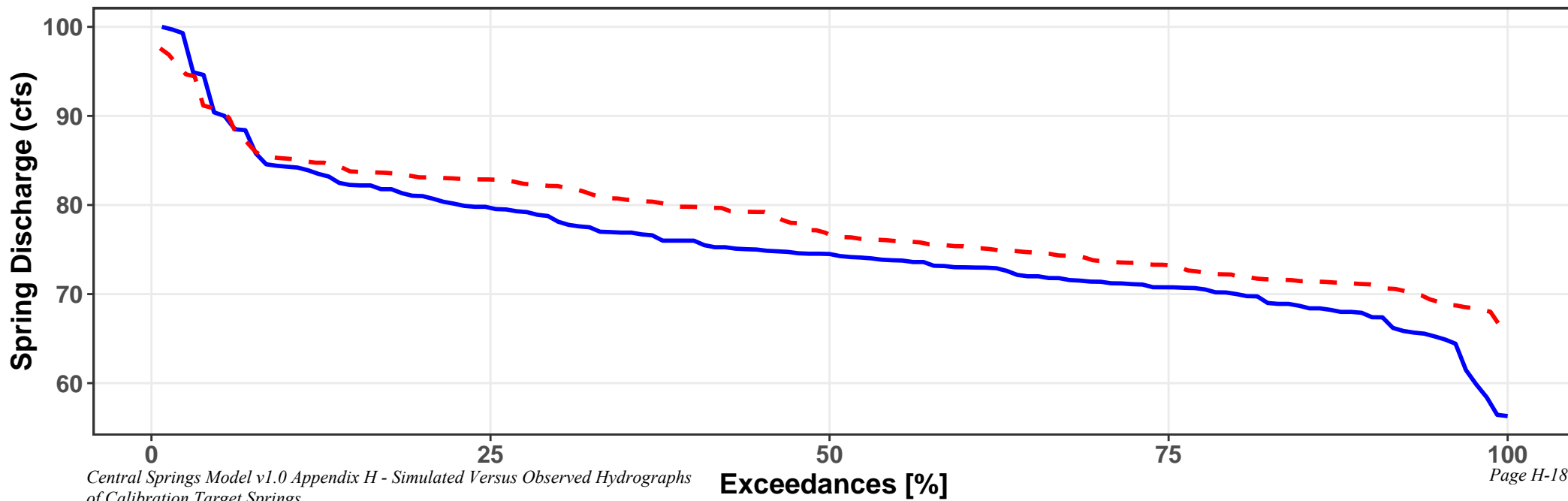
Salt Springs

ME = 3.2 MAE = 5.4 $R^2 = 0.3247$ NSE = 0.083

— Observed - - Simulated



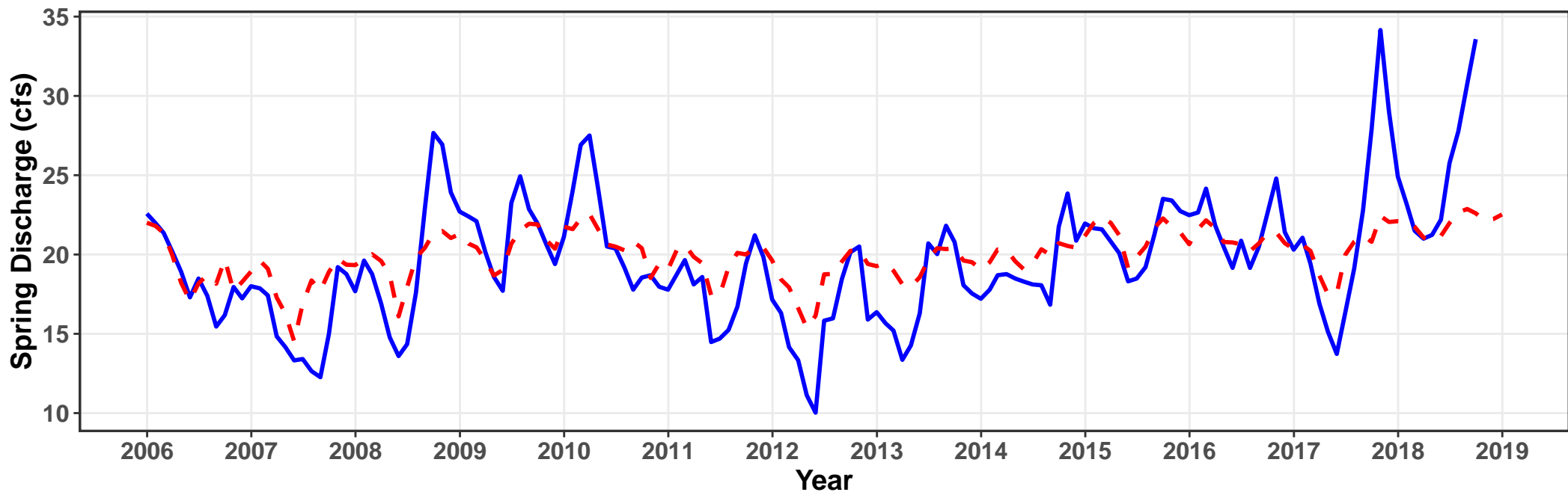
Flow-Duration Curve



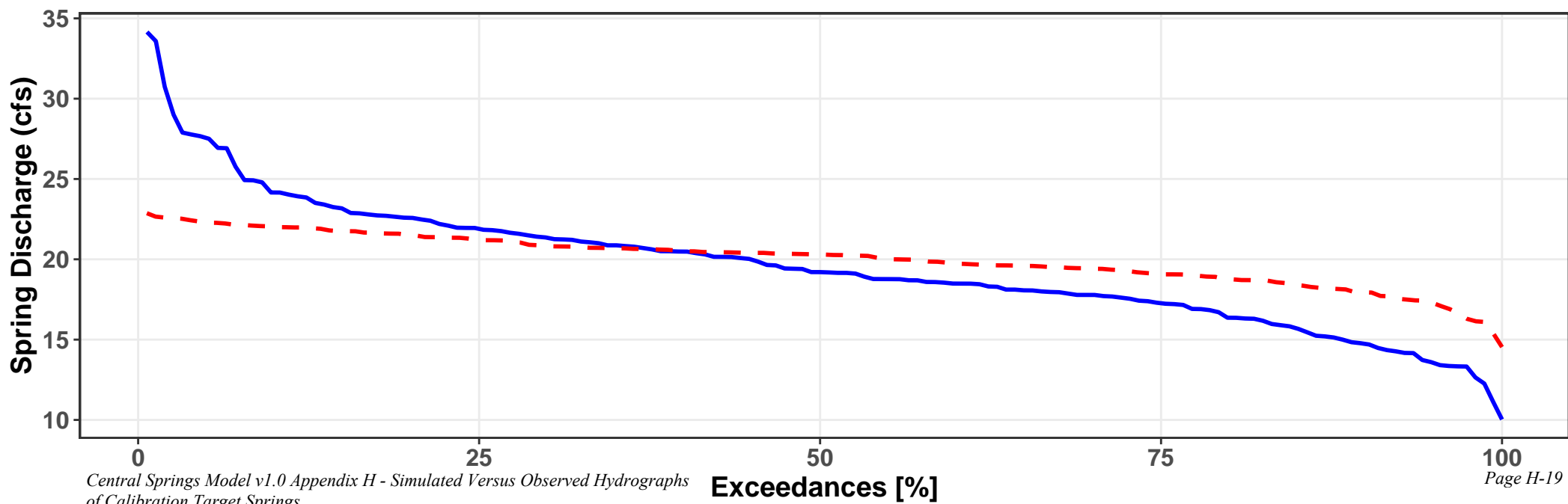
Sanlando Spring

ME = 0.4 MAE = 2.1 $R^2 = 0.7223$ NSE = 0.505

— Observed - - Simulated



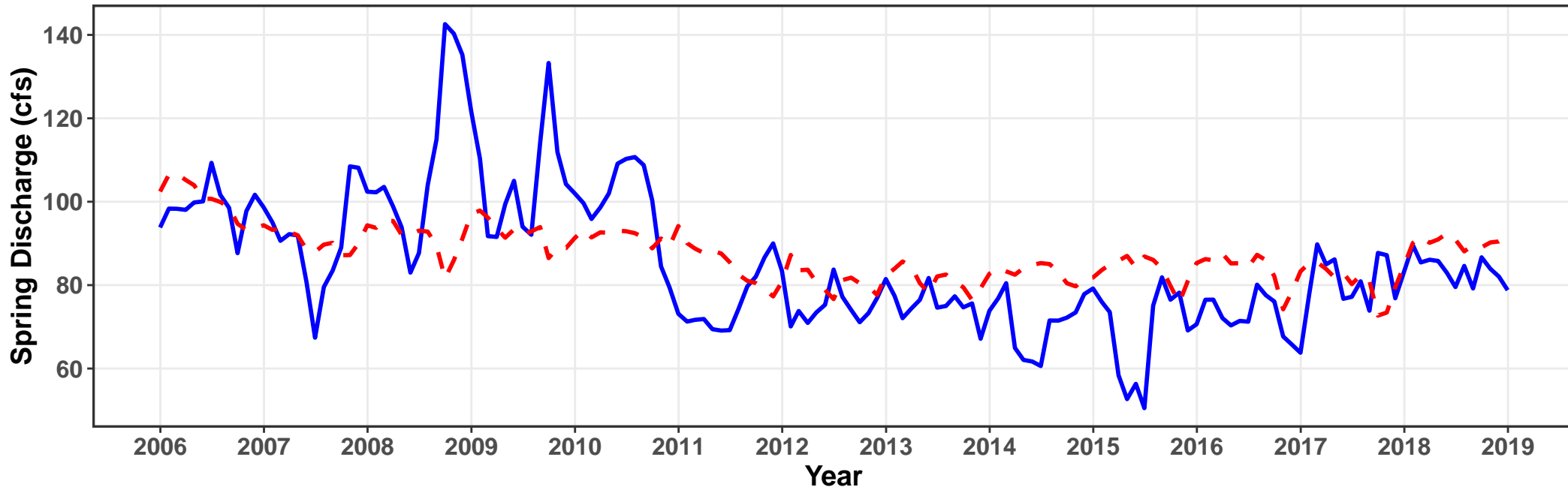
Flow-Duration Curve



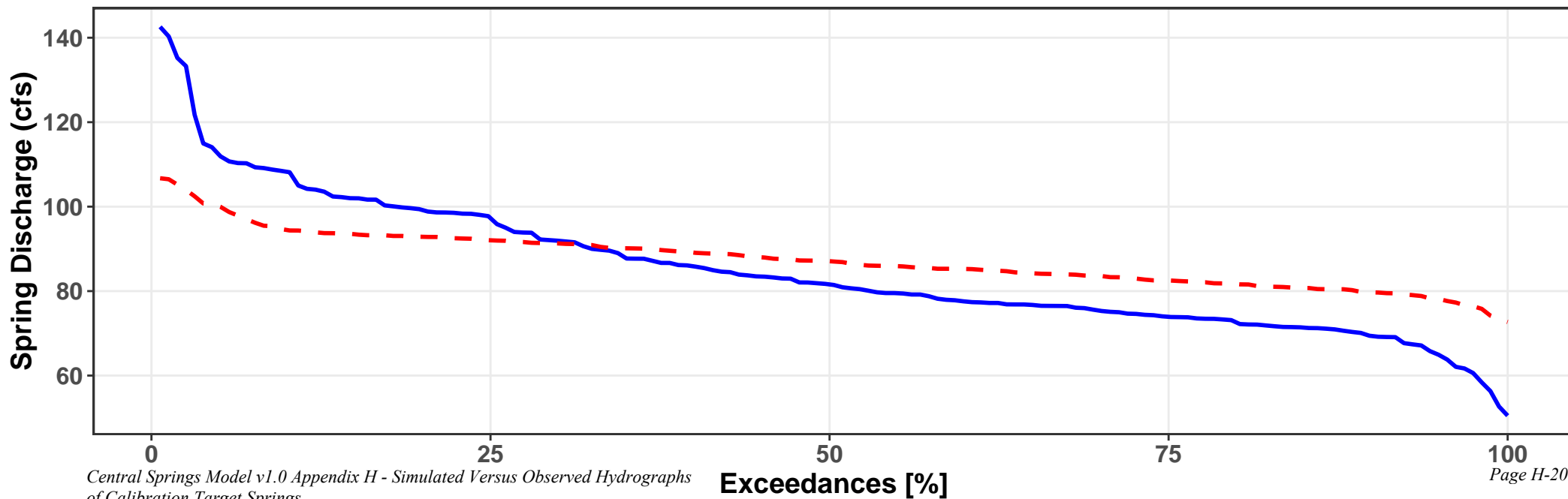
Silver Glen Springs

ME = 2.2 MAE = 10.6 $R^2 = 0.248$ NSE = 0.22

— Observed - - Simulated



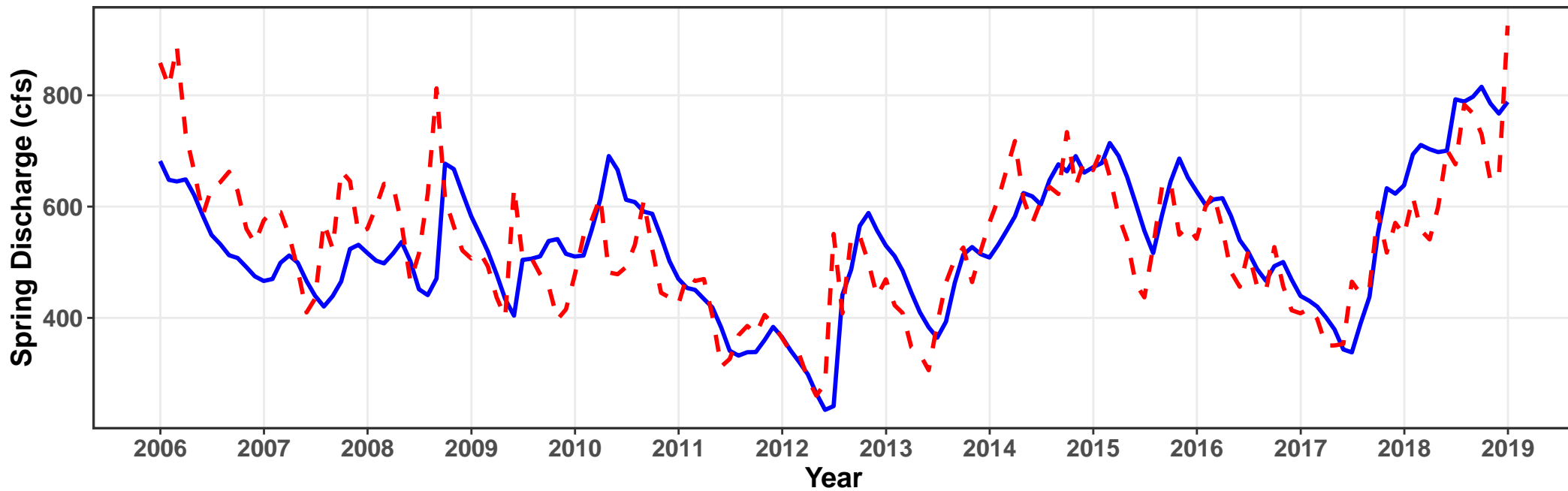
Flow-Duration Curve



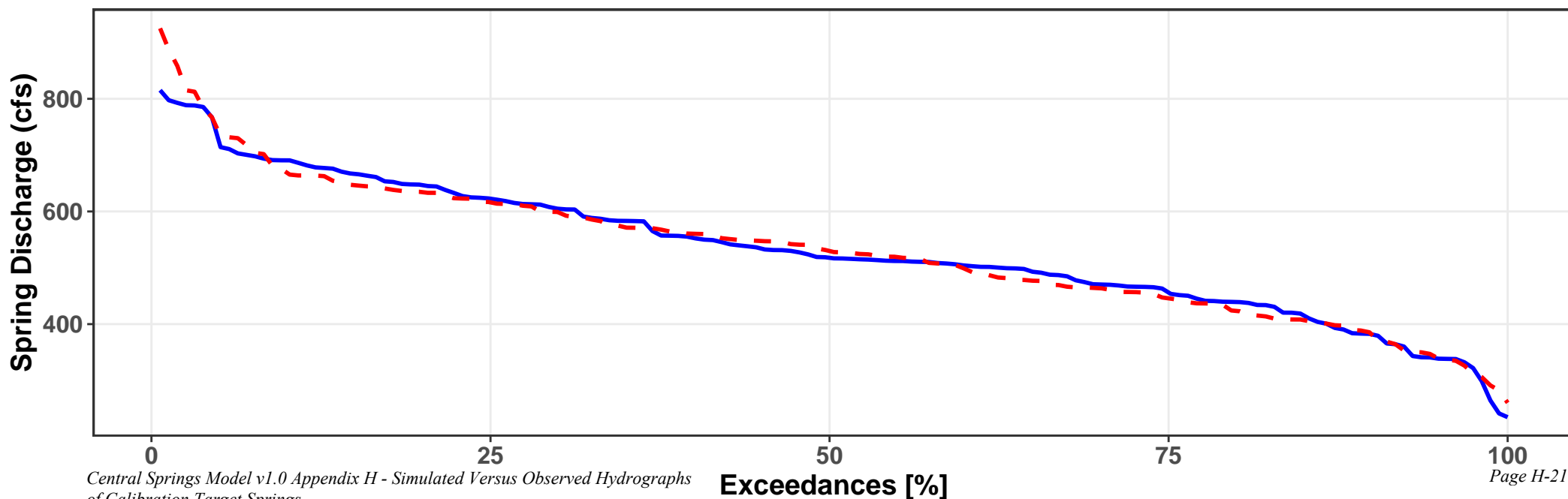
Silver Springs

ME = -1.1 MAE = 70 $R^2 = 0.5091$ NSE = 0.408

— Observed - - Simulated



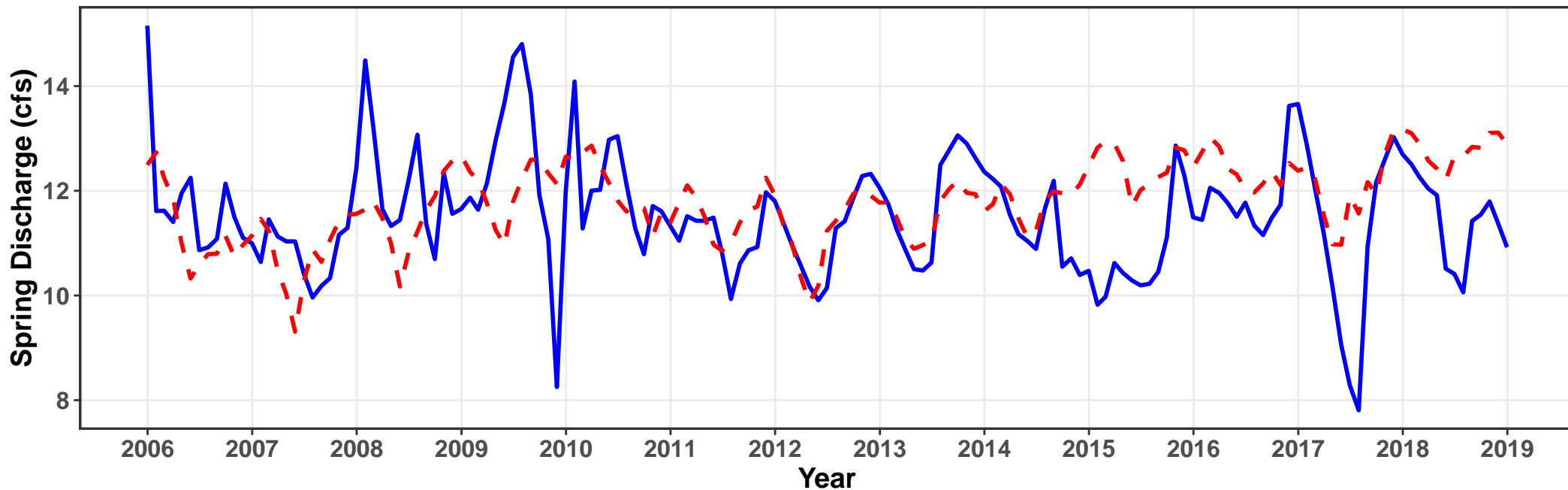
Flow-Duration Curve



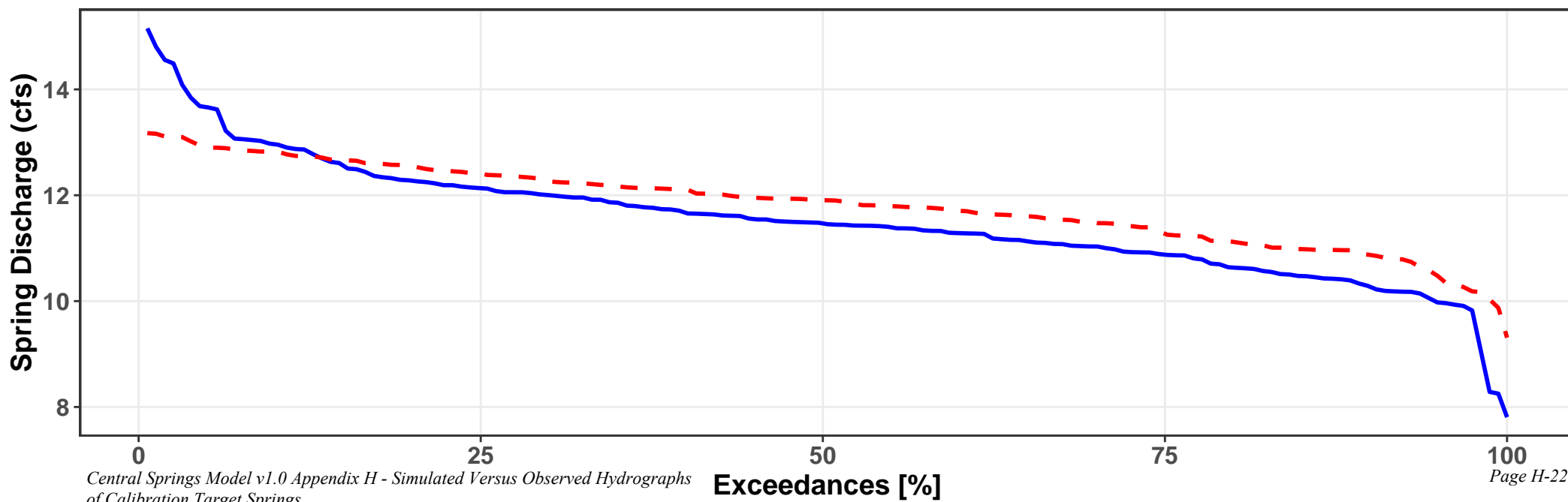
Starbuck Spring

ME = 0.3 MAE = 0.9 $R^2 = 0.0749$ NSE = -0.15

— Observed - - Simulated



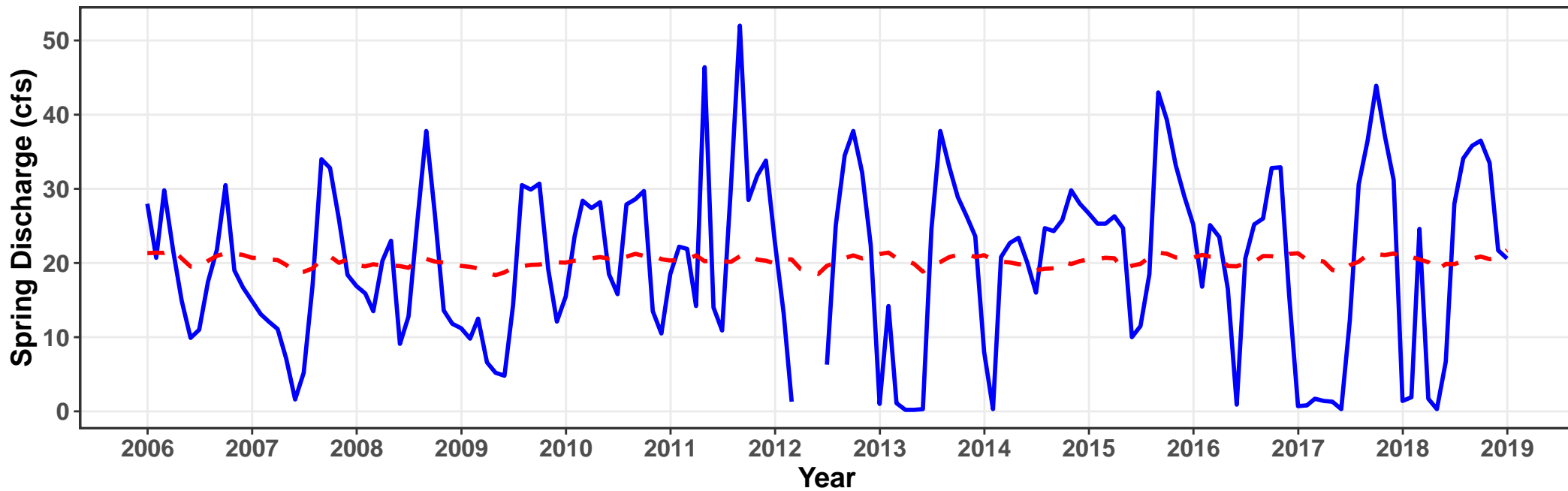
Flow-Duration Curve



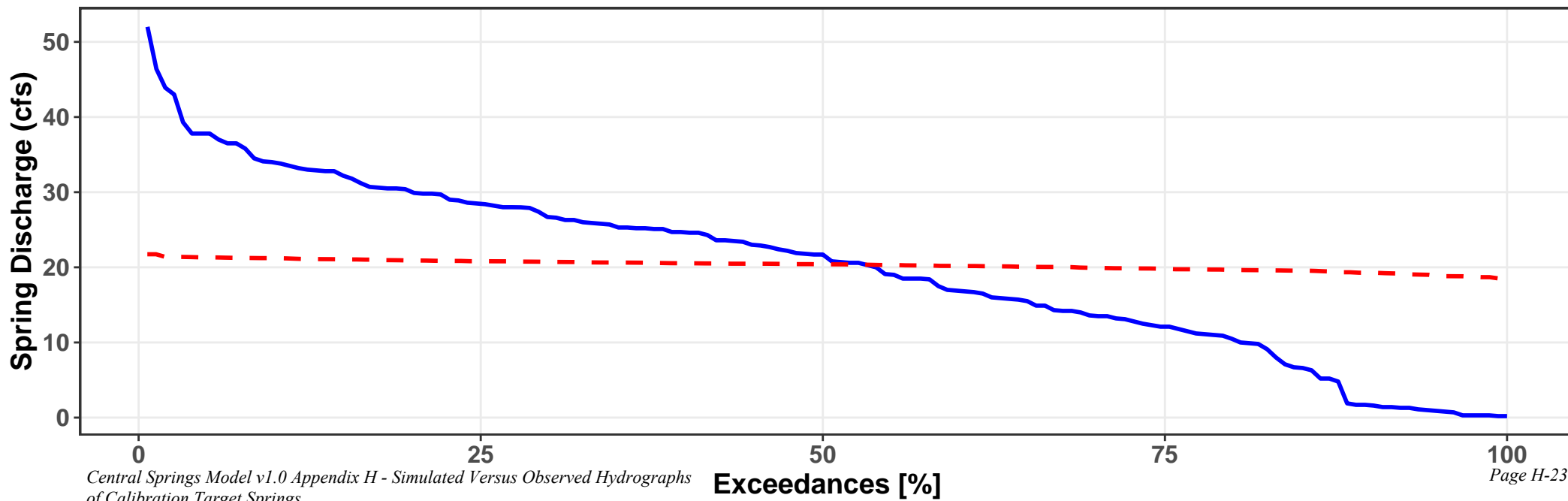
Sulphur Spring (Hillsborough)

ME = 0.2 MAE = 9.3 $R^2 = 0.1714$ NSE = 0.046

— Observed — Simulated



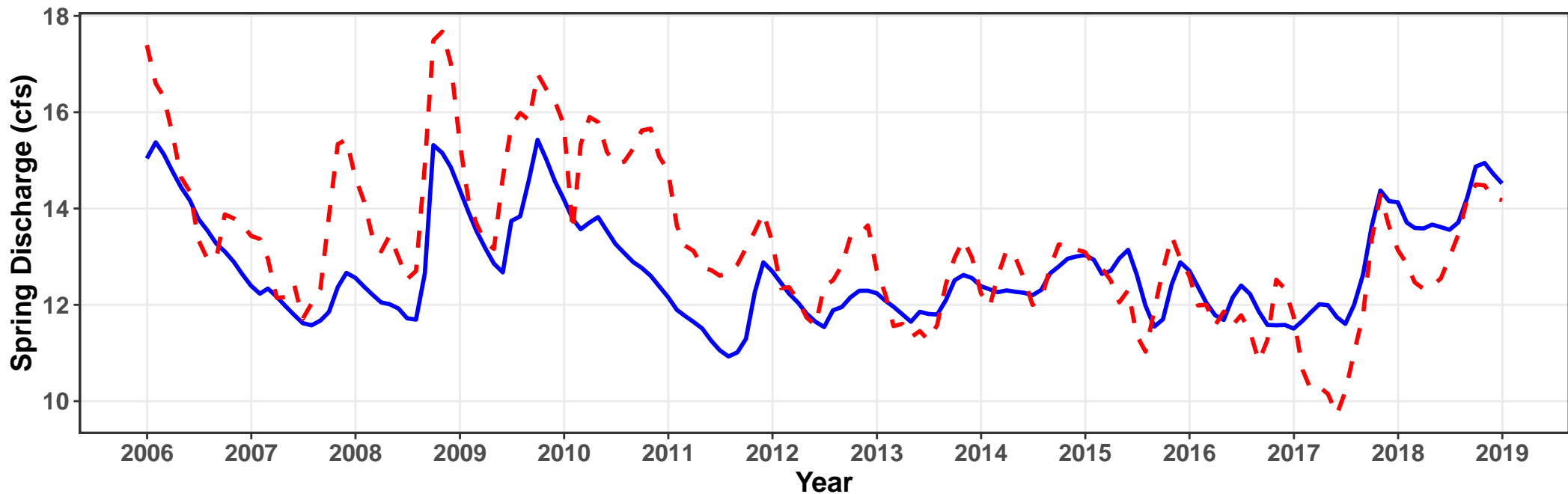
Flow-Duration Curve



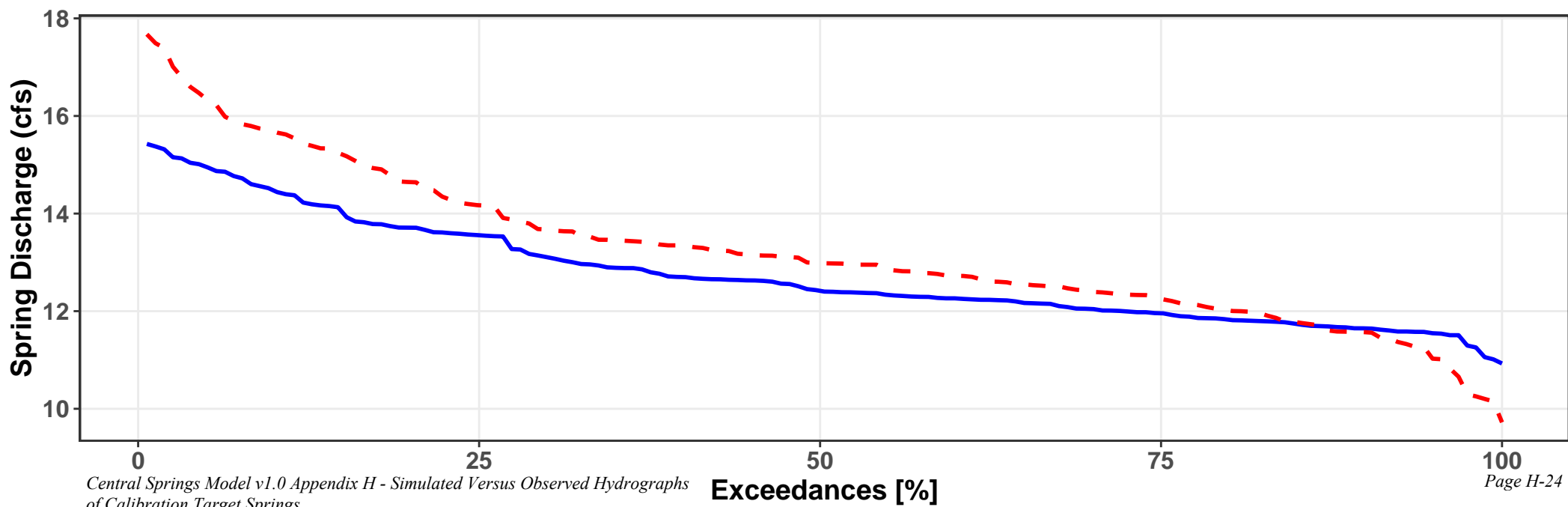
Sweetwater Springs

ME = 0.5 MAE = 1 $R^2 = 0.5268$ NSE = -0.309

— Observed - - Simulated



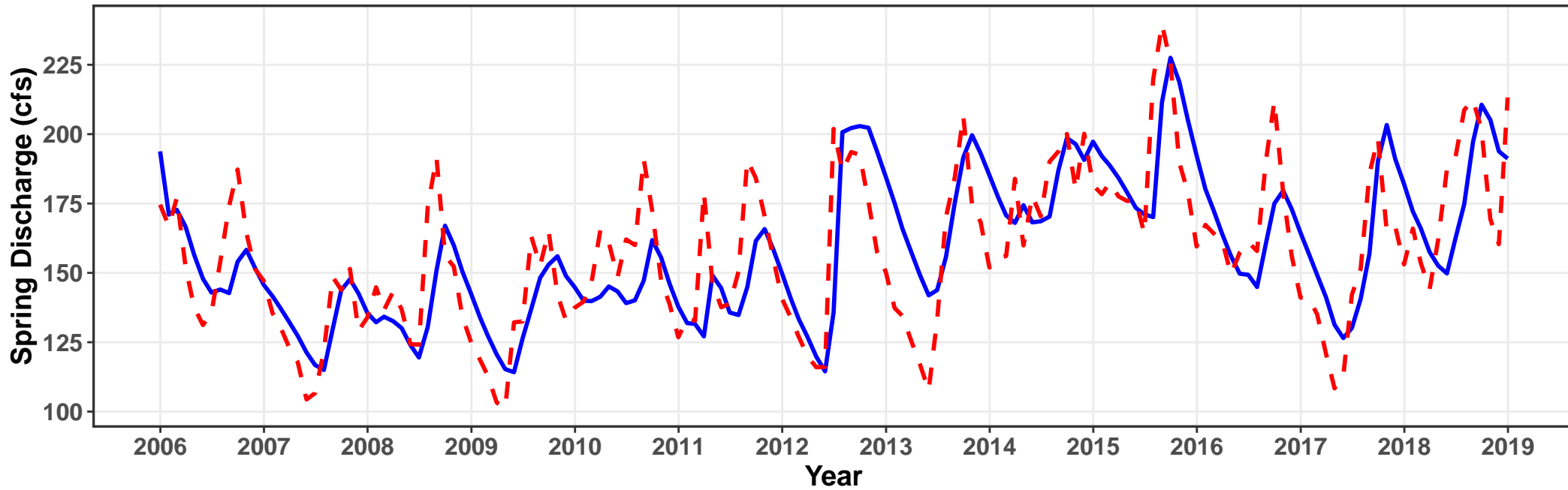
Flow-Duration Curve



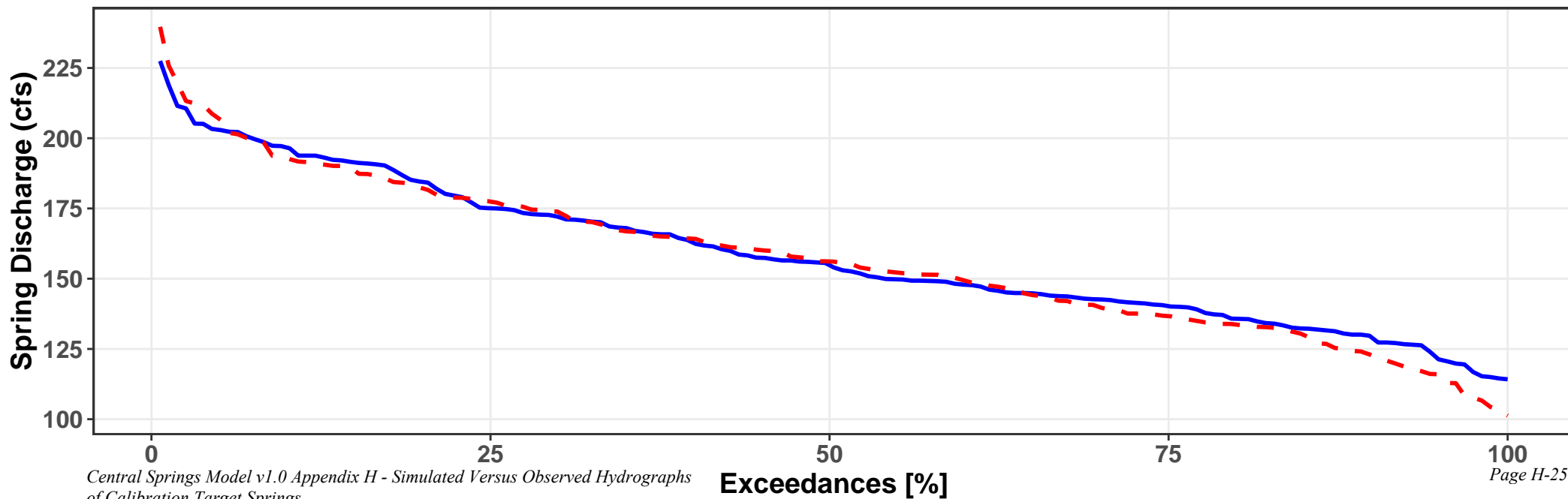
Weeki Wachee Spring

ME = -1.2 MAE = 15.9 $R^2 = 0.5136$ NSE = 0.37

— Observed - - Simulated



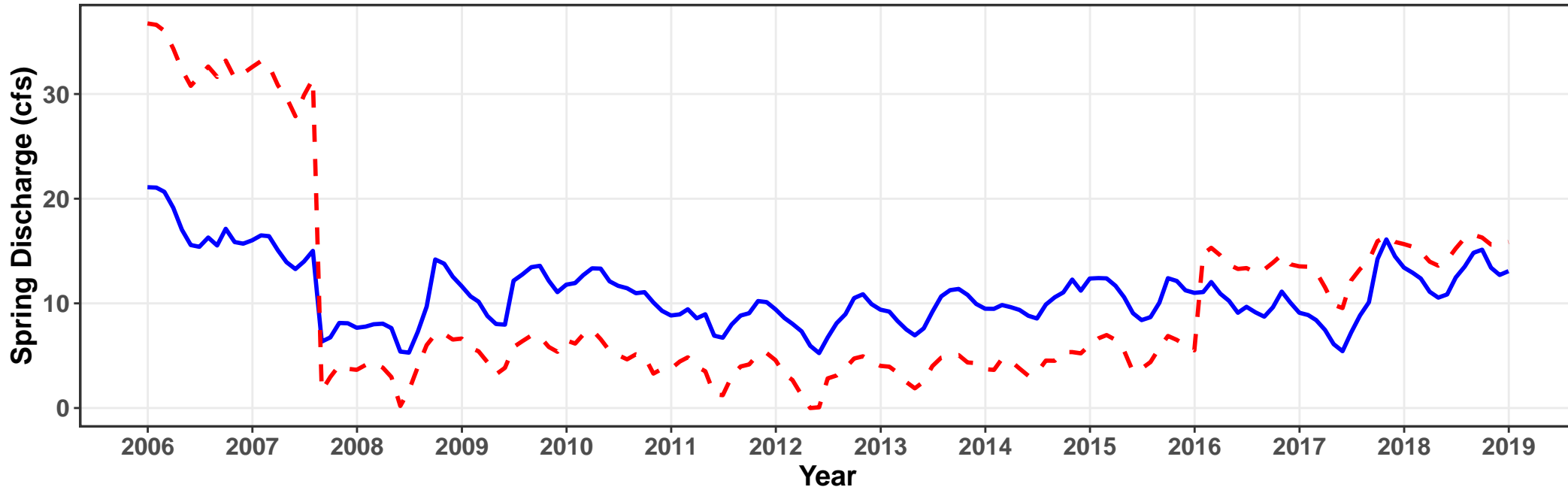
Flow-Duration Curve



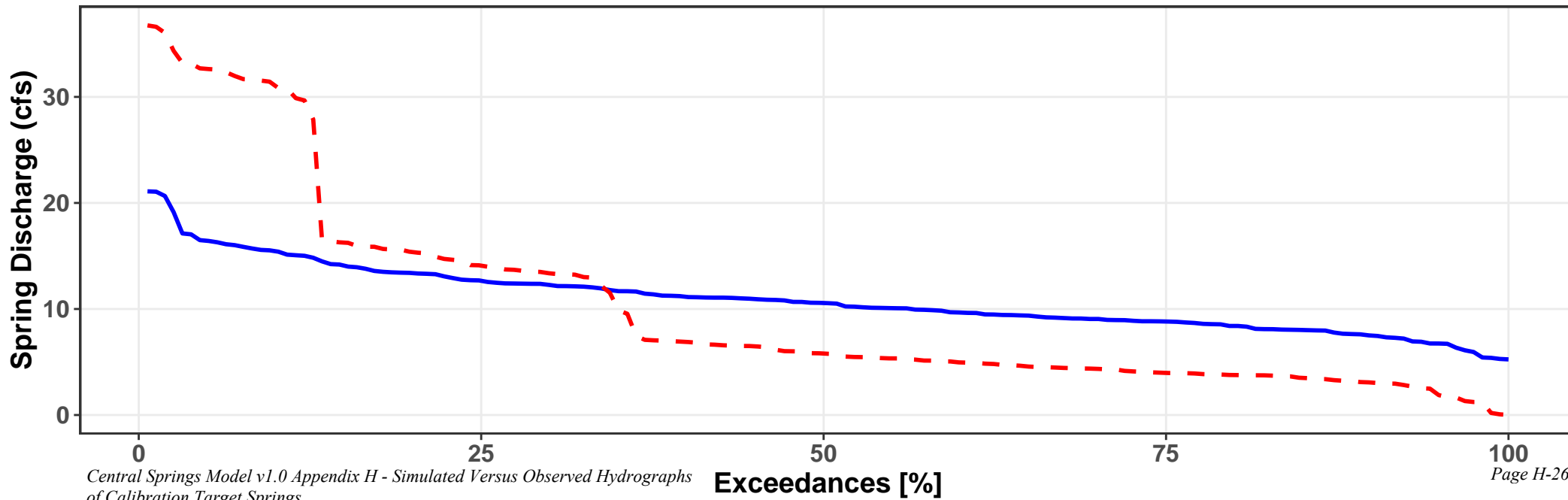
Wekiva Falls Resort Spring

ME = -0.7 MAE = 6.2 $R^2 = 0.6361$ NSE = -4.532

— Observed - - Simulated



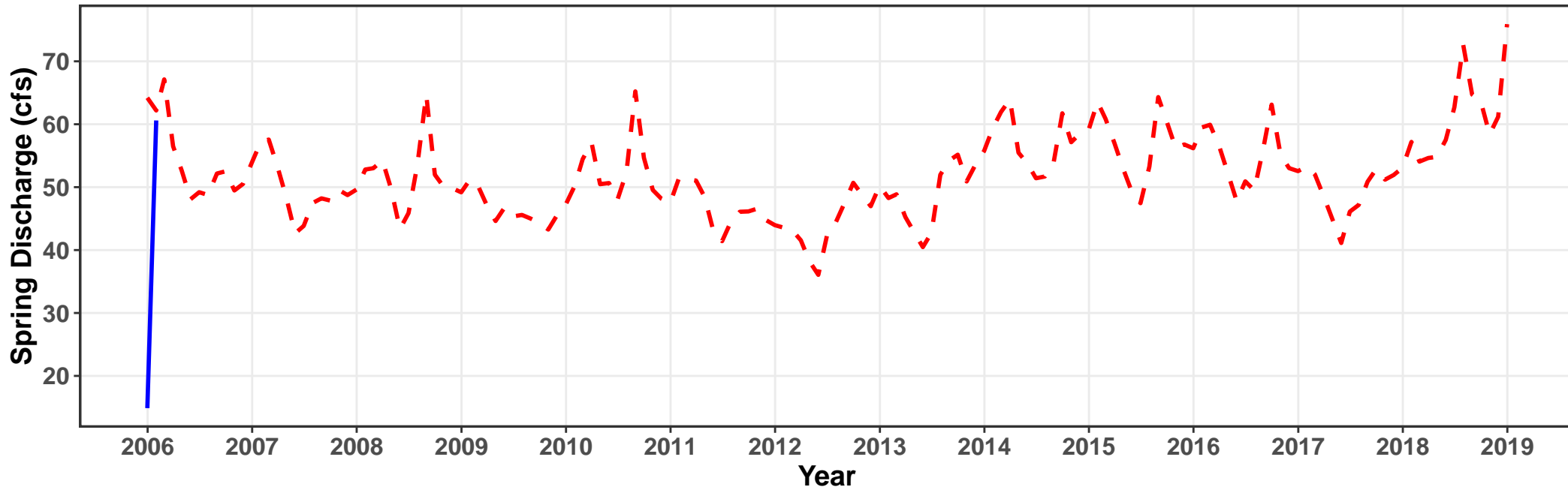
Flow-Duration Curve



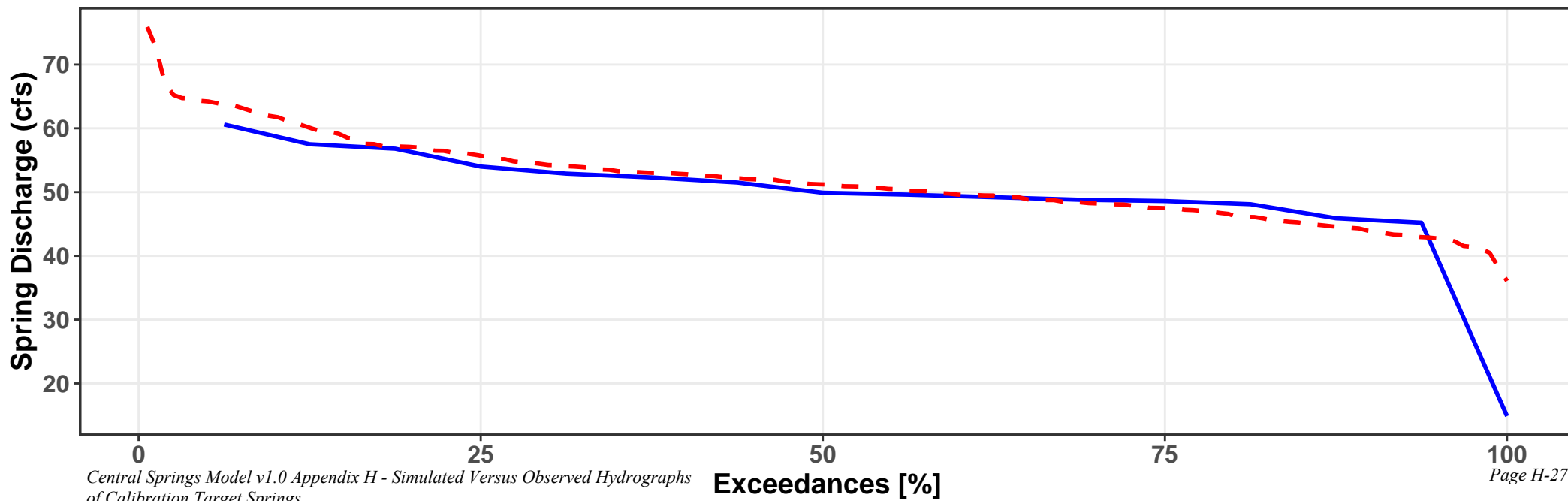
Wekiva Springs (Levy)

ME = 2 MAE = 6 $R^2 = 0.1379$ NSE = -0.776

— Observed — Simulated



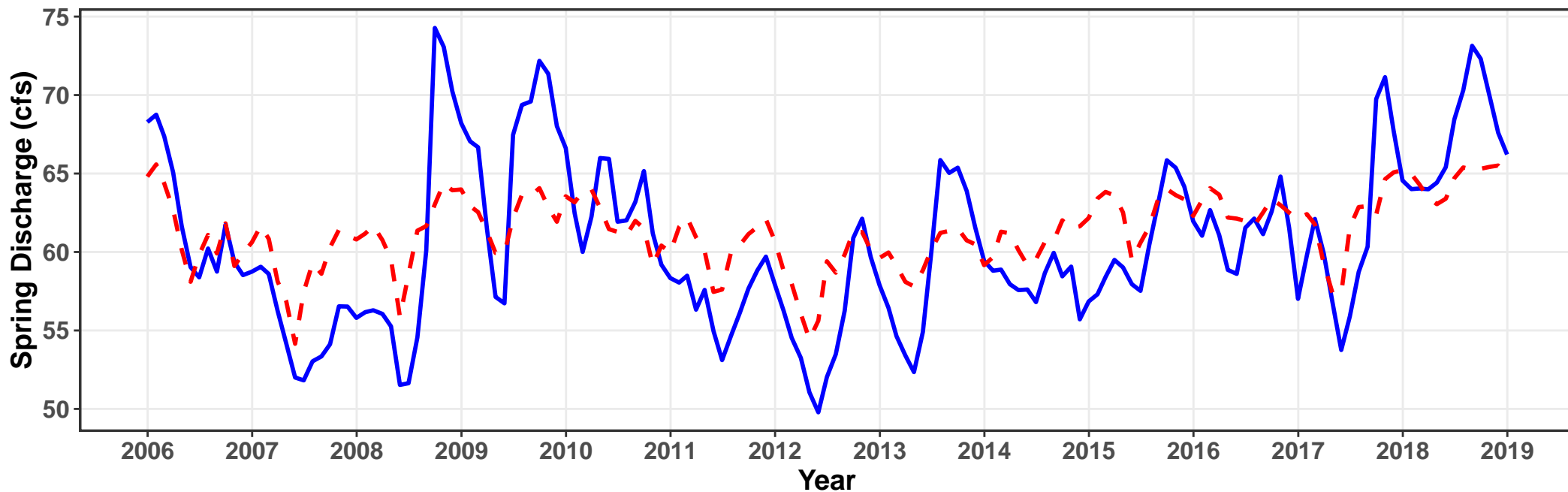
Flow-Duration Curve



Wekiwa Springs

ME = 0.8 MAE = 3.2 $R^2 = 0.6258$ NSE = 0.476

— Observed - - Simulated



Flow-Duration Curve

