

Appendix I

Priority Springs Flow Trends, Ratings and Goodness-of-Fit Plots

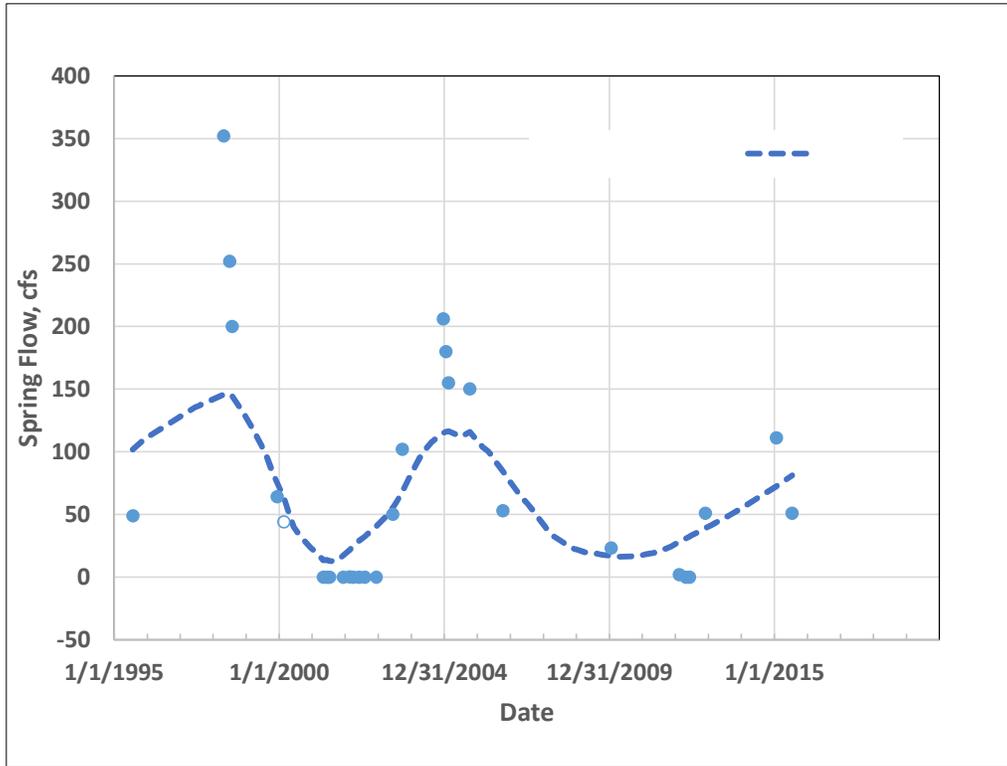


Figure 1. Hydrographs of Historical Measured Spring Flow and LOESS Trend - Hornsby Spring

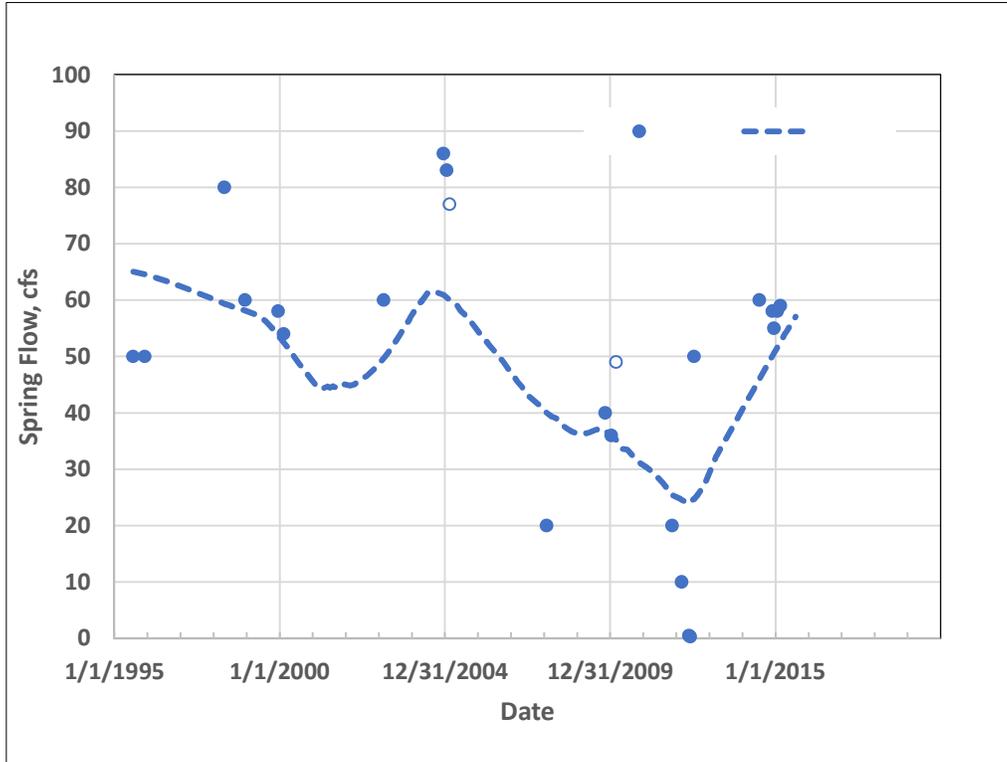


Figure 2. Hydrographs of Historical Measured Spring Flow and LOESS Trend - Poe Spring

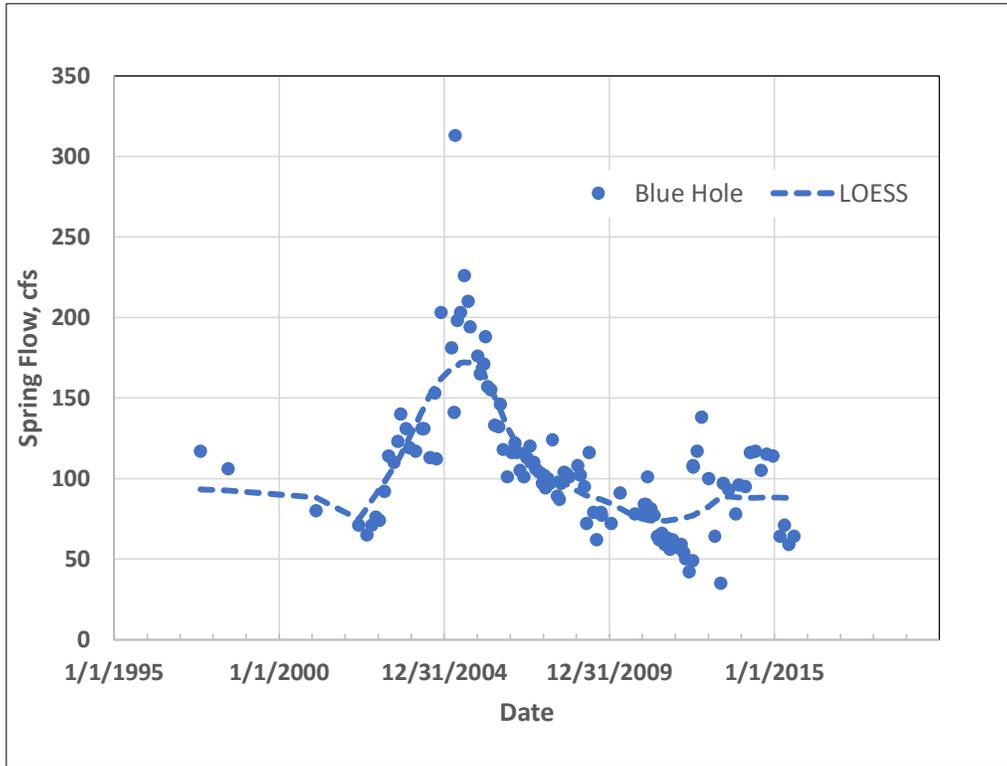


Figure 3. Hydrographs of Historical Measured Spring Flow and LOESS Trend - Blue Hole Spring

Table 1. Priority Spring Ratings

[Plots in following are based on Multiple Linear Regression (MLR) equations in this table; Insufficient field measurements available to develop ratings for COL101974, July, Siphon Creek Rise, and Grassy Hole Springs; Reasonable MLR results could not be determined for Rum Island and Devil’s Eye Springs]

Spring	Total No. of Measurements	No. of Measurements Used	Rating Equation ¹	Explanatory Variables ²	R ²	Adjusted R ²	RMSE ³	Range-Normalized RMSE ⁴
							(cfs)	
LSFR Priority Springs								
Santa Fe Rise	71	71	$-608 + 0.831*RF$	USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA.	0.92	0.92	158.00	5%
Treehouse Spring	51	48	$-274 + 0.497*RF$	USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA.	0.96	0.96	42.67	6%
Hornsby	112	64	$-142 + 0.0697*RF1 + 0.425*RF2$	RF1-USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA., RF2-USGS 02322700 ICHETUCKNEE R AT HWY27 NR HILDRETH, FL	0.83	0.83	24.16	10%
Columbia	54	54	$-143 - 0.0334*RF1 + 0.274*RF2$	RF1-USGS 02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FLA., RF2-USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA.	0.88	0.87	40.38	10%
Poe	137	134	$12.5 - 0.0158*RF1 + 0.0349*RF2$	RF1-USGS 02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FLA., RF2-USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA.	0.56	0.55	13.76	15%
Gilchrist Blue	98	98	$6.05 + 0.0353*RF$	USGS 02322500 SANTA FE RIVER NR FORT WHITE, FLA.	0.63	0.62	12.86	16%
Devil’s Ear Complex	12	12	$10.9 + 0.0555*RF1$	USGS 02320500 SUWANNEE RIVER AT BRANFORD, FLA.	0.92	0.90	28.43	7%
IR Priority Springs								
Blue Hole	117	112	$-29.8 + 0.454*RF$	USGS 02322700 ICHETUCKNEE R AT HWY27 NR HILDRETH, FL	0.60	0.59	27.54	10%
Ichetucknee Head	88	82	$12.7 + 0.121*RF$	USGS 02322700 ICHETUCKNEE R AT HWY27 NR HILDRETH, FL	0.55	0.54	8.96	14%

Mission Spring	72	70	$44+0.153*RF$	USGS 02322700 ICHETUCKNEE R AT HWY27 NR HILDRETH, FL	0.46	0.44	14.57	9%
Mill Pond	79	74	$0.158 + 0.0861*RF$	USGS 02322700 ICHETUCKNEE R AT HWY27 NR HILDRETH, FL	0.65	0.64	5.31	10%
<ol style="list-style-type: none"> 1. RF-River flow (cfs) 2. District ID's of explanatory variables 3. RMSE denotes Root Mean Square Error 4. Range-Normalized RMSE = $RMSE/Range \text{ in measured flow} \times 100\%$ 								

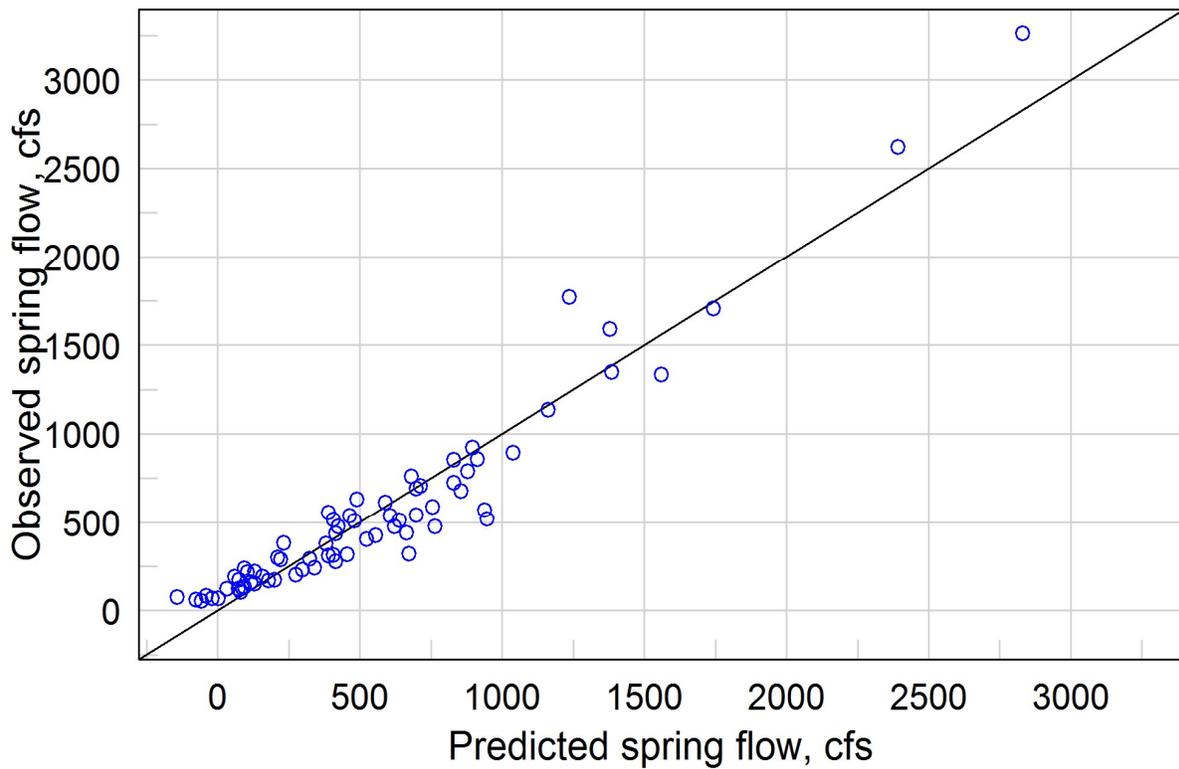
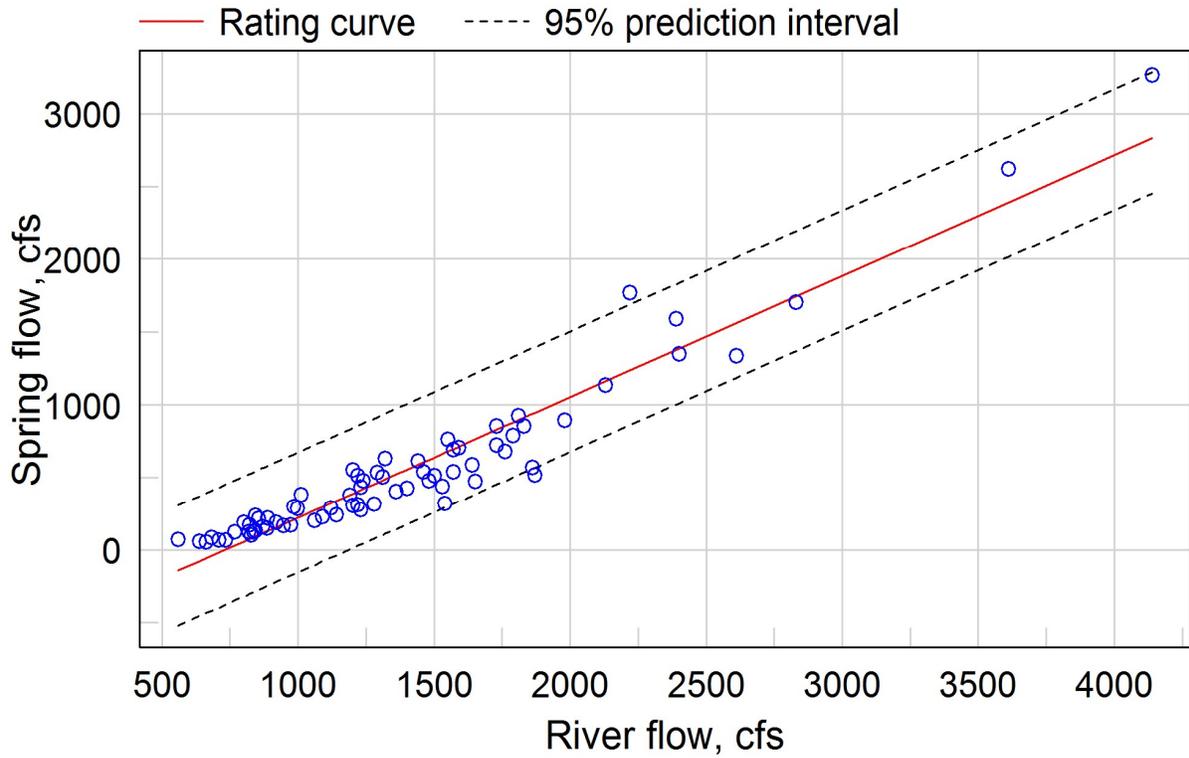


Figure 4. Santa Fe River Rise Flow Rating (top) and Goodness-of-Fit (bottom) Plots [spring flow versus Fort White gage (02322500) flow]

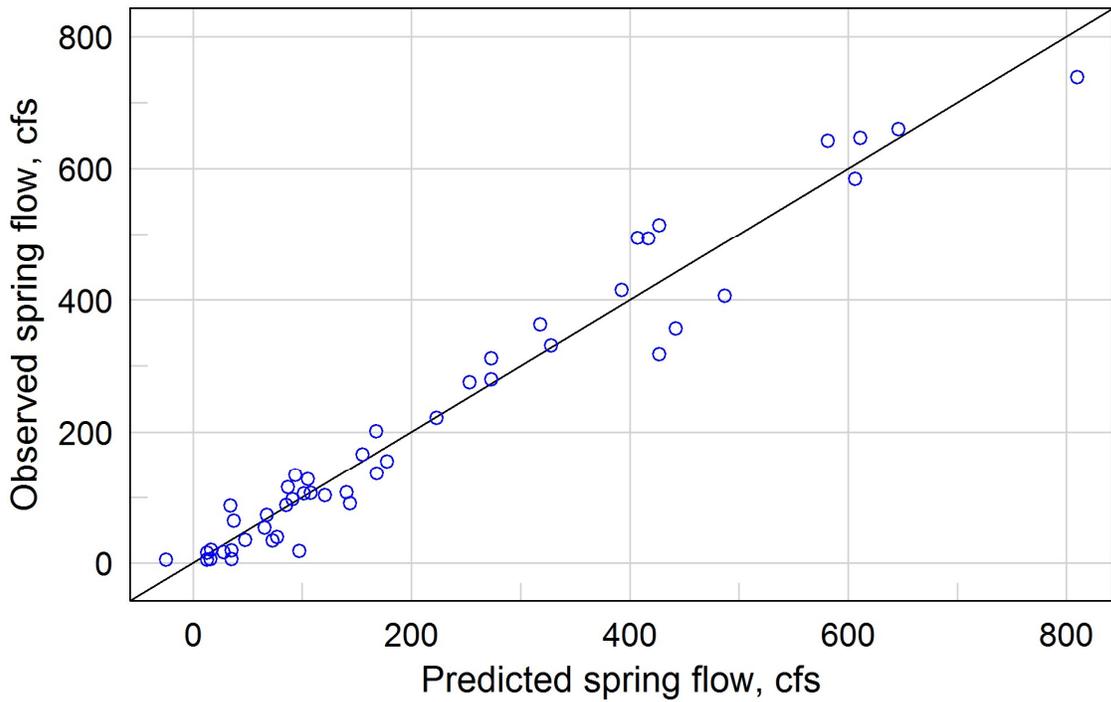
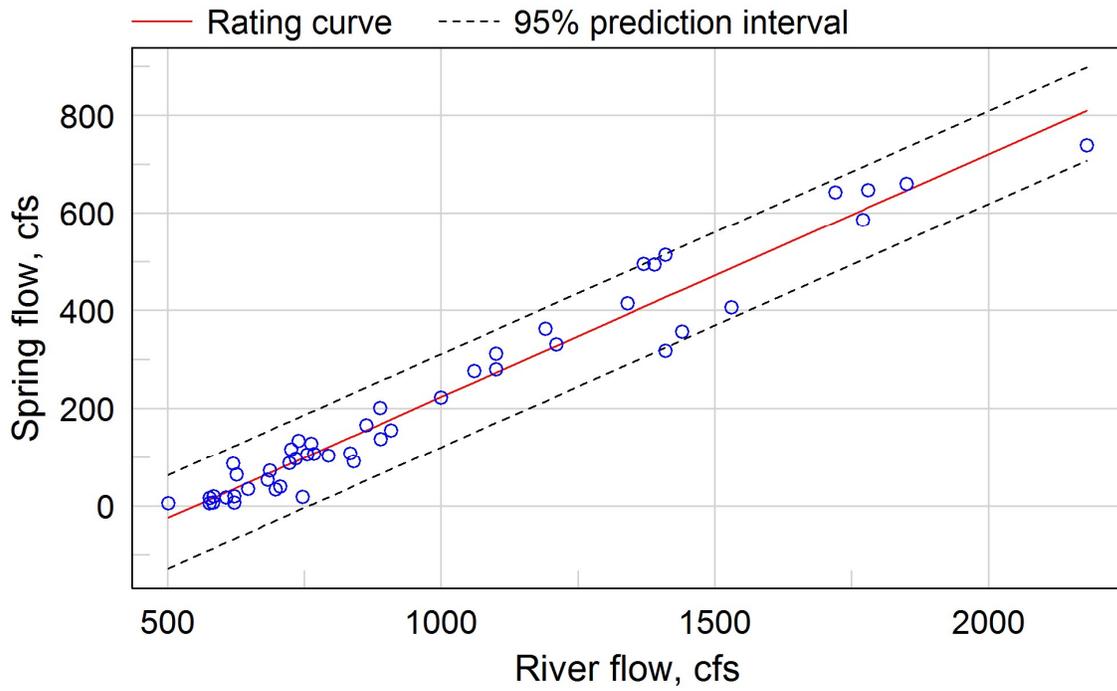


Figure 5. Treehouse Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots [spring flow versus Fort White gage (02322500) flow]

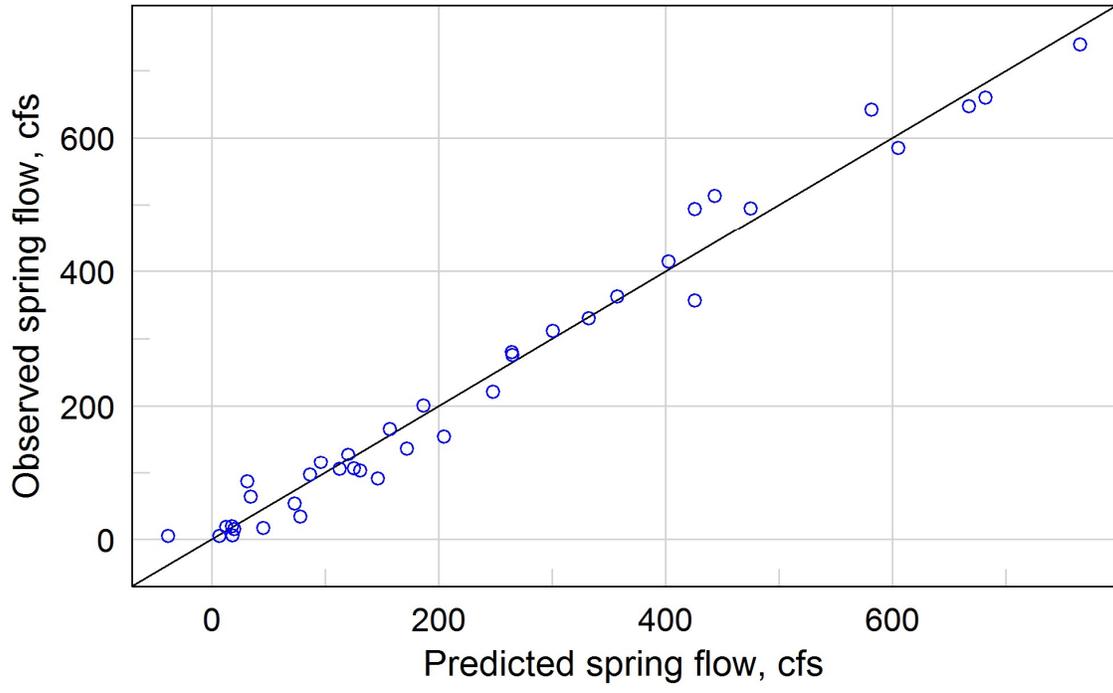


Figure 6. Hornsby Spring Flow Rating Goodness-of-Fit Plot
 [rating of spring flow versus multi-variable Fort White (02322500) and Hwy 27 (02322700) gage flows not shown]

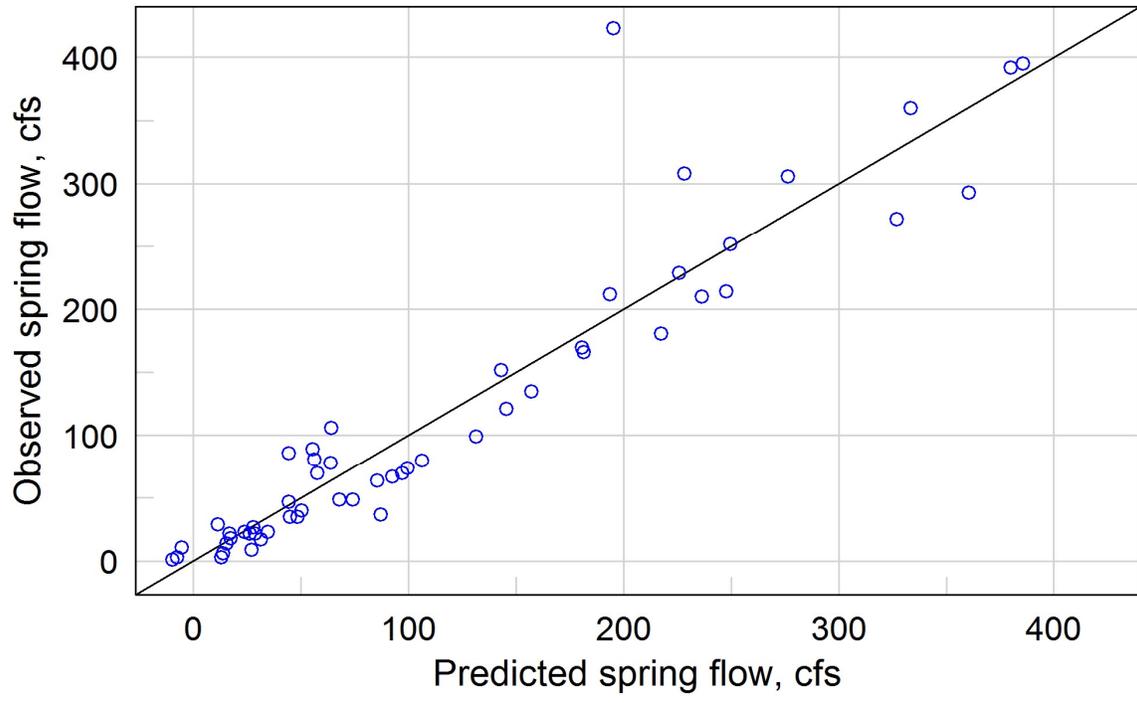


Figure 7. Columbia Spring Flow Rating Goodness-of-Fit Plot
 [rating of spring flow versus multi-variable Worthington Springs (02321500) and Fort White (02322500) gage flows not shown]

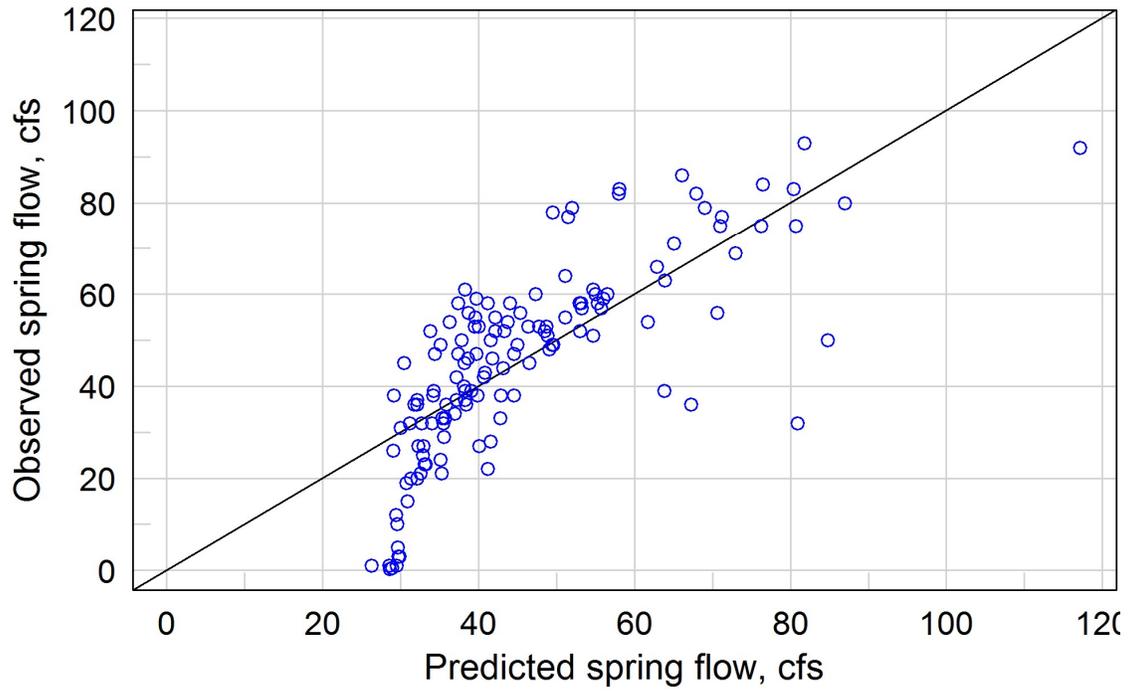


Figure 8. Poe Spring Flow Rating Goodness-of-Fit Plot
[rating of spring flow versus multi-variable Worthington Springs (02321500) and Fort White (02322500)
gage flows not shown]

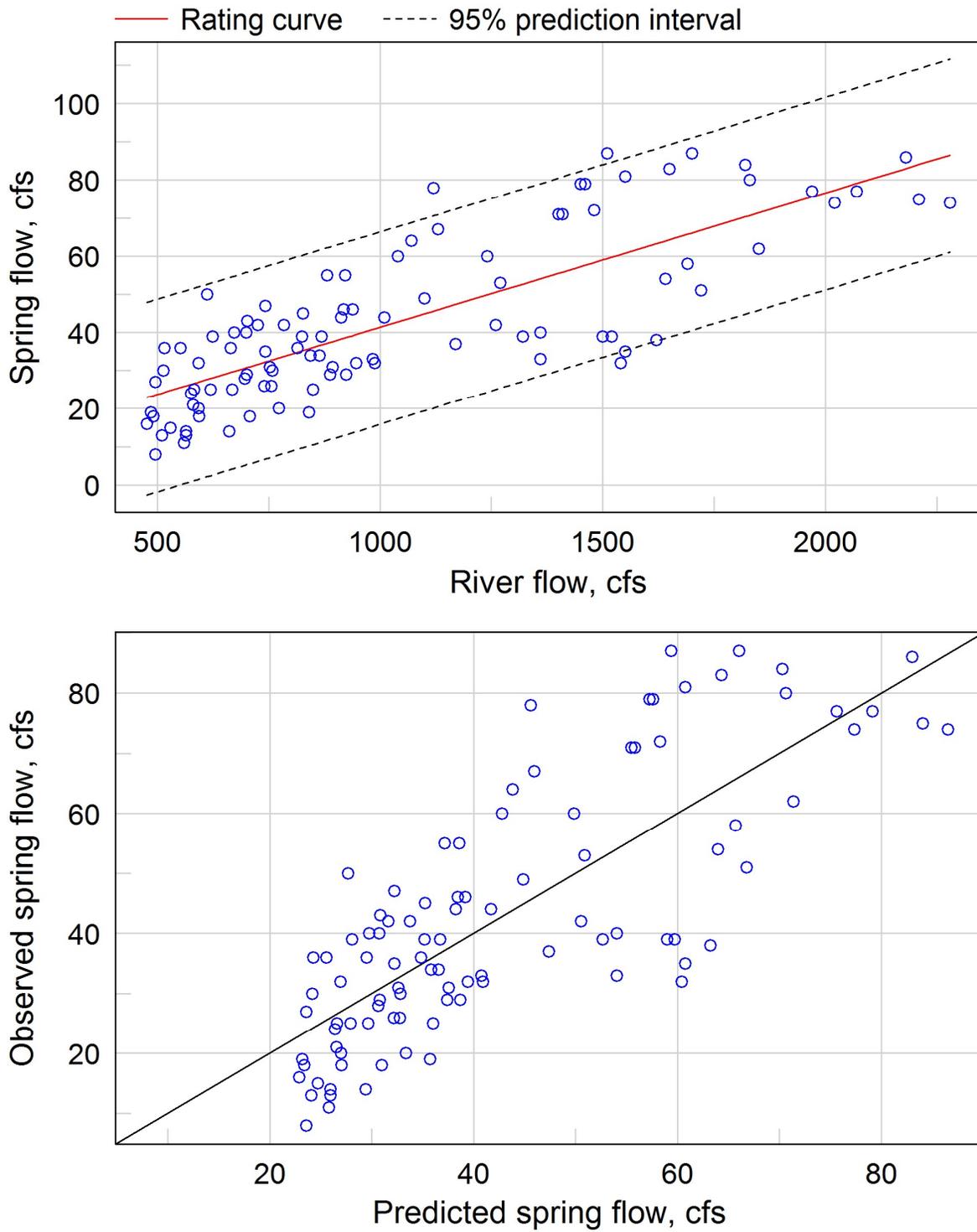


Figure 9. Gilchrist Blue Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots [spring flow versus Ft. White gage (02322500) flow]

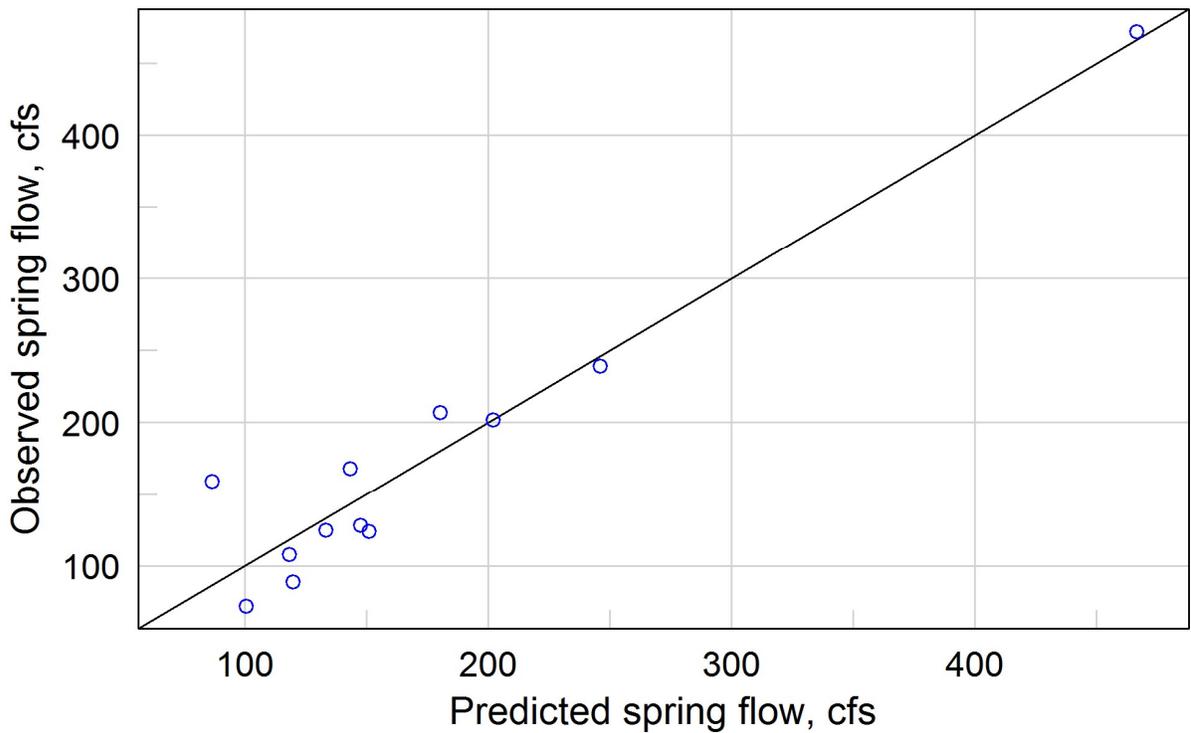
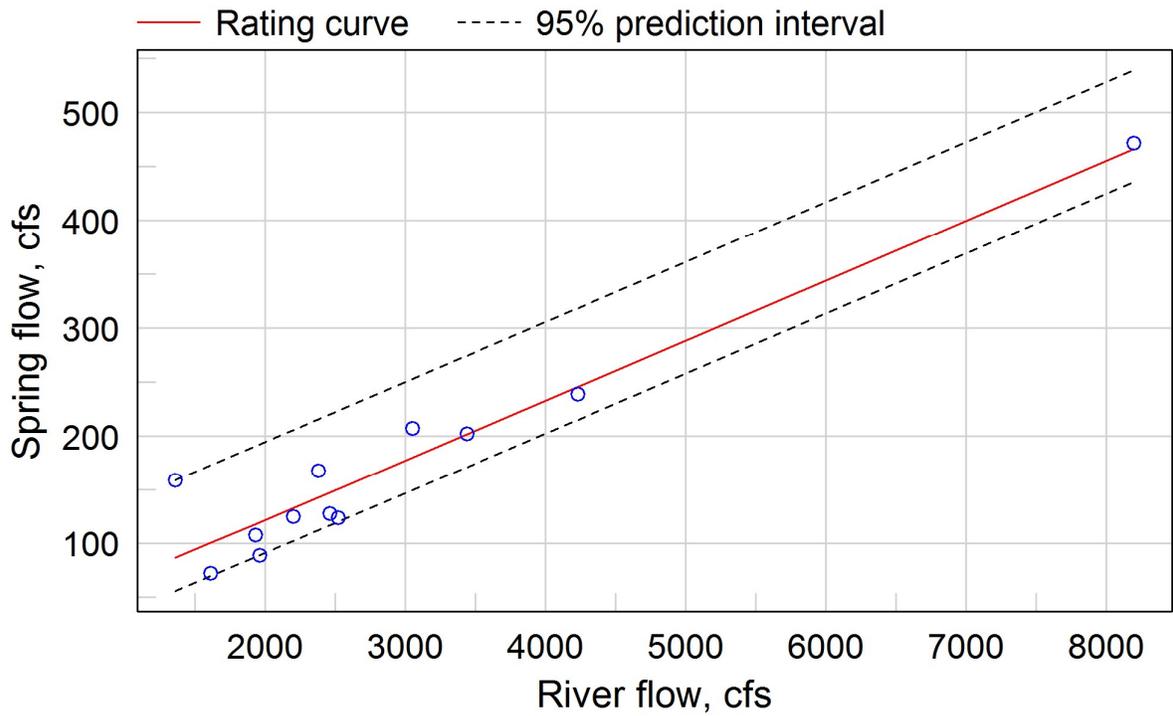


Figure 10. Devil's Ear Complex Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots [spring flow versus Branford gage (02320500) flow]

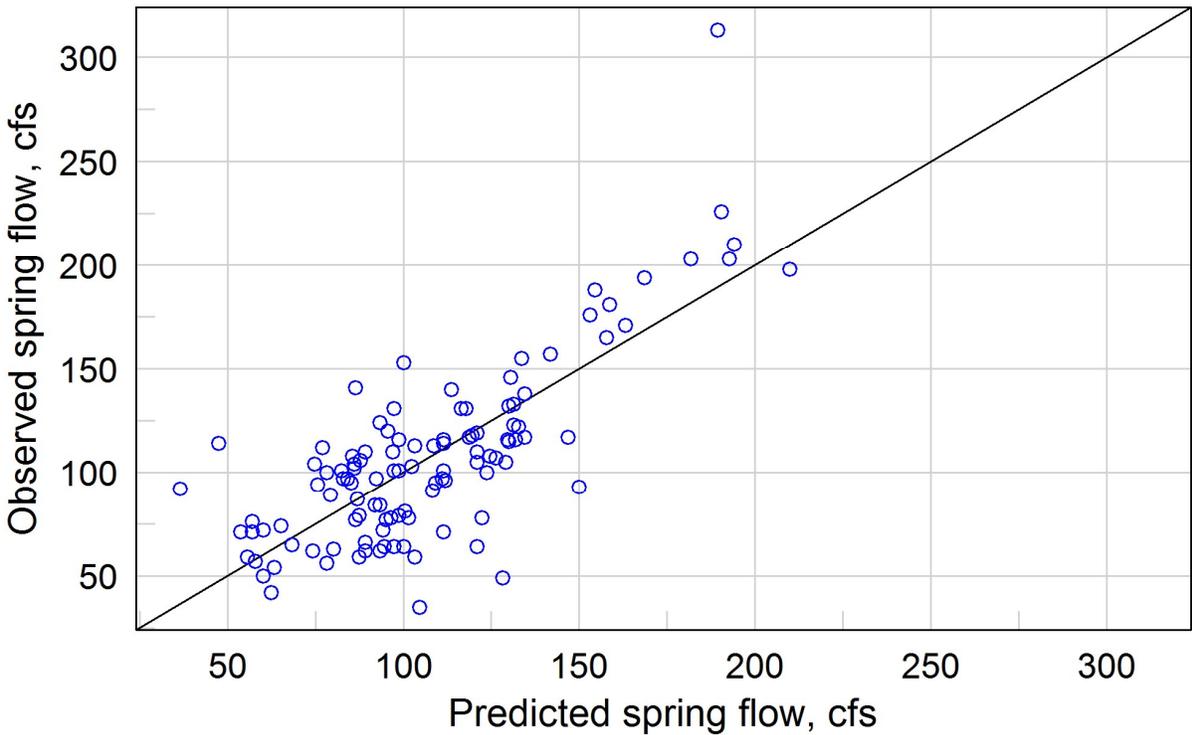
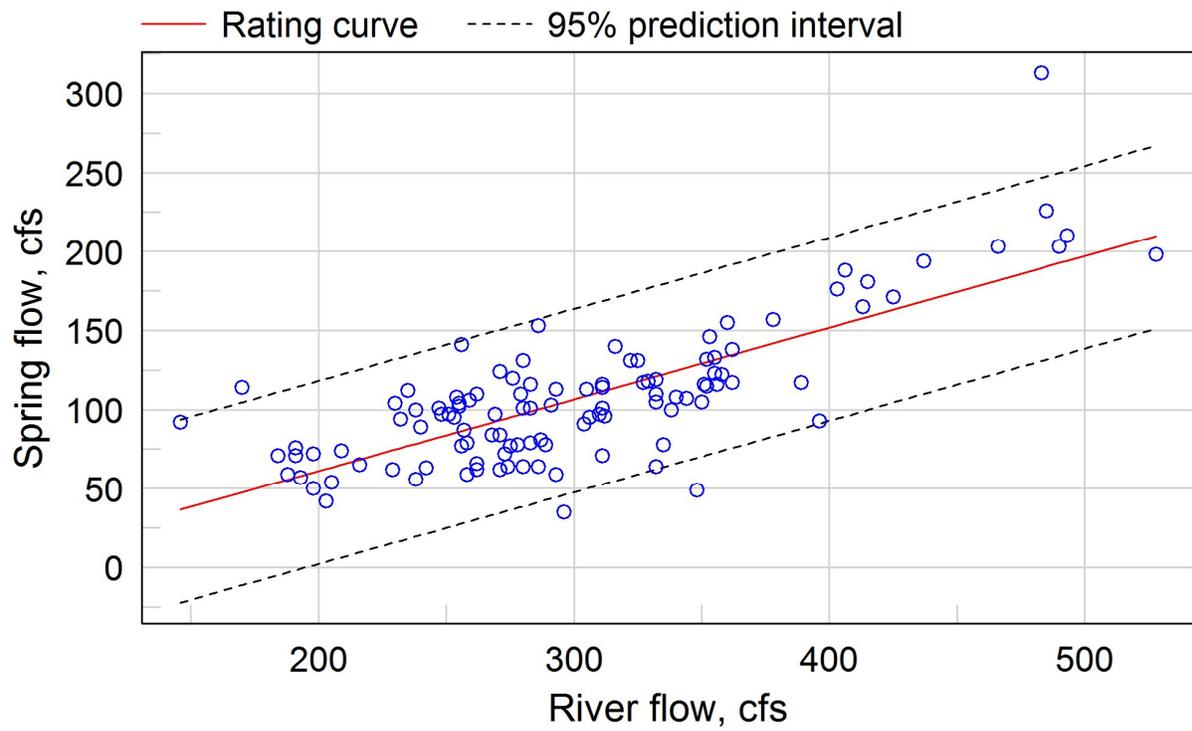


Figure 11. Blue Hole Spring Rating (top) and Goodness-of-Fit (bottom) Plots
 [spring flow versus Hwy 27 gage (02322700) flow]

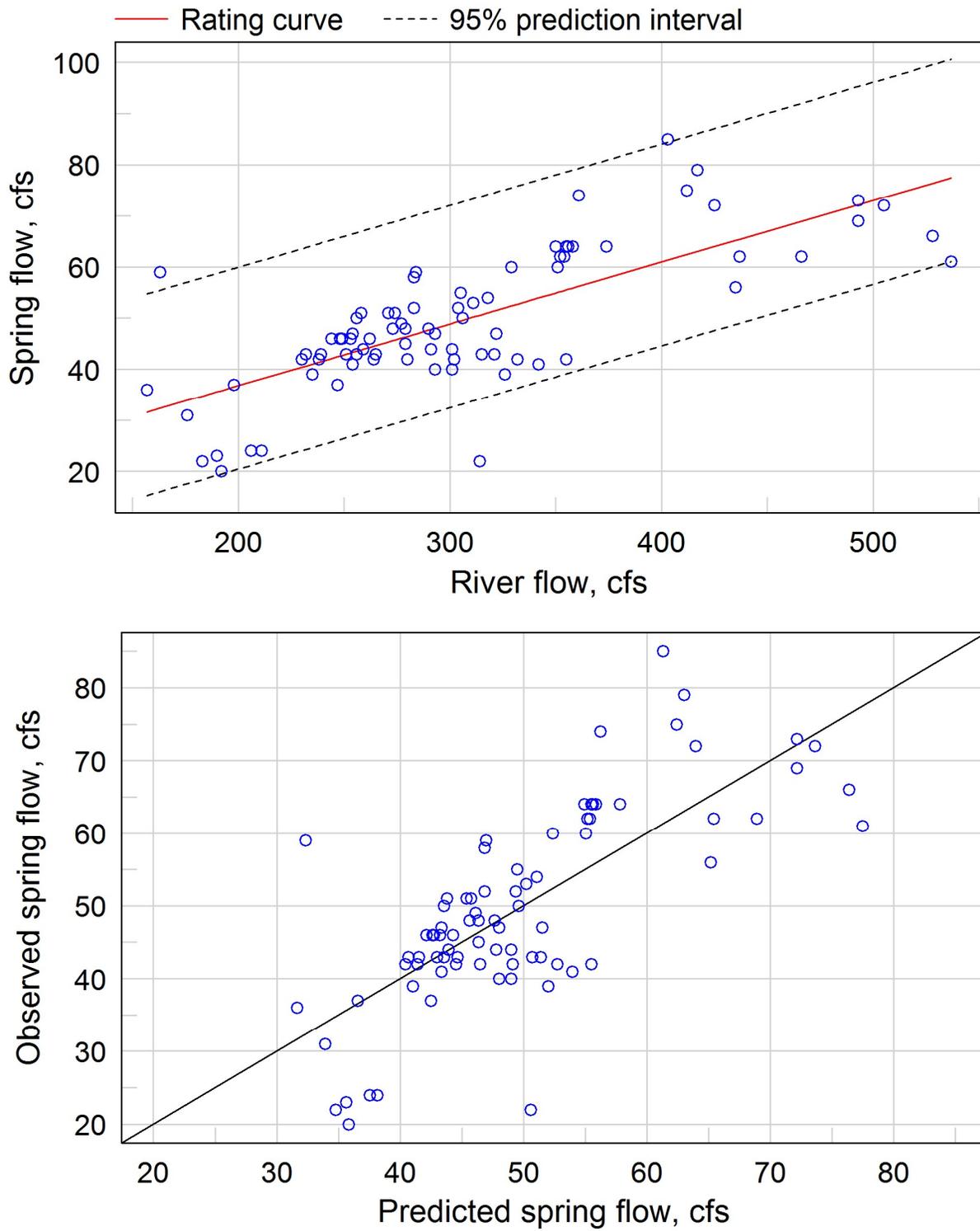


Figure 12. Ichetucknee Head Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots [spring flow versus Hwy 27 gage (02322700) flow]

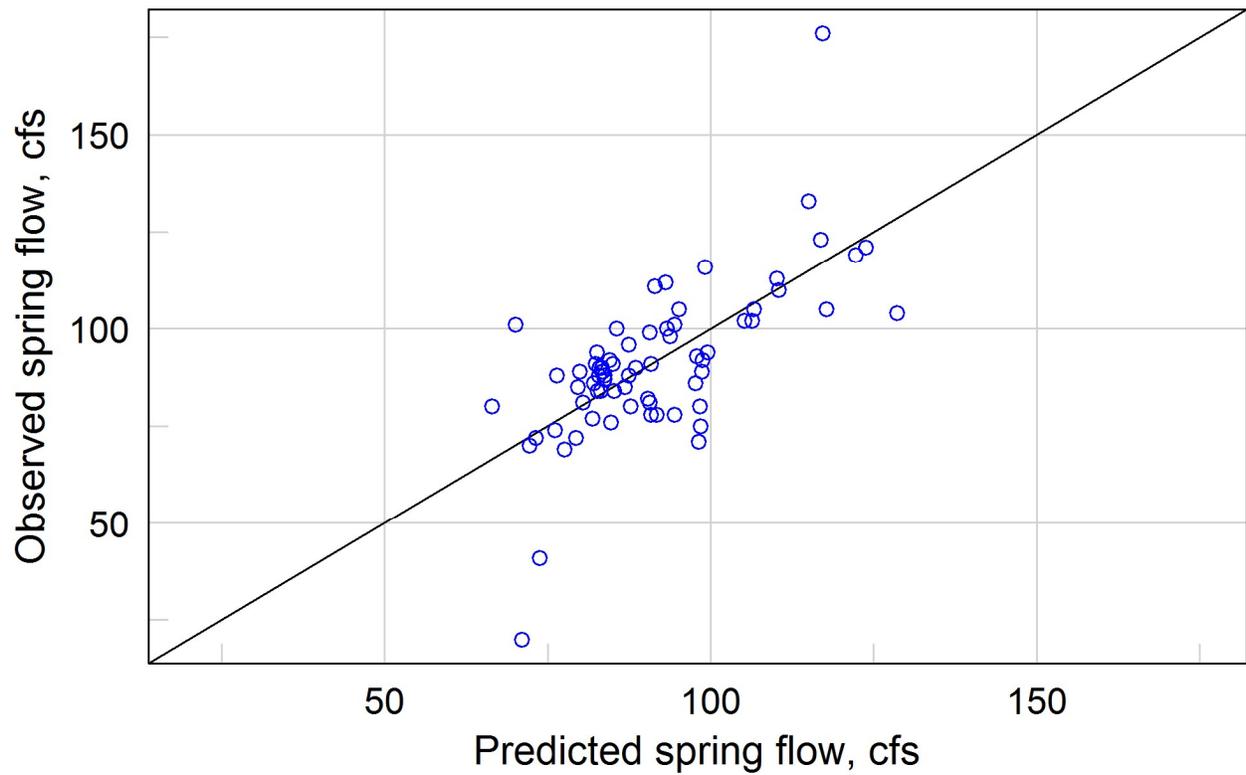
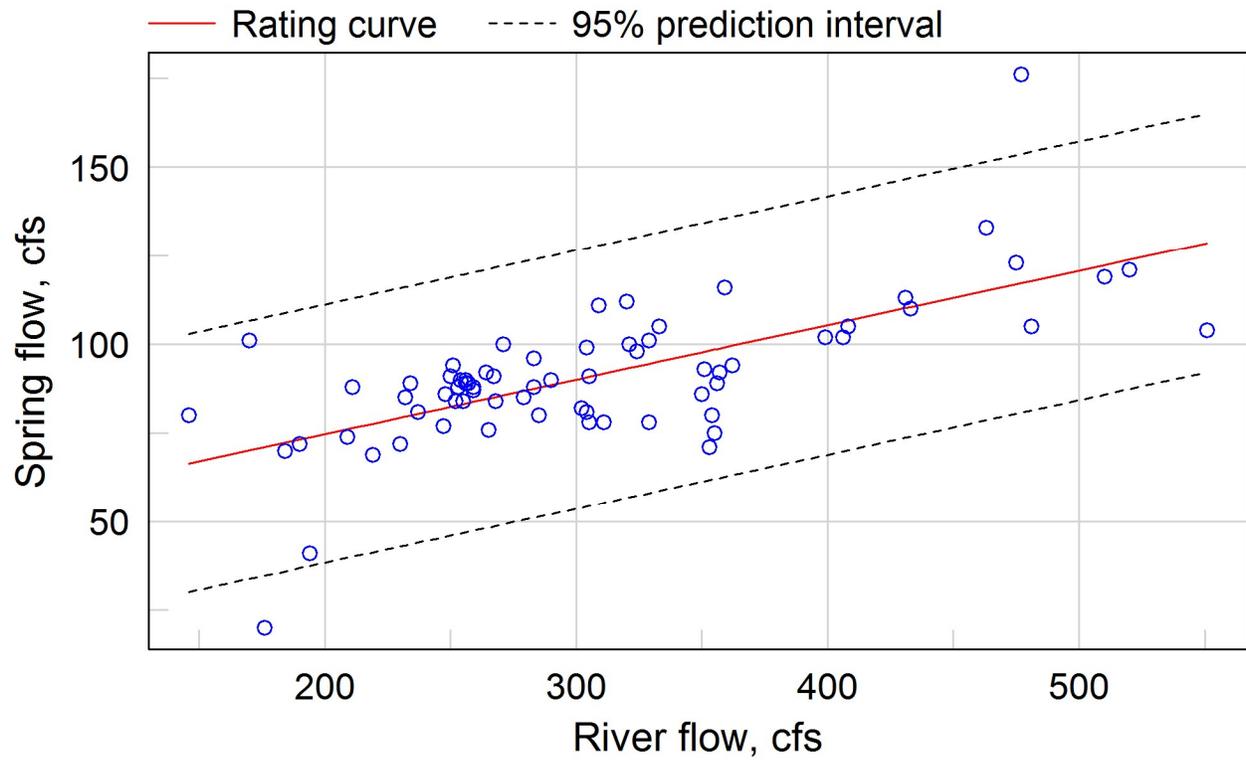


Figure 13. Mission Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots
 [spring flow versus Hwy 27 gage (02322700) flow]

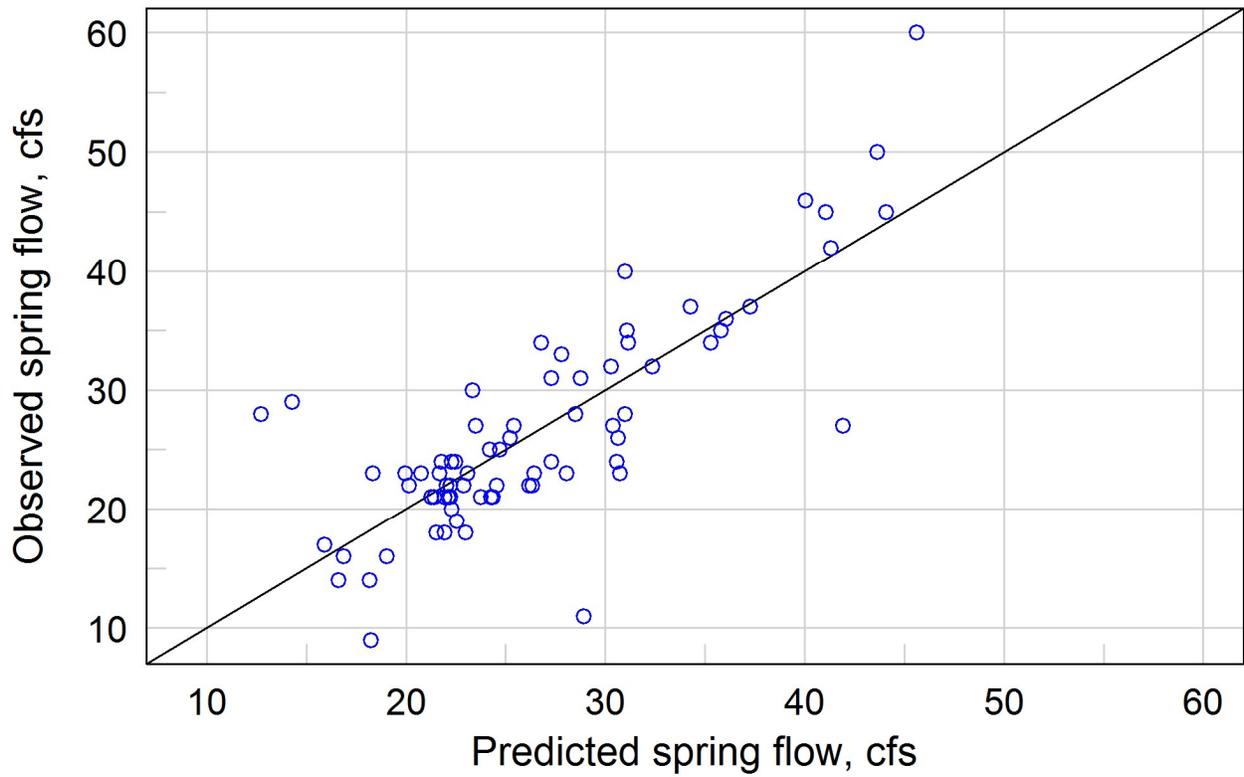
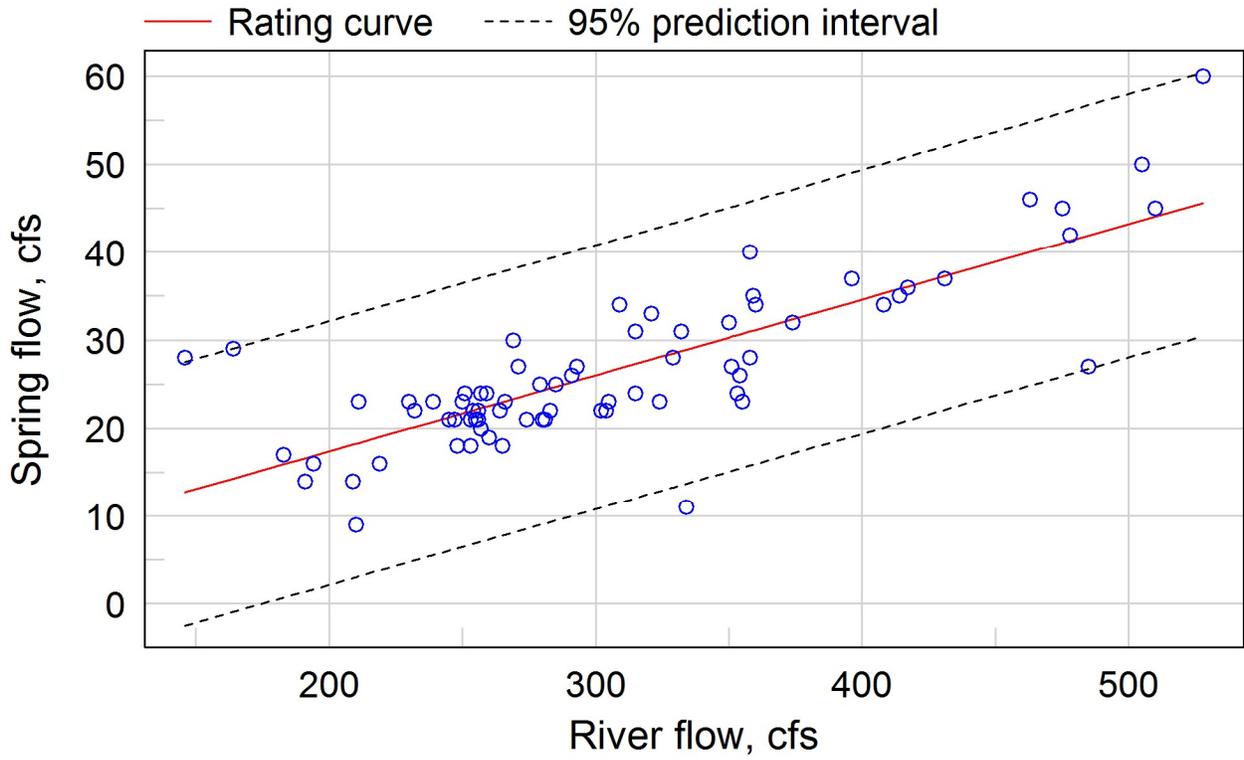


Figure 14. Mill Pond Spring Flow Rating (top) and Goodness-of-Fit (bottom) Plots
 [spring flow versus Hwy 27 gage (02322700) flow]