

ATTACHMENT 1

Proposed Storm Event Delineation Input Variables and Output for 2001–2002 Data

Table 1. Input and output variables for storm event delineation for the Green-Duwamish Watershed Water Quality Assessment.

Operator	Gage No.	Gage Name	Input Variables				Output Variables					
			Starting Base Flow (cfs)	Maximum Base Flow Increase (%/day)	Maximum Base Flow Increase (cfs/day)	Storm Exceeds Base Flow (percent)	No. of Missing Daily Discharge Values	No. of Storm Events	Maximum Storm Event Duration (Days)	Minimum Base Flow Rate (cfs)	Mean Base Flow Rate (cfs)	Maximum Base Flow Rate (cfs)
USGS	12112600	Soos Creek near Mouth (WLR Gage 54A)	20	20	18	15	3	62	13	22	91	338
WLRD	54C	Green WQA-Residential (Springbrook RDF)	0.05	20	0.1	15	122	55	18	0	0.4	2.6
USGS	12105900	Green River Below Howard A. Hanson Dam	157	20	145	15	0	79	11	157	731	2593
USGS	12108500	Newaukum Creek Near Black Diamond	8	20	7	15	2	78	15	8	38	131
WLRD	03G	Springbrook at O'Grady	7	20	5	15	336	47	21	7	24	74
WLRD	40D	Crisp Creek at Green River Road	2.3	20	1.5	15	0	102	7	2	8	16
WLRD	03F	Mill Creek (north) above Kent Facility	0.6	20	0.3	15	436	53	13	0.6	1.1	5.5
WLRD	HA5	Hamm Creek South Fork	0.6	20	0.3	15	0	123	12	0.6	1.3	3.7
WLRD	44H	Newaukum Creek at 305th	0.1	20	0.2	15	589	19	12	0.1	0.8	2.1
WLRD	44G	Green WQA-Agricultural	0.05	20	0.3	15	206	83	15	0	1	7
WLRD	44F	Green WQA-Urban	0.01	20	0.03	15	79	94	19	0	0.1	0.9
WLRD	41A	Mill Creek at SR 181	No Data									
WLRD	03A	Panther Creek at Talbot RD	No Data									

INSTRUCTIONS FOR DAILY FLOW STORM SEPARATION:

1. COPY DAILY DATA SET INTO COLUMN A
(COPY ENTIRE COLUMN FROM RAW DATA SETS SHEET)
2. VARY INPUT VARIABLES BELOW USING JUDGEMENT
3. SAVE RESULTS ELSEWHERE.

USER INPUT VARIABLES

	20	= Starting baseflow if 1st flow value is missing
	20.0%	= Max allowable baseflow increase per day in %:
0.25	18	= Max allowable baseflow increase per day in cfs
	15.0%	= Must exceed baseflow by this much to flag as storm

OUTPUT SUMMARY for 2001 - 2002

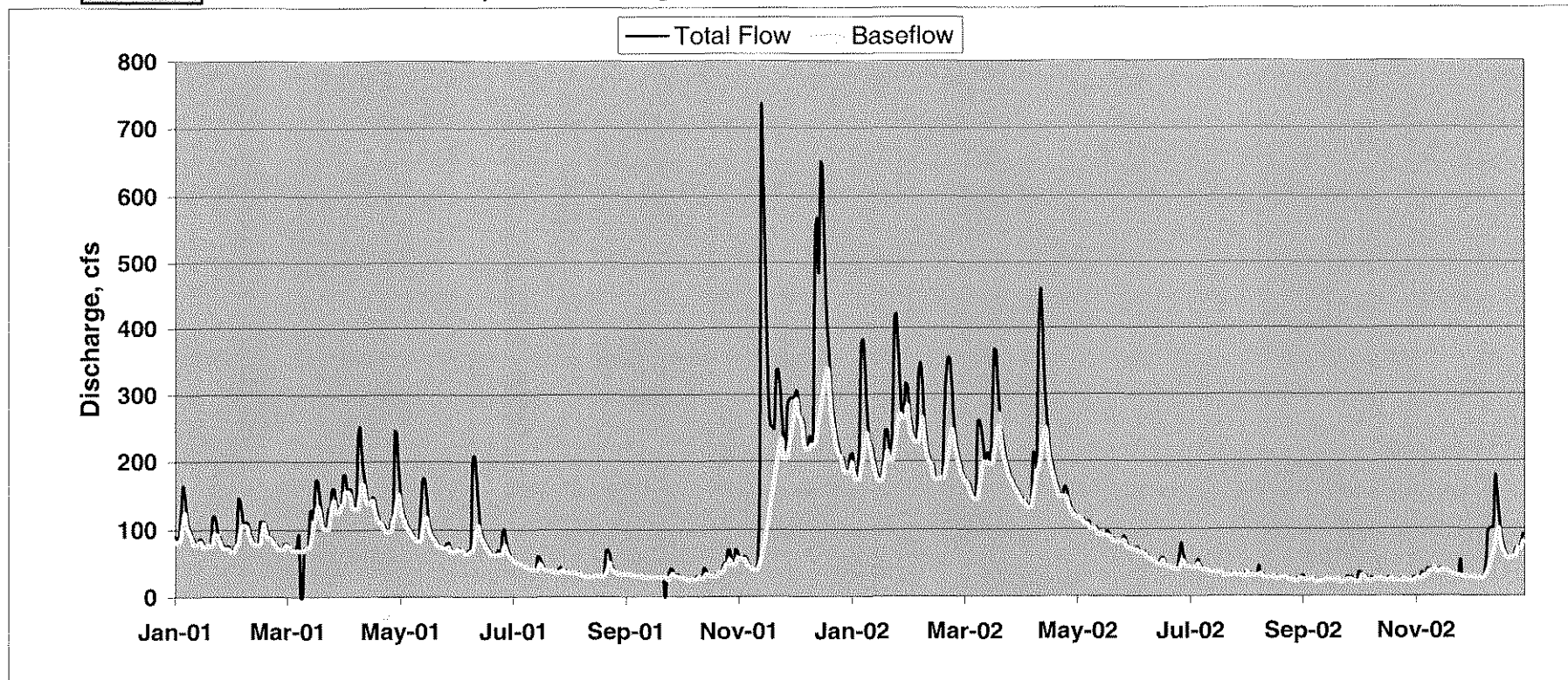
Station ID 2600 Max Soos Creek near Mouth (WLR Gage 54C)

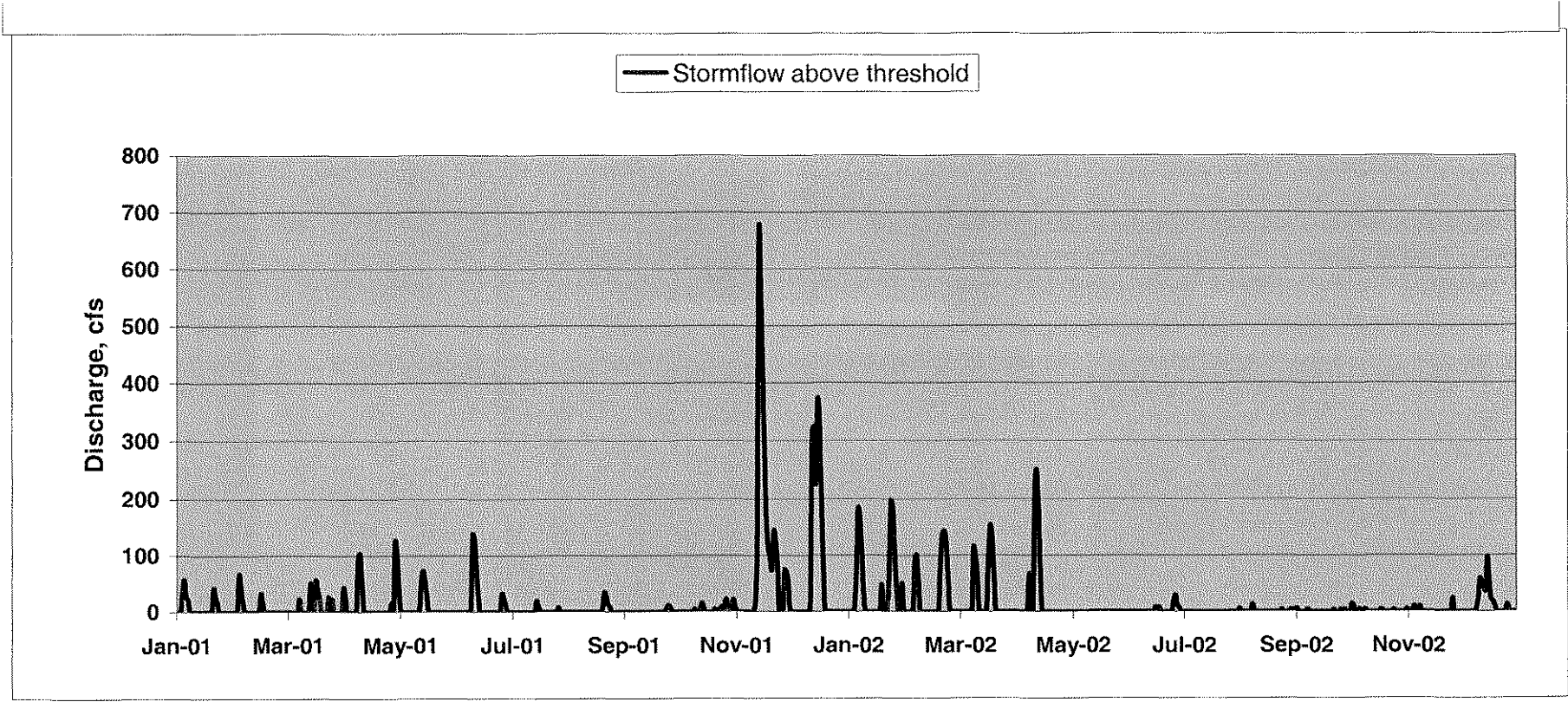
Number of Missing Data Values 3

Number of Storm Events 62

Maximum Event Duration 13 Days

Stats	Baseflow	Stormflow
Min	21.6	n/a
Mean	90.8	74.6
Max	337.7	666.1
	20	20.0%
		18
		15.0%





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2. VARY INPUT VARIABLES BELOW USING JUDGEMENT
3. SAVE RESULTS ELSEWHERE.

USER INPUT VARIABLES

	0.05	= Starting baseflow if 1st flow value is missing
	20.0%	= Max allowable baseflow increase per day in %:
0.25	0.1	= Max allowable baseflow increase per day in cfs
	15.0%	= Must exceed baseflow by this much to flag as storm

OUTPUT SUMMARY for 2001 - 2002

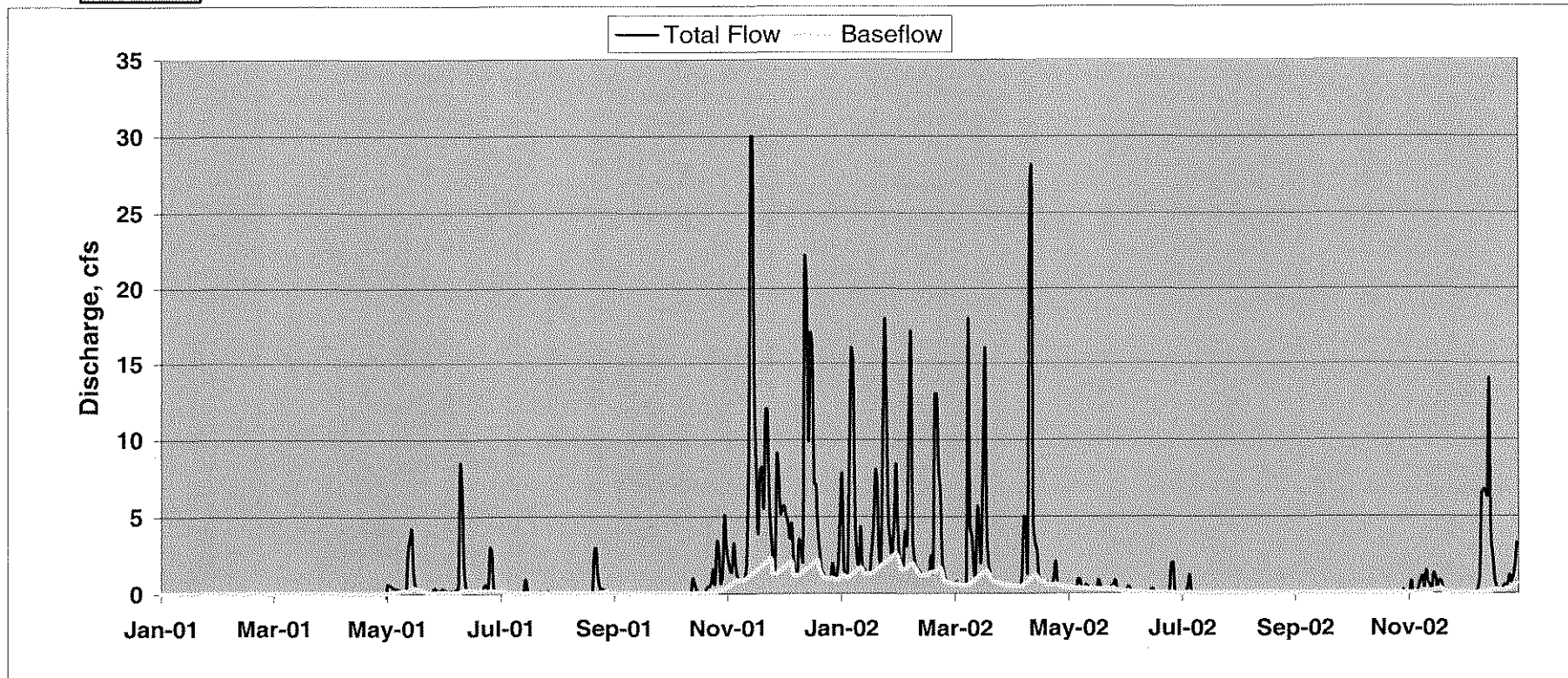
Station ID 54C Max Green WQA-Residential (Springbrook RDF or

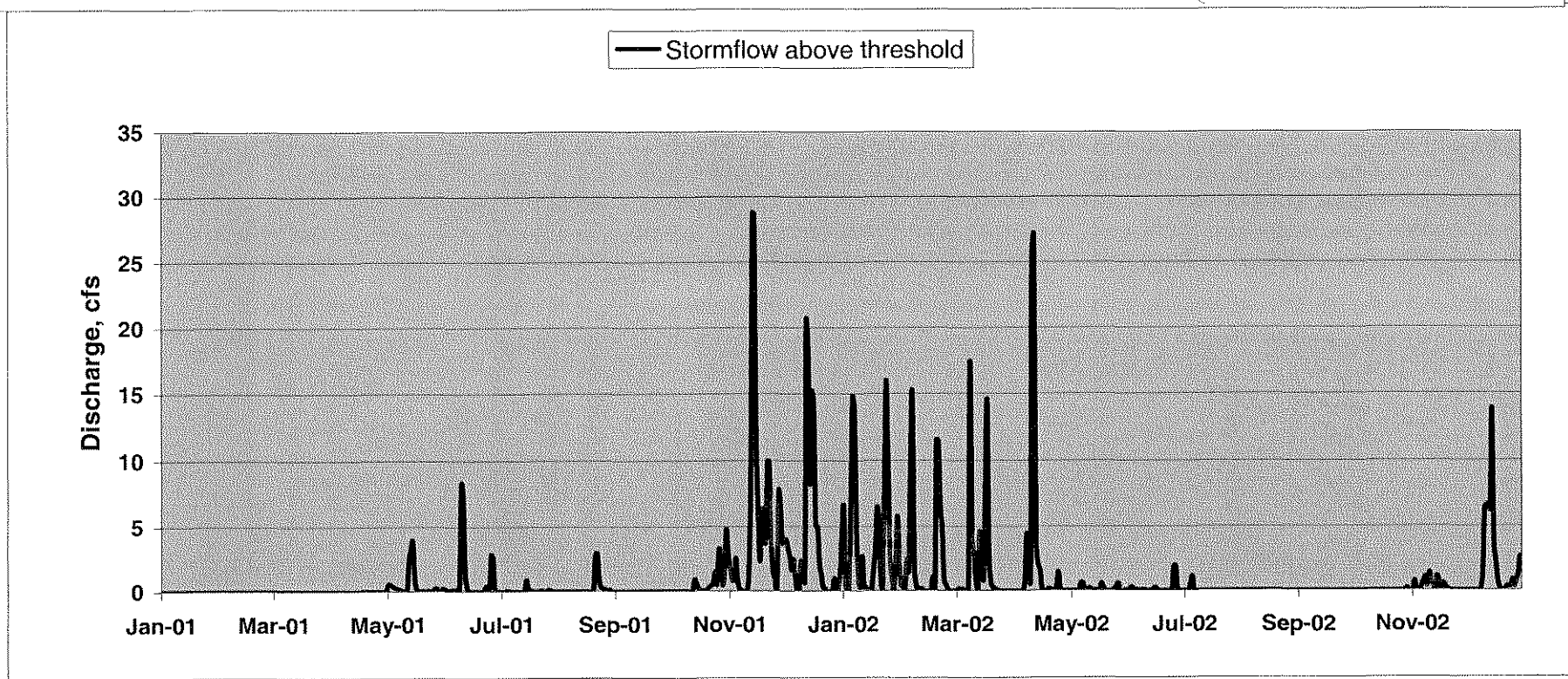
Number of Missing Data Values 122

Number of Storm Events 55

Maximum Event Duration 18 Days

Stats	Baseflow	Stormflow
Min	0.0	n/a
Mean	0.4	2.8
Max	2.6	28.8
	0.05	20.0%
		0.1
		15.0%





INSTRUCTIONS FOR DAILY FLOW STORM SEPARATION:

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2. VARY INPUT VARIABLES BELOW USING JUDGEMENT
3. SAVE RESULTS ELSEWHERE.

USER INPUT VARIABLES

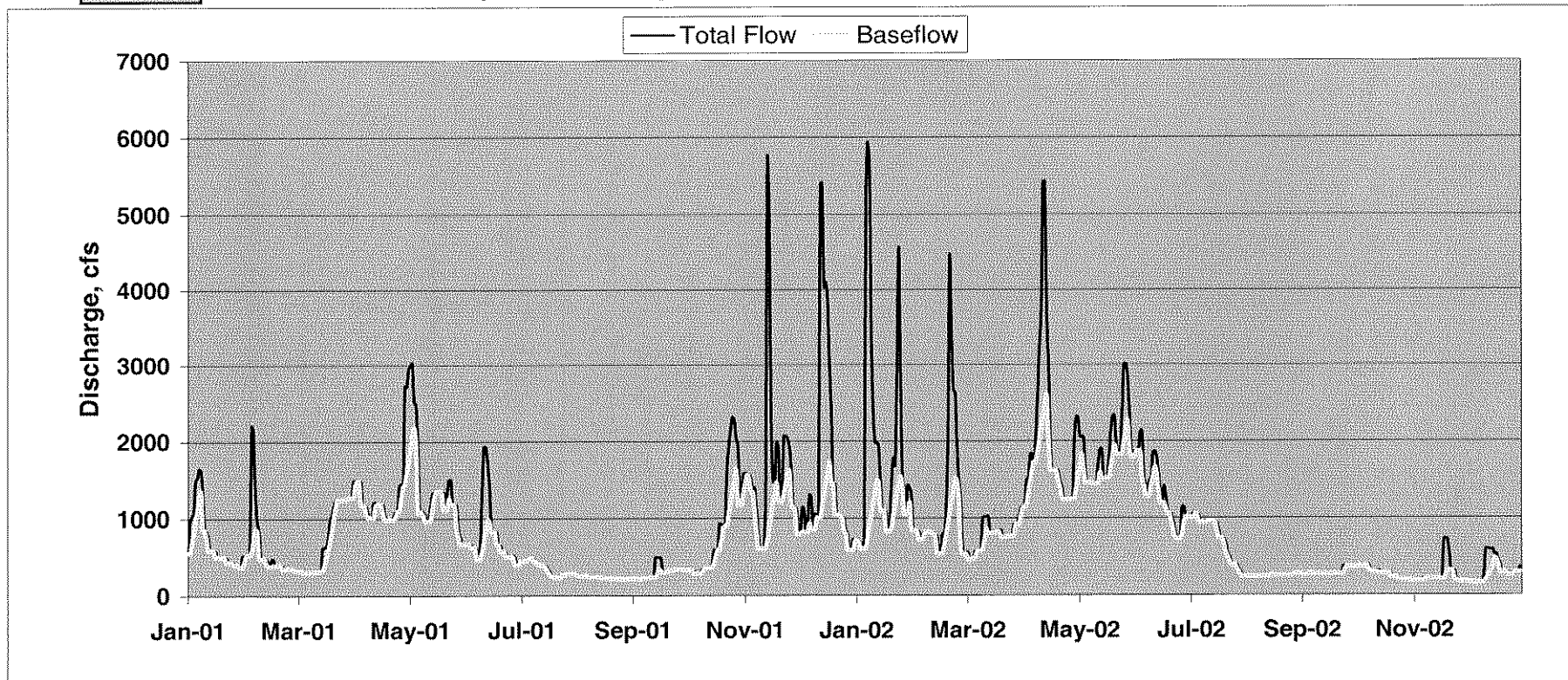
	157	= Starting baseflow if 1st flow value is missing
	20.0%	= Max allowable baseflow increase per day in %:
0.25	145	= Max allowable baseflow increase per day in cfs
	15.0%	= Must exceed baseflow by this much to flag as storm

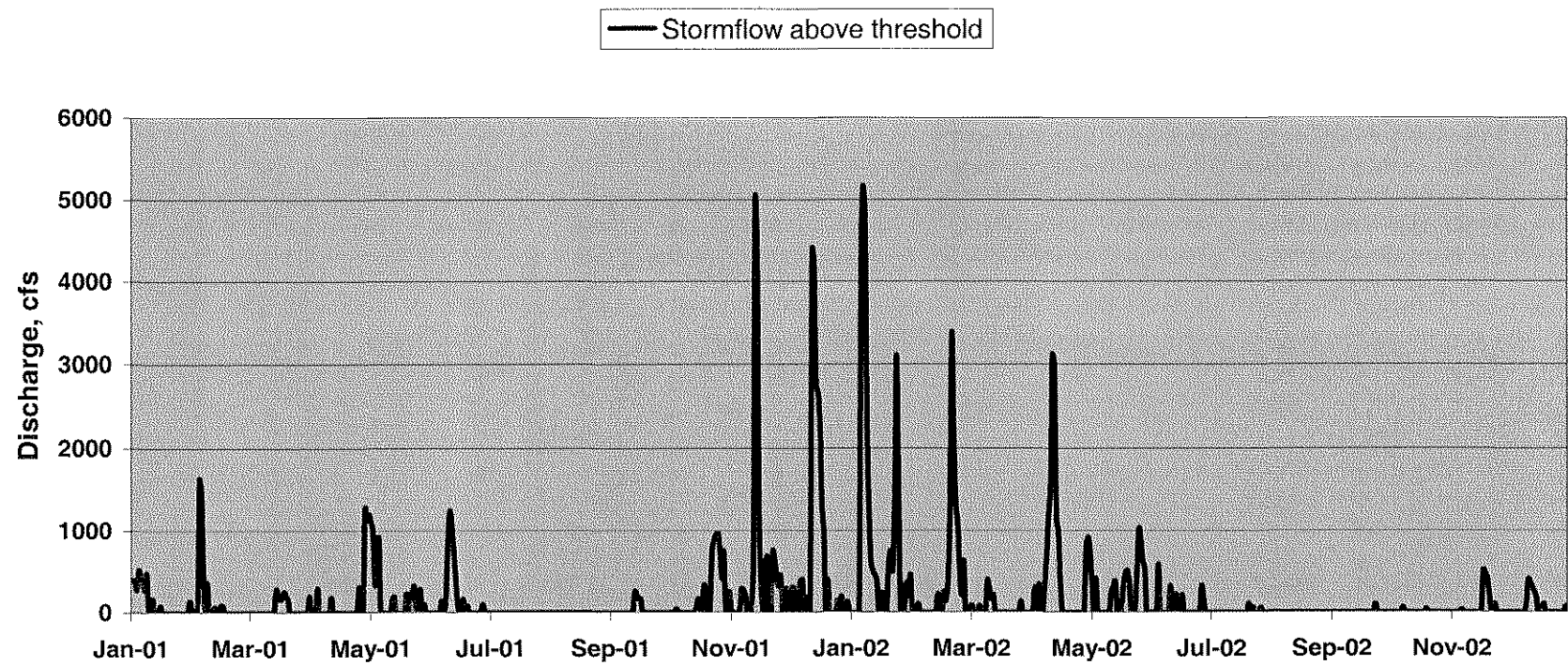
OUTPUT SUMMARY for 2001 - 2002

Station ID 5900 Max Green River Below Howard A. Hanson Dam

Number of Missing Data Values	0
Number of Storm Events	79
Maximum Event Duration	11 Days

Stats	Baseflow	Stormflow
Min	157.4	n/a
Mean	731.1	694.0
Max	2593.4	5172.7
	157	20.0%
		145
		15.0%





INSTRUCTIONS FOR DAILY FLOW STORM SEPARATION:

1. COPY DAILY DATA SET INTO COLUMN A
(COPY ENTIRE COLUMN FROM RAW DATA SETS SHEET)
2. VARY INPUT VARIABLES BELOW USING JUDGEMENT
3. SAVE RESULTS ELSEWHERE.

USER INPUT VARIABLES

	8	= Starting baseflow if 1st flow value is missing
	20.0%	= Max allowable baseflow increase per day in %:
0.25	7	= Max allowable baseflow increase per day in cfs
	15.0%	= Must exceed baseflow by this much to flag as storm

OUTPUT SUMMARY for 2001 - 2002

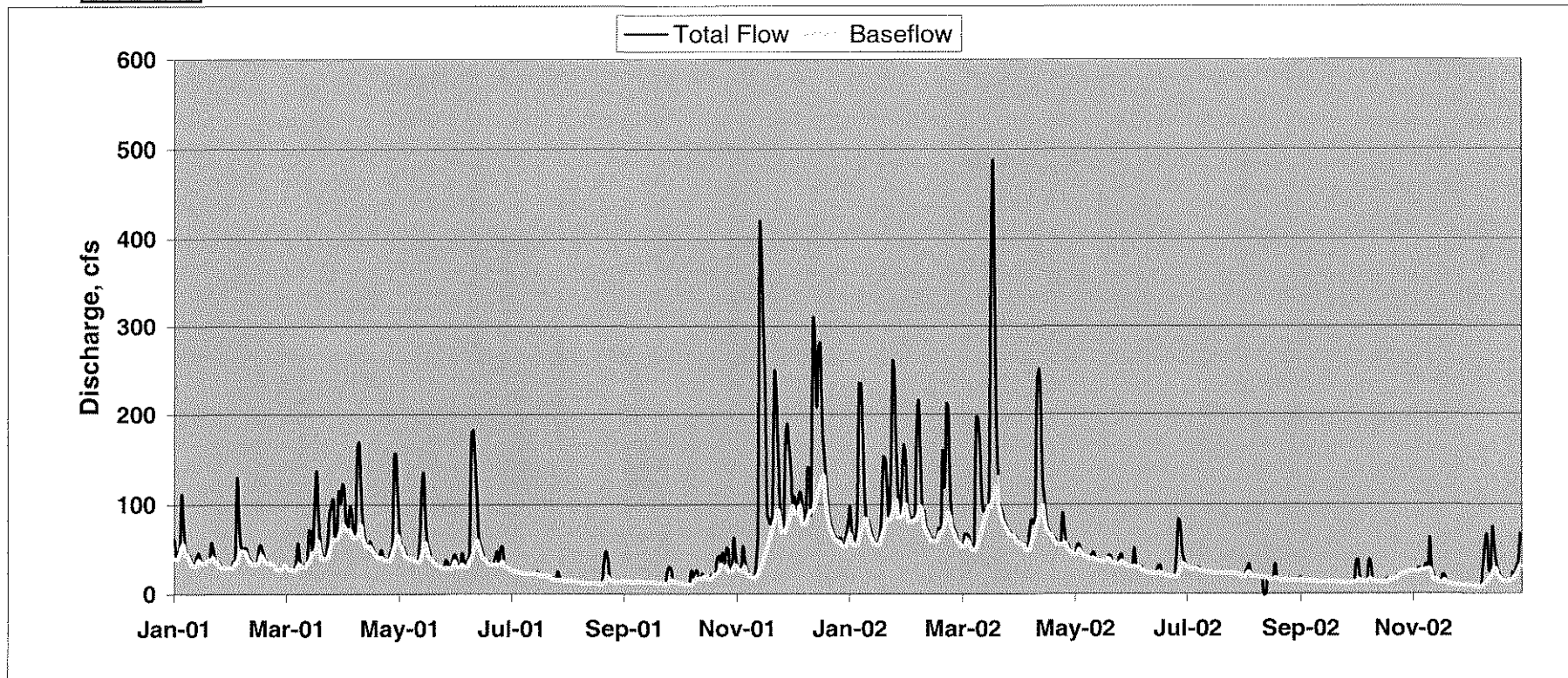
Station ID 8500 Max Newaukum Creek Near Black Diamond

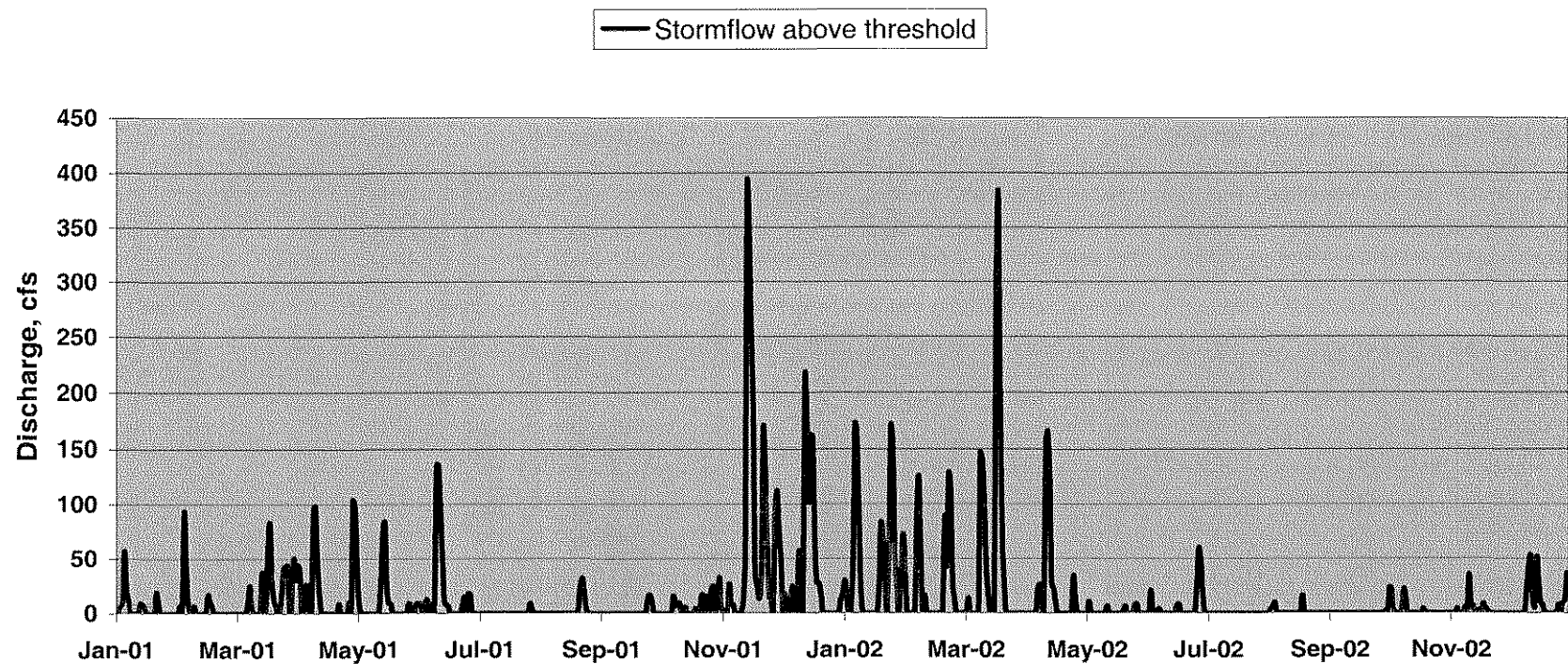
Number of Missing Data Values 2

Number of Storm Events 78

Maximum Event Duration 15 Days

<u>Stats</u>	<u>Baseflow</u>	<u>Stormflow</u>		
Min	7.5	n/a		
Mean	37.7	46.5		
Max	131.2	390.0		
	8	20.0%	7	15.0%





INSTRUCTIONS FOR DAILY FLOW STORM SEPARATION:

- k at O'Grad
1. COPY DAILY DATA SET INTO COLUMN A
(COPY ENTIRE COLUMN FROM RAW DATA SETS SHEET)
 2. VARY INPUT VARIABLES BELOW USING JUDGEMENT
 3. SAVE RESULTS ELSEWHERE.

USER INPUT VARIABLES

	7	= Starting baseflow if 1st flow value is missing
	20.0%	= Max allowable baseflow increase per day in %:
0.25	5	= Max allowable baseflow increase per day in cfs
	15.0%	= Must exceed baseflow by this much to flag as storm

OUTPUT SUMMARY for 2001 - 2002

Station ID 03G Max Springbrook at O'Grady

Number of Missing Data Values 336

Number of Storm Events 47

Maximum Event Duration 21 Days

<u>Stats</u>	<u>Baseflow</u>	<u>Stormflow</u>		
Min	7.2	n/a		
Mean	24.3	69.7		
Max	74.0	314.9		
	7	20.0%	5	15.0%

