

HJA Flume Calibration Summary - Rating curve equations by set and version

Revised 12/02/2002 D.Henshaw  
 Original 11/30/1994 D.Henshaw

Equation parameters

where,

$$\ln y = \ln a + b \ln(x) + c [\ln(x)]^{**2} + d [\ln(x)]^{**3}$$

and,

y=cfs and x=gage height in feet

Max GageHt (ft.)	ln a	b	c	d	Calc.Max GageHt (ft.)
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Andrews Watershed #1, equation set A, version 1 (use from 10/1/1952 through 8/31/1956 only)					
0.020	1.6549710	1.0780520	0.0000000	0.0000000	0.0197
0.076	3.4585459	1.5371380	0.0000000	0.0000000	0.0759
0.274	2.8872161	1.3155500	0.0000000	0.0000000	0.2741
2.000	3.3595591	1.6805220	0.0000000	0.0000000	2.0000
Andrews Watershed #1, equation set B, version 1 (use from 9/1/1956 to present except summers beginning 1999 - use C)					
0.041	3.4810755	1.6658920	0.0000000	0.0000000	0.0414
0.085	1.7674992	1.1277280	0.0000000	0.0000000	0.0854
0.113	3.4640393	1.8171530	0.0000000	0.0000000	0.1134
0.186	2.4405980	1.3469430	0.0000000	0.0000000	0.1862
0.342	3.4657080	1.9568490	0.0000000	0.0000000	0.3417
0.701	3.0569163	1.5761290	0.0000000	0.0000000	0.7010
2.000	3.2120695	2.0129220	0.0000000	0.0000000	2.0000
Andrews Watershed #1, equation set C, version 1 (v-notch, use summers 1999 to present)					
1.000	1.6066490	2.5884790	0.0000000	0.0000000	
Andrews Watershed #2, equation set A, version 1 (use from 10/1/1952 to present except summers beginning 1999 - use B)					
0.200	2.3663579	1.4487690	0.0000000	0.0000000	0.1999
0.352	3.3182687	2.0399510	0.0000000	0.0000000	0.3521
0.610	2.8519870	1.5932080	0.0000000	0.0000000	0.6103
3.000	3.0418270	1.9776560	0.0000000	0.0000000	3.0000
Andrews Watershed #2, equation set B, version 1 (use summers 1999 to present)					
1.000	1.5122450	2.5043430	0.0000000	0.0000000	
Andrews Watershed #3, equation set A, version 1 (use from 10/1/1952 to present, except after 1964 flood - use B, and summers beginning 1999 - use C)					
0.069	2.5773451	1.3483210	0.0000000	0.0000000	0.0686
0.143	1.7995735	1.0580930	0.0000000	0.0000000	0.1431
0.321	2.7113672	1.5271440	0.0000000	0.0000000	0.3206
3.000	3.0428213	1.8185370	0.0000000	0.0000000	3.0000
Andrews Watershed #3, equation set B, version 1 (use from 12/11/1964 to 01/05/1966 and from 07/01/1966 to 09/30/1966)					
0.298	2.4267333	1.3403300	0.0000000	0.0000000	0.2977
3.000	3.1039768	1.8993200	0.0000000	0.0000000	3.0000

Andrews Watershed #3, equation set C, version 1  
(use summers 1999 to present)

1.000	1.4883400	2.4691700	0.0000000	0.0000000
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Andrews Watershed #6, equation set A, version 1  
(use from 10/1/1963 to 9/30/1997)

0.218	0.3733241	1.7673730	0.0000000	0.0000000	0.2179
0.460	0.6606951	1.9559480	0.0000000	0.0000000	0.4604
1.006	0.8007145	2.1364440	0.0000000	0.0000000	1.0057
2.000	0.7997244	2.3105090	0.0000000	0.0000000	2.0000

Andrews Watershed #6, equation set B, version 1

(use from 10/01/1997 to present except summers beginning 1998 - use C)

2.500	1.2720849	1.8719476	0.0000000	0.0000000
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Andrews Watershed #6, equation set C, version 1  
(use summers 1998 to present)

1.000	1.2631618	2.6092280	0.0000000	0.0000000
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Andrews Watershed #7, equation set A, version 1  
(use from 10/1/1963 to 9/30/1997)

0.218	0.3733241	1.7673730	0.0000000	0.0000000	0.2179
0.460	0.6606951	1.9559480	0.0000000	0.0000000	0.4604
1.006	0.8007145	2.1364440	0.0000000	0.0000000	1.0057
2.500	0.7997244	2.3105090	0.0000000	0.0000000	2.5000

Andrews Watershed #7, equation set B, version 1

(use from 10/01/1997 to present except summers beginning 1998 - use C)

2.500	1.4286173	2.0809090	0.0000000	0.0000000
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Andrews Watershed #7, equation set C, version 1  
(use summers 1998 to present)

1.000	0.8081007	2.3798699	0.0000000	0.0000000
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Andrews Watershed #8, equation set A, version 1  
(use from 10/1/1963 through 9/30/1987)

0.218	0.3733241	1.7673730	0.0000000	0.0000000	0.2179
0.460	0.6606951	1.9559480	0.0000000	0.0000000	0.4604
1.006	0.8007145	2.1364440	0.0000000	0.0000000	1.0057
2.500	0.7997244	2.3105090	0.0000000	0.0000000	2.5000

Andrews Watershed #8, equation set B, version 1

(\*\*NO LONGER USED\*\* was operative 10/1/1987-2/15/1996  
discharge data recalculated using set B, version 2)

2.000	1.3046720	2.0104480	0.0000000	0.0000000	2.0000
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Andrews Watershed #8, equation set B, version 2

(use from 10/1/1987 to present except summers beginning 1998 - use C)

0.235	1.0201232	1.7578675	0.0000000	0.0000000	0.2355
0.759	1.3039270	1.9541120	0.0000000	0.0000000	0.7598
2.000	1.4562189	2.5086018	0.0000000	0.0000000	2.0000

Andrews Watershed #8, equation set C, version 2

Watershed #8, curve C1 (use summers 1998 to present)

1.000	0.9121577	2.4360416	0.0000000	0.0000000
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Andrews Watershed #9, equation set A, version 1  
(use from 10/1/1968 through 8/7/1973)

0.218	0.3733241	1.7673730	0.0000000	0.0000000	0.2179
0.460	0.6606951	1.9559480	0.0000000	0.0000000	0.4604
1.006	0.8007145	2.1364440	0.0000000	0.0000000	1.0057
2.500	0.7997244	2.3105090	0.0000000	0.0000000	2.5000

Andrews Watershed #9, equation set B, version 1  
(\*\*NO LONGER USED\*\* was operative 8/8/1973-12/1/2002)  
discharge data recalculated using set B, version 2)

2.500	0.4930839	2.6535380	0.0000000	0.0000000	2.5000
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**Andrews Watershed #9, equation set B, version 2**  
**(use summers only 1973 to 1979 - see dates below)**

2.500	-1.964220	0.9660340	0.0000000	0.0000000	2.5000
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Andrews Watershed #9, equation set C, version 1  
(\*\*NO LONGER USED\*\* was operative 10/15/1973-12/1/2002)  
discharge data recalculated using set C, version 2)

2.500	1.7029910	1.9368440	0.3469885	0.0582070	2.5000
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**Andrews Watershed #9, equation set C, version 2**  
**(use from 10/15/1973 to present, except summer v-notch periods - use B, D)**

0.004	-3.114290	0.4353170	0.0000000	0.0000000	0.0041
0.053	0.9459340	1.1748590	0.0000000	0.0000000	0.0529
2.500	1.4544700	1.3478210	0.0000000	0.0000000	2.5000

**Andrews Watershed #9, equation set D, version 1**  
**(use summers 1997 to present)**

1.000	0.8280009	2.4121165	0.0000000	0.0000000	1.0000
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**Andrews Watershed #10, equation set A, version 1**  
**(use from 10/1/1968 through 8/15/1973)**

0.218	0.3733241	1.7673730	0.0000000	0.0000000	0.2179
0.460	0.6606951	1.9559480	0.0000000	0.0000000	0.4604
1.006	0.8007145	2.1364440	0.0000000	0.0000000	1.0057
2.500	0.7997244	2.3105090	0.0000000	0.0000000	2.5000

**Andrews Watershed #10, equation set B, version 1**  
**(use summers only 1973 to 1979 - see dates below)**

2.500	0.4930839	2.6535380	0.0000000	0.0000000	2.5000
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Andrews Watershed #10, equation set C, version 1  
(\*\*NO LONGER USED\*\* was operative 10/1/1973-12/1/2002)  
discharge data recalculated using set C, version 2)

2.500	1.7757490	1.9295120	0.3025086	0.0510656	2.5000
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**Andrews Watershed #10, equation set C, version 2**  
**(use from 8/16/1973 to present, except summer v-notch periods - use B, D)**

0.033	3.1873490	1.9295560	0.0000000	0.0000000	0.0325
2.500	1.6399500	1.4778080	0.0000000	0.0000000	2.5000

**Andrews Watershed #10, equation set D, version 1**  
**(use summers 1997 to present)**

1.000	0.7829691	2.3768995	0.0000000	0.0000000	1.0000
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Andrews Mack Creek, equation set A, version 1  
(\*\*NO LONGER USED\*\* was operative 10/1/1994-11/30/2001)  
discharge data recalculated using set A, version 3)

0.555	3.5168000	1.4907940	0.0000000	0.0000000	0.5549
2.540	3.8745760	2.0983320	0.0000000	0.0000000	2.5400

Andrews Mack Creek, equation set A, version 2  
(\*\*NO LONGER USED\*\* was operative 11/30/2001-12/1/2002)  
discharge data recalculated using set A, version 3)

0.162	1.1973810	0.4640050	0.0000000	0.0000000	0.162
0.547	3.7012320	1.8390770	0.0000000	0.0000000	0.547
2.540	3.8714820	2.1214520	0.0000000	0.0000000	2.5400

Andrews Mack Creek, equation set A, version 3

(use from 10/1/1979 to present, main flume only after 10/1/1995)

0.509	3.5680000	1.7415620	0.0000000	0.0000000	0.5093
2.540	3.8561960	2.1687310	0.0000000	0.0000000	2.5400

Andrews Mack Creek Fish Ladder, equation set A, version 1

(\*\*NO LONGER USED\*\* was operative 11/1/1997-11/30/2001)

discharge data recalculated using set A, version 2)

0.502	1.4884000	2.4490000	0.0000000	0.0000000	0.5023
2.750	1.0784800	1.8536960	0.0000000	0.0000000	2.7500

Andrews Mack Creek Fish Ladder, equation set A, version 2

(use from 10/1/1995 to present)

0.810	1.5550540	2.4347240	0.0000000	0.0000000	0.810
1.029	1.4806740	2.0810830	0.0000000	0.0000000	1.029
2.750	1.4924460	1.6675710	0.0000000	0.0000000	2.7500

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Watershed # 9 1970's v-notch  
installation periods (inclusive  
dates)

on @ 0000	off @ 2400
yyyymmdd	yyyymmdd
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19730808	19731014
19740619	19741004
19750617	19750928
19760610	19761022
19770715	19770921
19780608	19781113
19790621	19791019

Watershed #10 1970's v-notch  
installation periods (inclusive  
dates)

on @ 0000	off @ 2400
yyyymmdd	yyyymmdd
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19730816	19730930
19740620	19741003
19750618	19750930
19760608	19761020
19770708	19770921
19780608	19781113
19790621	19791019

Watershed Areas in acres

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Watershed #1	237
Watershed #2	149
Watershed #3	250
Watershed #6	32
Watershed #7	38
Watershed #8	53
Watershed #9	21
Watershed #10	25
Watershed Mack	1436
Watershed Lookout	15424