

SK vs DOE Flow Measurements

Ron Sidwell



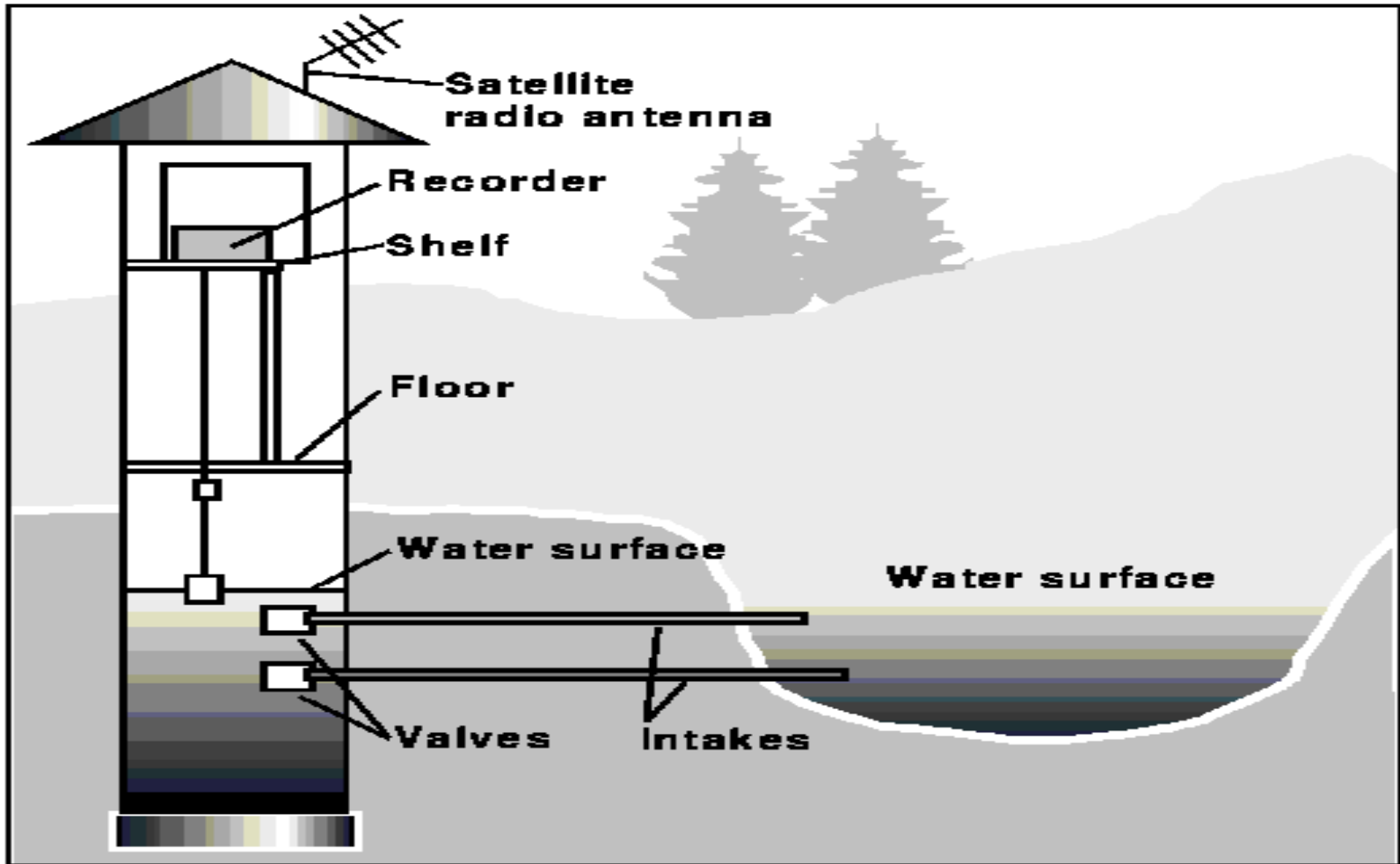
Bear Creek



Morse Creek at 6.5 mi.

DOE data from www.ecy.wa.gov

Typical gage



Typical Rating Curve

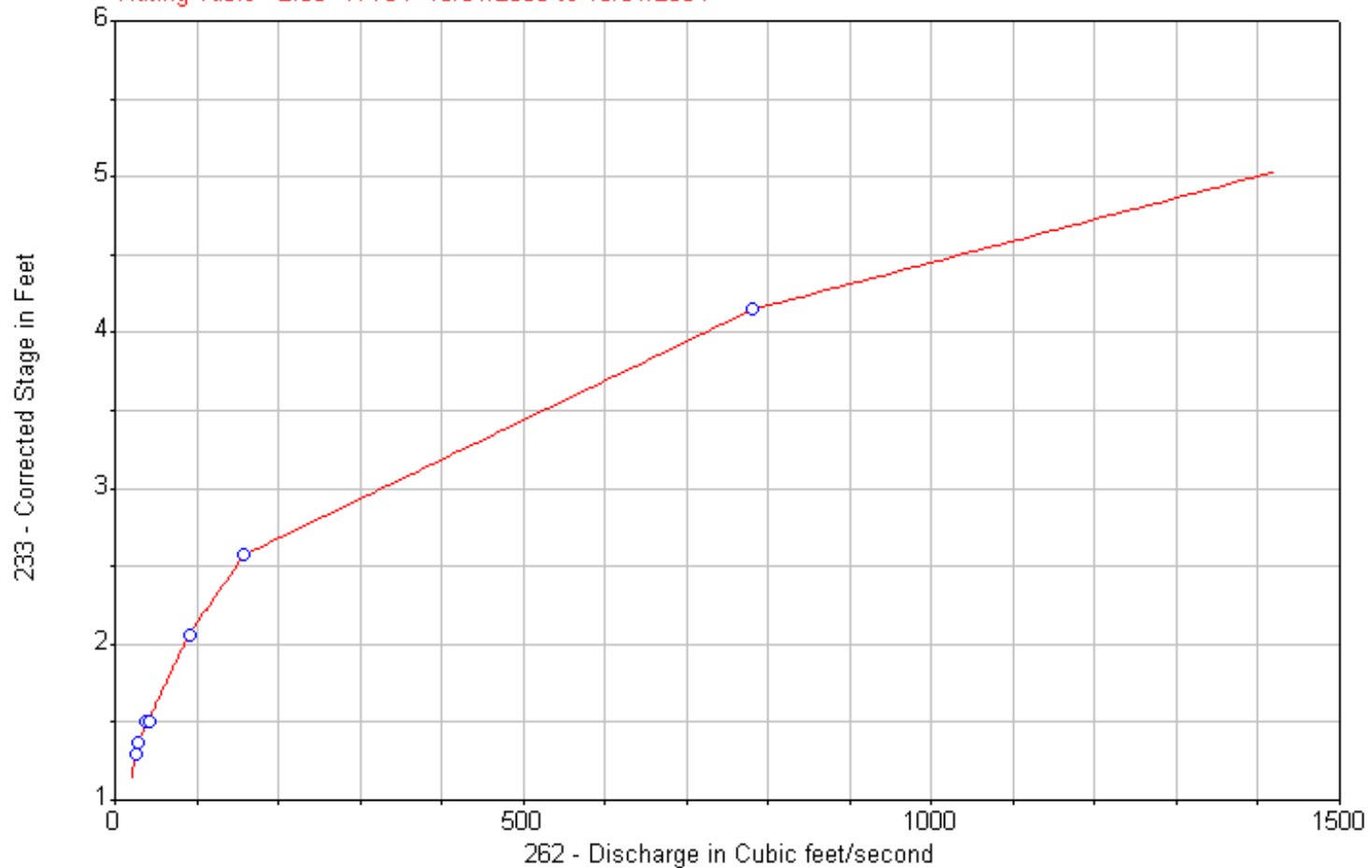
Washington State Dept. of Ecology

HYG PLOT V111 Output 10/02/2005

18C150 Morse Creek below Aqueduct

Gaugings from 06/06/2003 to 08/19/2004

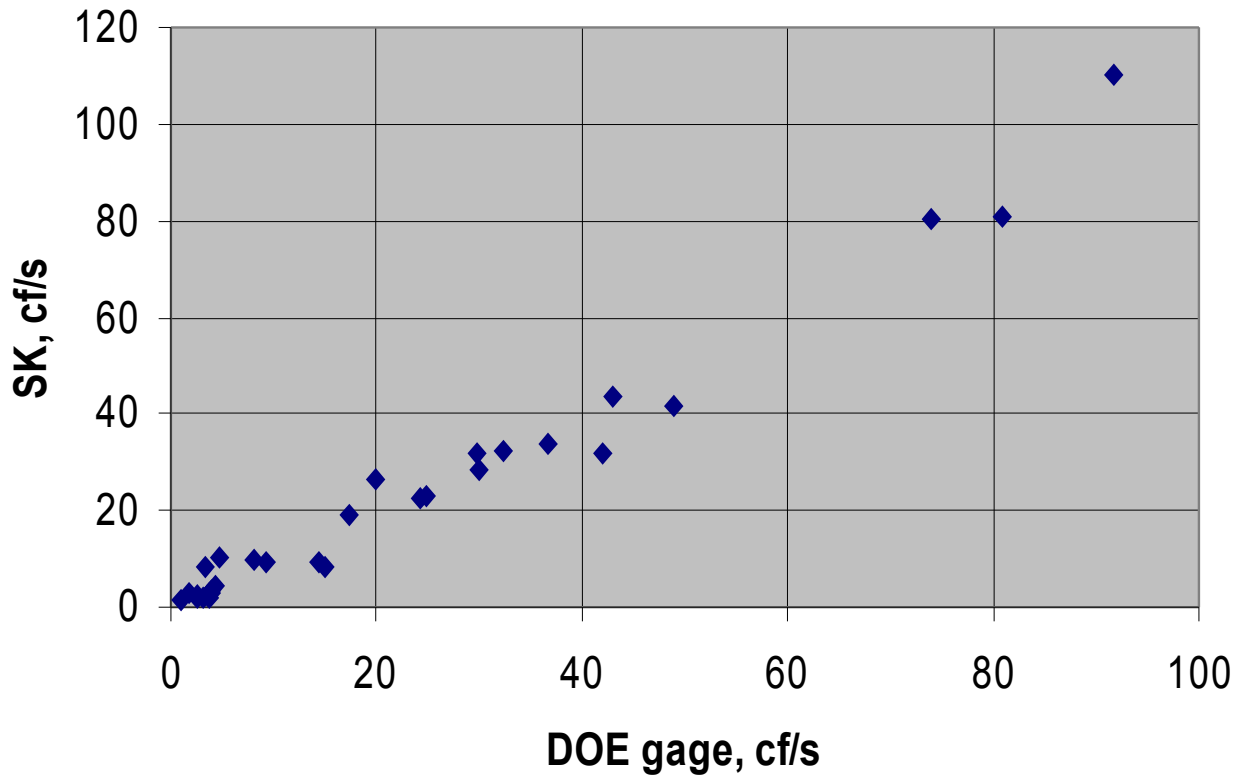
Rating Table 2.00 WY04 10/01/2003 to 10/01/2004



Raw Data Sample

Primary Name	VisitID	Date	Time	SK_Flow	DOE Site	Date if difl	Time	DOE_Flow	DOE Qualifier	SK/DOE
Ennis 0.1	1582	1/19/2003	12:30 M	15	Ennis 0.3		12:30	8.5		1.76
	1695	4/19/2003	14:10 M	29.9	Ennis 0.3		14:15	28.4		1.05
	3325	8/8/2003	12:42 M	3.7	Ennis 0.3		12:45	3.1		1.19
	3672	10/5/2003	9 :25 M	2.6	Ennis 0.3		9:30	1.9		1.37
	4665	1/30/2004	12:05 M	80.8	Ennis 0.3		12:00	80.8		1.00
	4798	4/29/2004	10:50 M	9.3	Ennis 0.3		10:45	9.4		0.99
	4859	8/13/2004	15:45 M	4	Ennis 0.3		15:45	3.2		1.25
	4933	10/17/2004	10:15 M	4.4	Ennis 0.3		10:15	3.7	B	1.19
	4987	1/23/2005	10:40 M	36.7	Ennis 0.3		10:45	34.2		1.07
	6031	8/6/2005	12:05 M	3.9	Ennis 0.3		12:00	3.2		1.22
									Mean	1.21
									ST DEV	0.23

SK vs DOE Flow, Nearby points



Mean=1.09

$\pm .06$

St dev=0.35

Sites < 0.5 mi apart

Final DOE data only

Remarks

- 1) Used final DOE data only, this excludes water year 2006 and 2007. Will update when these are available, probably in 2-3 months. This will add a lot of data and several more sites. Have only 31 measurements at three sites at the moment.
- 2) The SK sites are downstream of the DOE telemetry sites for the data used here: e.g. Ennis 0.1 vs Ennis 0.3 (1000 ft apart), Siebart 0.6 vs 1.0, and Morse 0.3 vs Morse 0.5.
- 4) PRELIMINARY RESULT: $SK/DOE = 1.09 \pm 0.06$ for nearby measurements (< 0.4 mi), taken at the same time (15 min).