

12-4-2009

Ex. 277-US-433

Unknown

Follow this and additional works at: <https://digitalcommons.law.uidaho.edu/klamath>

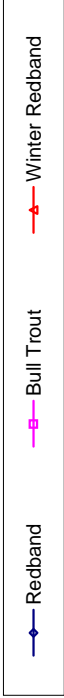
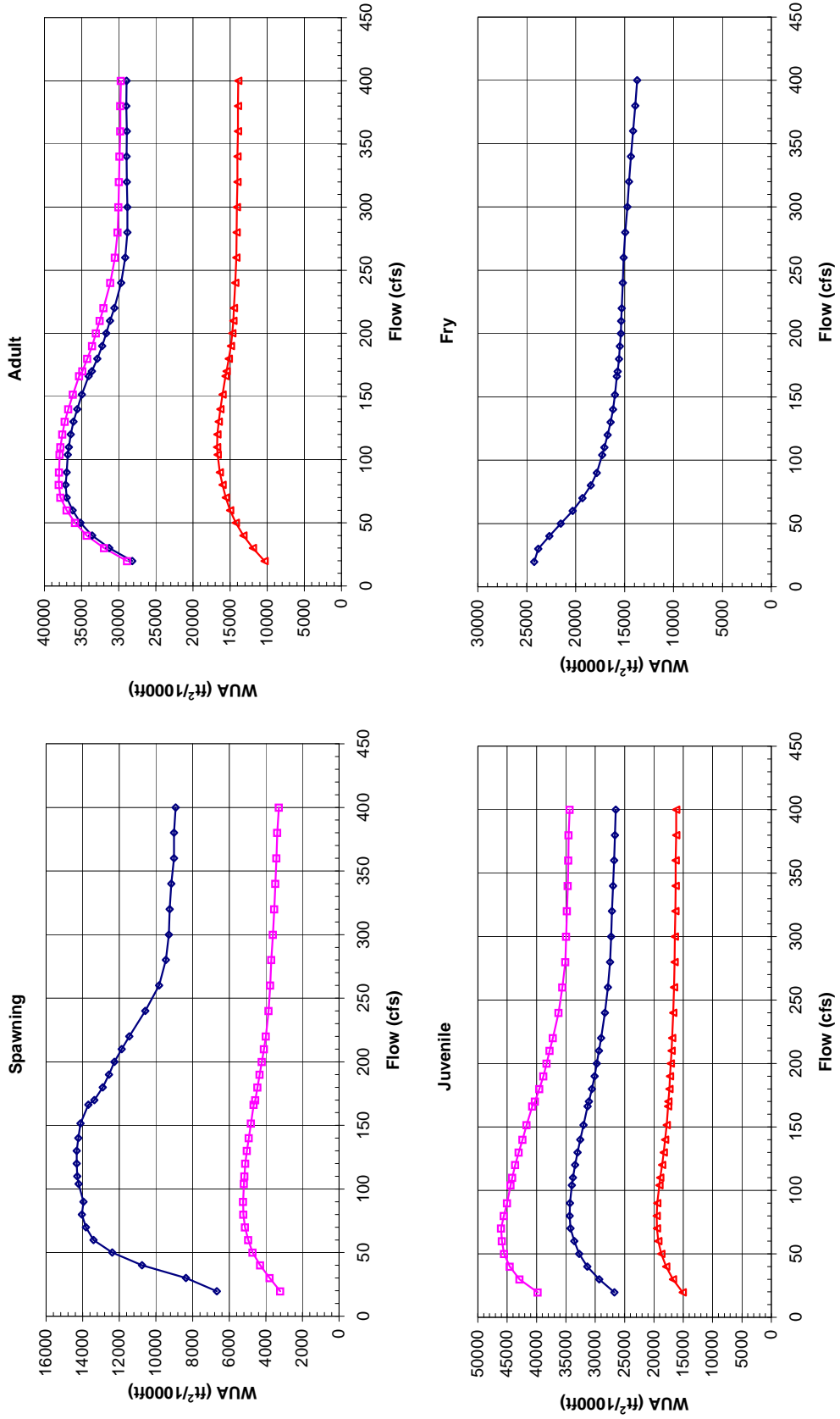
---

### Recommended Citation

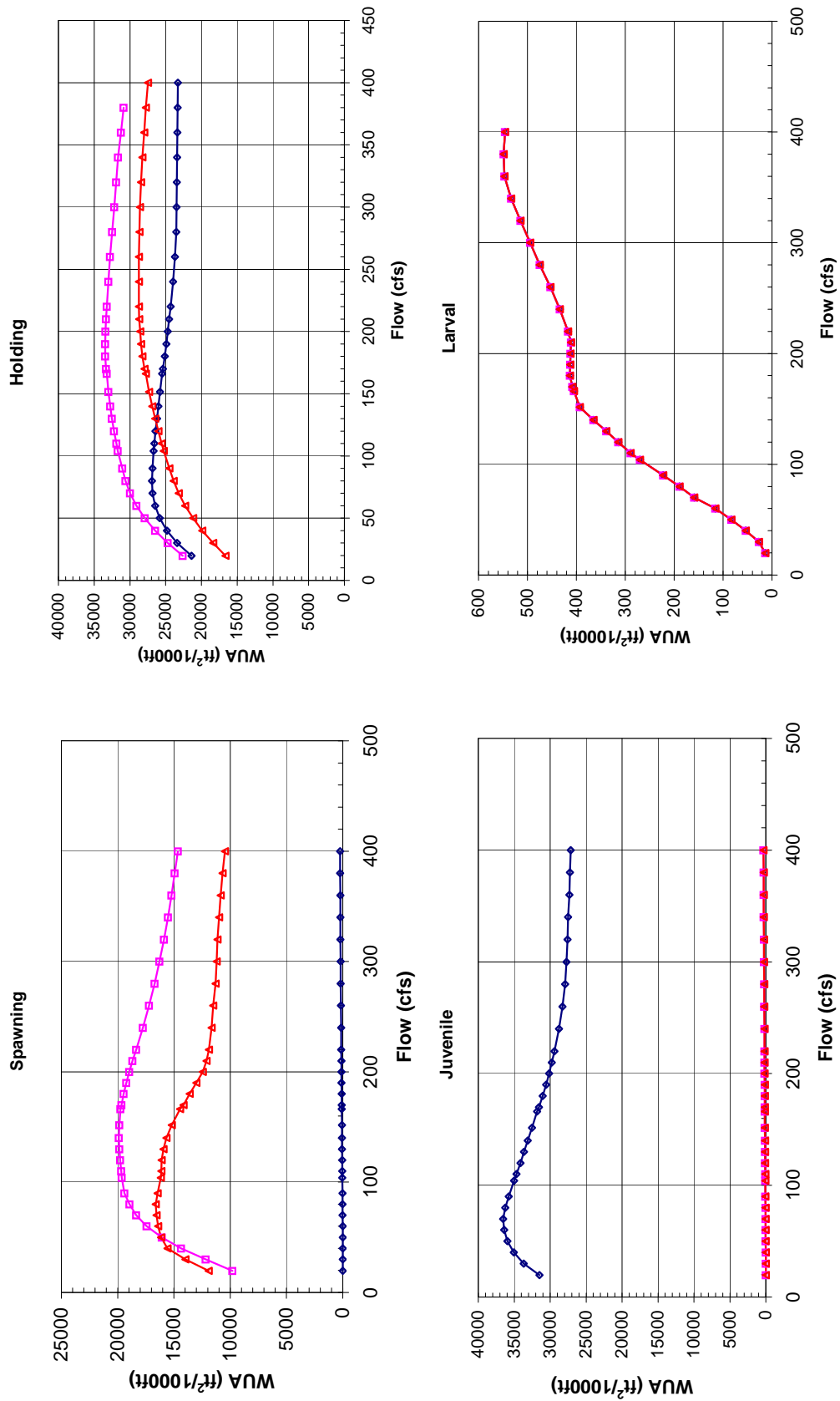
Unknown, "Ex. 277-US-433" (2009). *In re Klamath River (Klamath Tribe)*. 49.  
<https://digitalcommons.law.uidaho.edu/klamath/49>

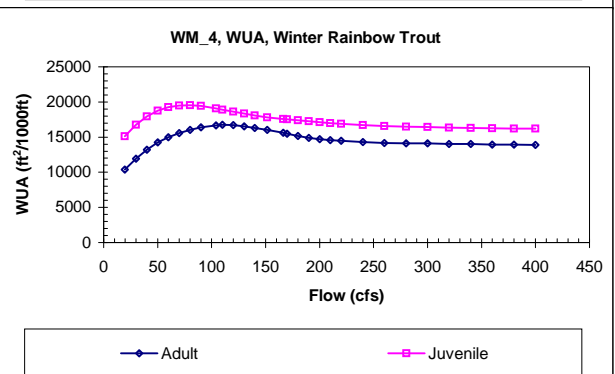
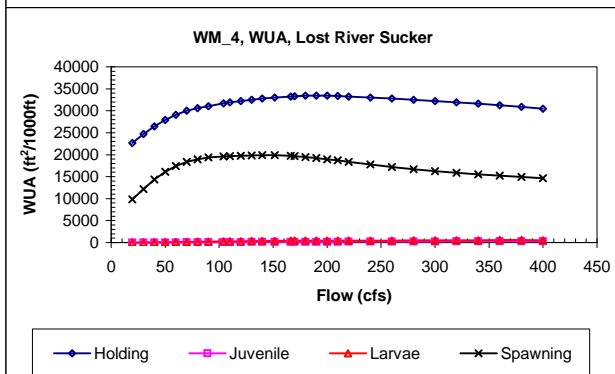
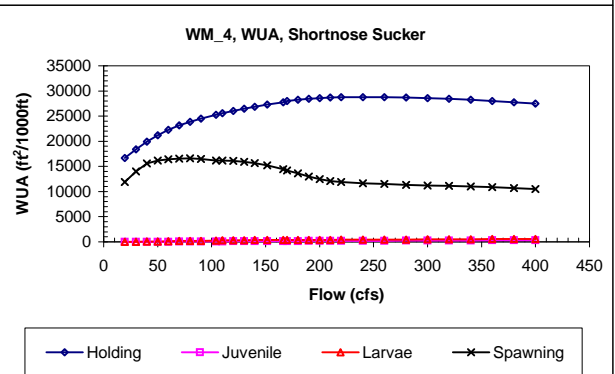
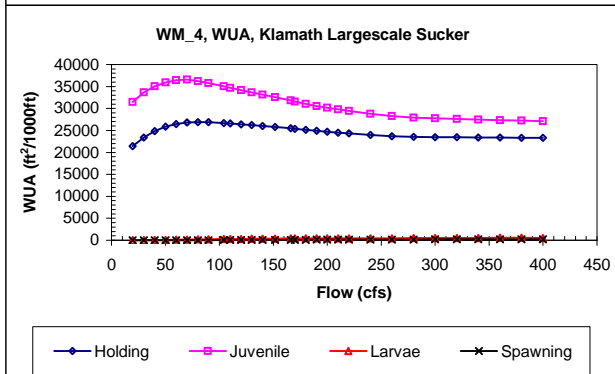
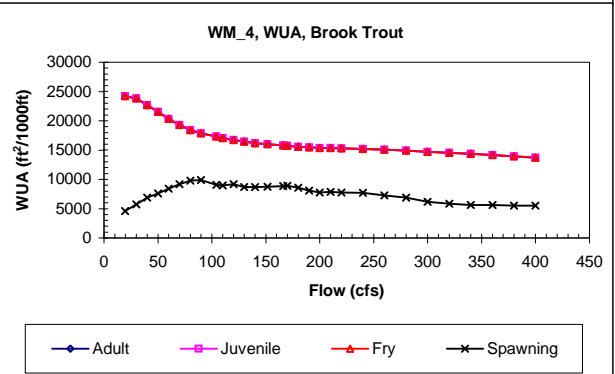
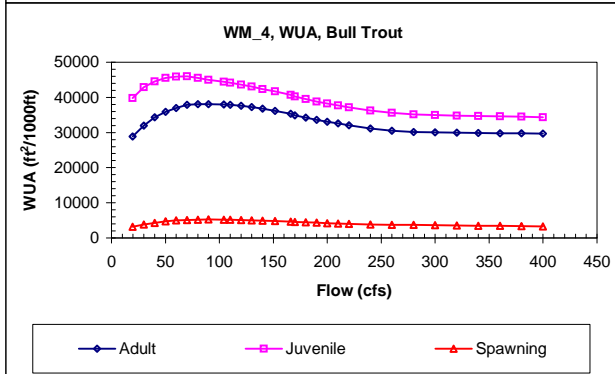
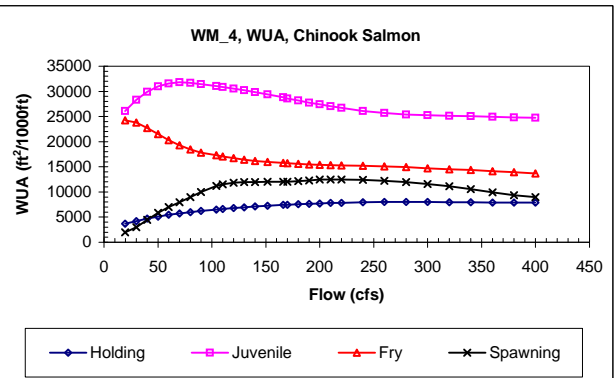
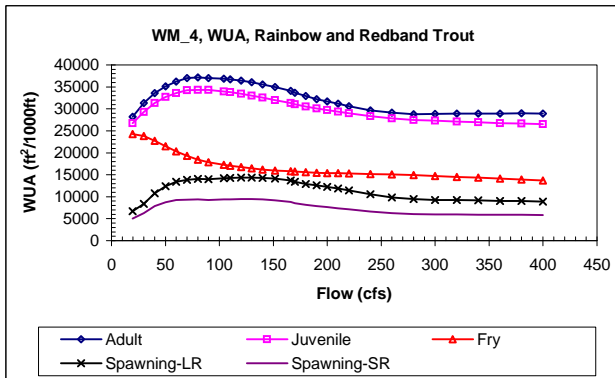
This Expert Report is brought to you for free and open access by the Hedden-Nicely at Digital Commons @ UIdaho Law. It has been accepted for inclusion in In re Klamath River (Klamath Tribe) by an authorized administrator of Digital Commons @ UIdaho Law. For more information, please contact [annablaine@uidaho.edu](mailto:annablaine@uidaho.edu).

### Site WM 4 Priority Species Habitat - Flow Curves



Site WM 4  
Priority Species Habitat - Flow Curves







Reach 628 Williamson River, Site 4, Composite WUA

	WUA (ft <sup>2</sup> /1000ft)				
	Q (cfs)	Adult	Juvenile	Fry	Spawning - Small River
19.7	28175	26752	24232	6670	5042
30	31295	29324	23826	8358	6248
40	33572	31346	22697	10767	7834
50	35133	32723	21512	12392	8752
60	36217	33560	20316	13415	9239
70	37017	34209	19308	13818	9355
80	37165	34352	18439	14045	9388
90	37020	34283	17846	13960	9242
104	36845	33960	17296	14222	9363
110	36728	33776	17071	14293	9414
120	36448	33410	16728	14330	9446
130	36091	33014	16436	14331	9454
140	35591	32543	16186	14244	9374
152	34966	31983	15991	14121	9208
166	34068	31325	15780	13688	8789
170	33629	31059	15712	13371	8534
180	32897	30556	15579	12900	8156
190	32215	30116	15471	12569	7877
200	31667	29725	15379	12275	7660
210	31162	29358	15347	11865	7390
220	30596	28988	15301	11451	7119
240	29688	28338	15187	10580	6599
260	29117	27844	15092	9830	6237
280	28814	27482	14926	9451	6047
300	28836	27308	14719	9289	5964
320	28912	27133	14535	9250	5952
340	28937	26961	14352	9162	5933
360	28902	26761	14129	9016	5890
380	28980	26635	13917	9009	5890
400	28946	26515	13706	8921	5821

	WUA (ft <sup>2</sup> /1000ft)			
	Q (cfs)	Holding	Juvenile	Fry
19.7	3683	26100	24232	1973
30	4226	28298	23826	3003
40	4708	29934	22697	4449
50	5111	31022	21512	5834
60	5450	31537	20316	7021
70	5744	31802	19308	7973
80	5989	31670	18439	8982
90	6215	31418	17846	9986
104	6515	31032	17296	11223
110	6629	30865	17071	11547
120	6805	30538	16728	11845
130	6965	30214	16436	11994
140	7114	29845	16186	11967
151.6	7275	29381	15991	11997
166.2	7416	28817	15780	12008
170	7472	28599	15712	11998
180	7563	28169	15579	12124
190	7650	27763	15471	12312
200	7732	27401	15379	12453
210	7802	27061	15347	12478
220	7854	26709	15301	12472
240	7939	26115	15187	12394
260	7996	25686	15092	12190
280	8003	25381	14926	11992
300	8002	25244	14719	11611
320	7976	25142	14535	11135
340	7949	25046	14352	10574
360	7915	24914	14129	9922
380	7885	24834	13917	9328
400	7861	24757	13706	8958

	WUA (ft <sup>2</sup> /1000ft)			
	Q (cfs)	Adult	Juvenile	Fry
19.7	28879	39785		3218
30	31980	42885		3790
40	34294	44546		4310
50	35877	45505		4715
60	36997	45903		4965
70	37843	46014		5131
80	38076	45558		5225
90	38037	44996		5239
104	37950	44405		5201
110	37851	44143		5170
120	37603	43636		5118
130	37268	43048		5028
140	36787	42384		4932
151.6	36181	41692		4812
166.2	35319	40722		4661
170	34905	40264		4573
180	34217	39504		4450
190	33584	38812		4330
200	33058	38250		4213
210	32567	37742		4099
220	32028	37189		3997
240	31144	36243		3844
260	30521	35573		3759
280	30128	35111		3698
300	30020	34937		3613
320	29977	34830		3544
340	29895	34689		3483
360	29781	34568		3424
380	29771	34527		3368
400	29691	34357		3291

	WUA (ft <sup>2</sup> /1000ft)			
	Q (cfs)	Adult	Juvenile	Fry
19.7	24232	24232	24232	4574
30	23826	23826	23826	5747
40	22697	22697	22697	6904
50	21512	21512	21512	7596
60	20316	20316	20316	8427
70	19308	19308	19308	9192
80	18439	18439	18439	9769
90	17846	17846	17846	9877
104	17296	17296	17296	9088
110	17071	17071	17071	8980
120	16728	16728	16728	9176
130	16436	16436	16436	8661
140	16186	16186	16186	8662
151.6	15991	15991	15991	8757
166.2	15780	15780	15780	8857
170	15712	15712	15712	8899
180	15579	15579	15579	8594
190	15471	15471	15471	8099
200	15379	15379	15379	7754
210	15347	15347	15347	7874
220	15301	15301	15301	7757
240	15187	15187	15187	7706
260	15092	15092	15092	7273
280	14926	14926	14926	6869
300	14719	14719	14719	6157
320	14535	14535	14535	5831
340	14352	14352	14352	5619
360	14129	14129	14129	5634
380	13917	13917	13917	5534
400	13706	13706	13706	5531

Reach 628 Williamson River, Site 4, Composite WUA

	WUA (ft <sup>2</sup> /1000ft)				
	Q (cfs)	Holding	Juvenile	Larvae	Spawning
Klamath Largescale Sucker	19.7	21393	31498	14	0
	30	23393	33680	27	1
	40	24830	35059	54	4
	50	25835	35944	83	7
	60	26457	36397	116	12
	70	26842	36539	159	18
	80	26911	36234	189	24
	90	26849	35765	222	30
	104	26680	35033	270	41
	110	26595	34703	289	45
	120	26411	34144	314	54
	130	26221	33641	339	62
	140	26024	33124	365	72
	151.6	25810	32542	393	82
	166.2	25479	31829	405	92
	170	25379	31551	408	98
	180	25131	31027	413	106
	190	24907	30556	413	114
	200	24711	30158	412	122
	210	24517	29783	411	130
220	24302	29402	417	138	
240	23954	28777	434	153	
260	23690	28299	453	166	
280	23531	27929	475	179	
300	23486	27742	495	192	
320	23436	27600	514	204	
340	23409	27493	533	215	
360	23365	27342	547	225	
380	23338	27246	548	230	
400	23289	27122	546	236	

	WUA (ft <sup>2</sup> /1000ft)				
	Q (cfs)	Holding	Juvenile	Larvae	Spawning
Shorthose Sucker	19.7	16649	3	14	11923
	30	18372	6	27	13982
	40	19901	13	54	15586
	50	21176	21	83	16152
	60	22268	29	116	16409
	70	23181	42	159	16552
	80	23894	53	189	16609
	90	24478	65	222	16458
	104	25267	82	270	16157
	110	25565	89	289	16132
	120	26030	100	314	16093
	130	26449	112	339	15928
	140	26861	123	365	15676
	151.6	27332	136	393	15198
	166.2	27771	145	405	14469
	170	27969	150	408	14161
	180	28253	158	413	13608
	190	28432	166	413	13004
	200	28579	174	412	12448
	210	28701	182	411	12110
220	28735	188	417	11890	
240	28760	201	434	11659	
260	28765	213	453	11506	
280	28683	228	475	11308	
300	28583	245	495	11210	
320	28451	263	514	11134	
340	28279	281	533	11002	
360	28008	298	547	10859	
380	27771	313	548	10680	
400	27470	327	546	10476	

	WUA (ft <sup>2</sup> /1000ft)				
	Q (cfs)	Holding	Juvenile	Larvae	Spawning
Lost River Sucker	19.7	22626	3	14	9816
	30	24694	6	27	12173
	40	26473	13	54	14363
	50	27907	21	83	16069
	60	29092	29	116	17430
	70	29984	42	159	18342
	80	30618	53	189	18957
	90	31070	65	222	19393
	104	31701	82	270	19634
	110	31904	89	289	19694
	120	32225	100	314	19776
	130	32520	112	339	19848
	140	32759	123	365	19888
	151.6	33001	136	393	19854
	166.2	33232	145	405	19756
	170	33329	150	408	19647
	180	33449	158	413	19465
	190	33449	166	413	19233
	200	33408	174	412	18974
	210	33357	182	411	18693
220	33240	188	417	18361	
240	32991	201	434	17754	
260	32787	213	453	17219	
280	32473	228	475	16719	
300	32194	245	495	16283	
320	31931	263	514	15877	
340	31654	281	533	15527	
360	31252	298	547	15222	
380	30896	313	548	14945	
400	30470	327	546	14646	

	WUA (ft <sup>2</sup> /1000ft)				
	Q (cfs)	Adult	Juvenile	Fry	Spawning
Winter Rainbow Trout	19.7	10366	15100		
	30	11935	16744		
	40	13210	17933		
	50	14246	18764		
	60	14985	19253		
	70	15580	19493		
	80	16037	19547		
	90	16373	19452		
	104	16673	19083		
	110	16754	18912		
	120	16700	18611		
	130	16515	18346		
	140	16301	18089		
	151.6	16021	17825		
	166.2	15603	17572		
	170	15484	17537		
	180	15173	17381		
	190	14886	17247		
	200	14693	17123		
	210	14580	16986		
220	14475	16876			
240	14315	16717			
260	14153	16577			
280	14107	16496			
300	14097	16438			
320	14025	16345			
340	14005	16313			
360	13957	16276			
380	13925	16228			
400	13893	16224			