

12-4-2009

Ex. 277-US-420

Unknown

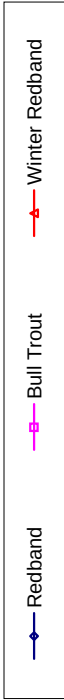
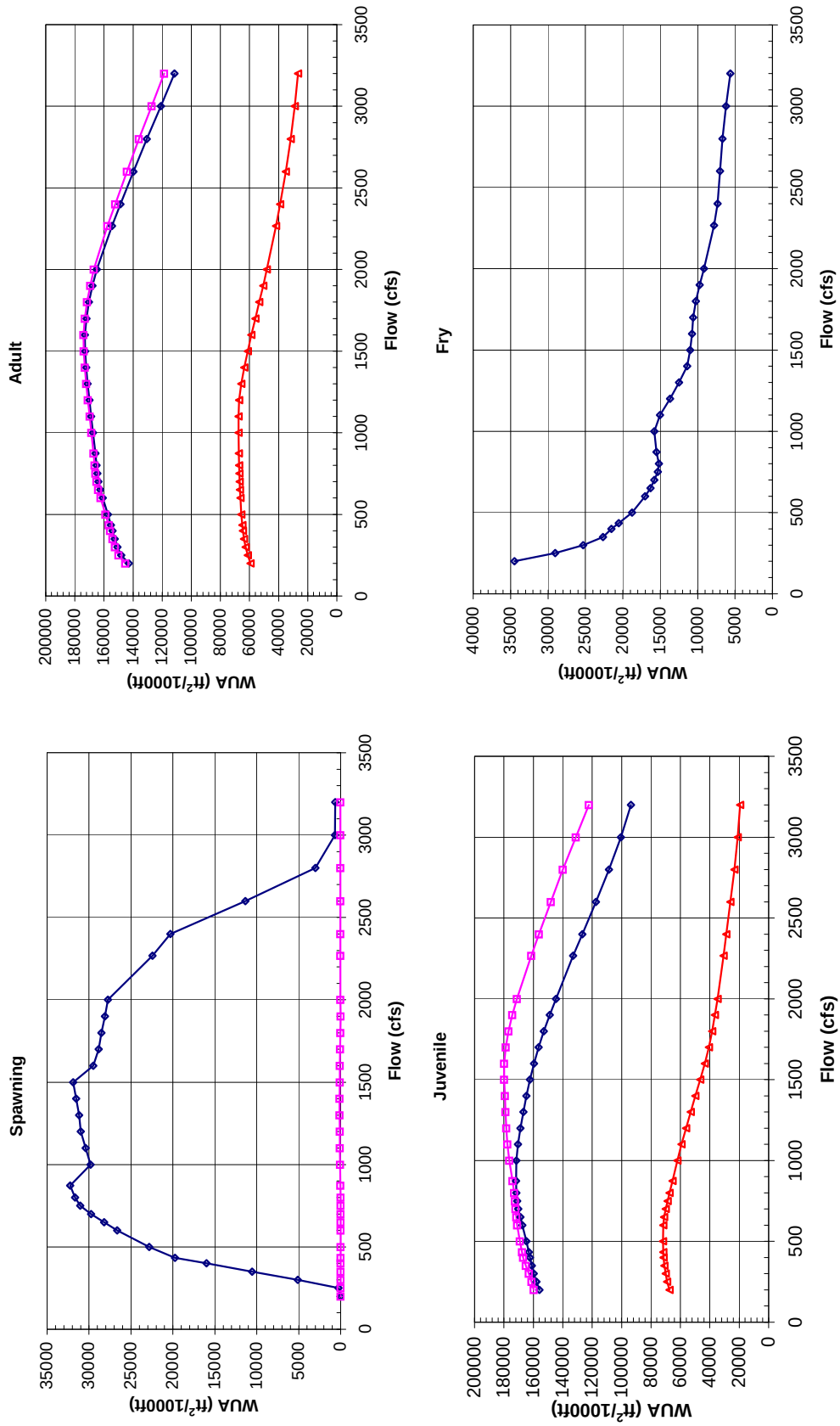
Follow this and additional works at: <https://digitalcommons.law.uidaho.edu/klamath>

Recommended Citation

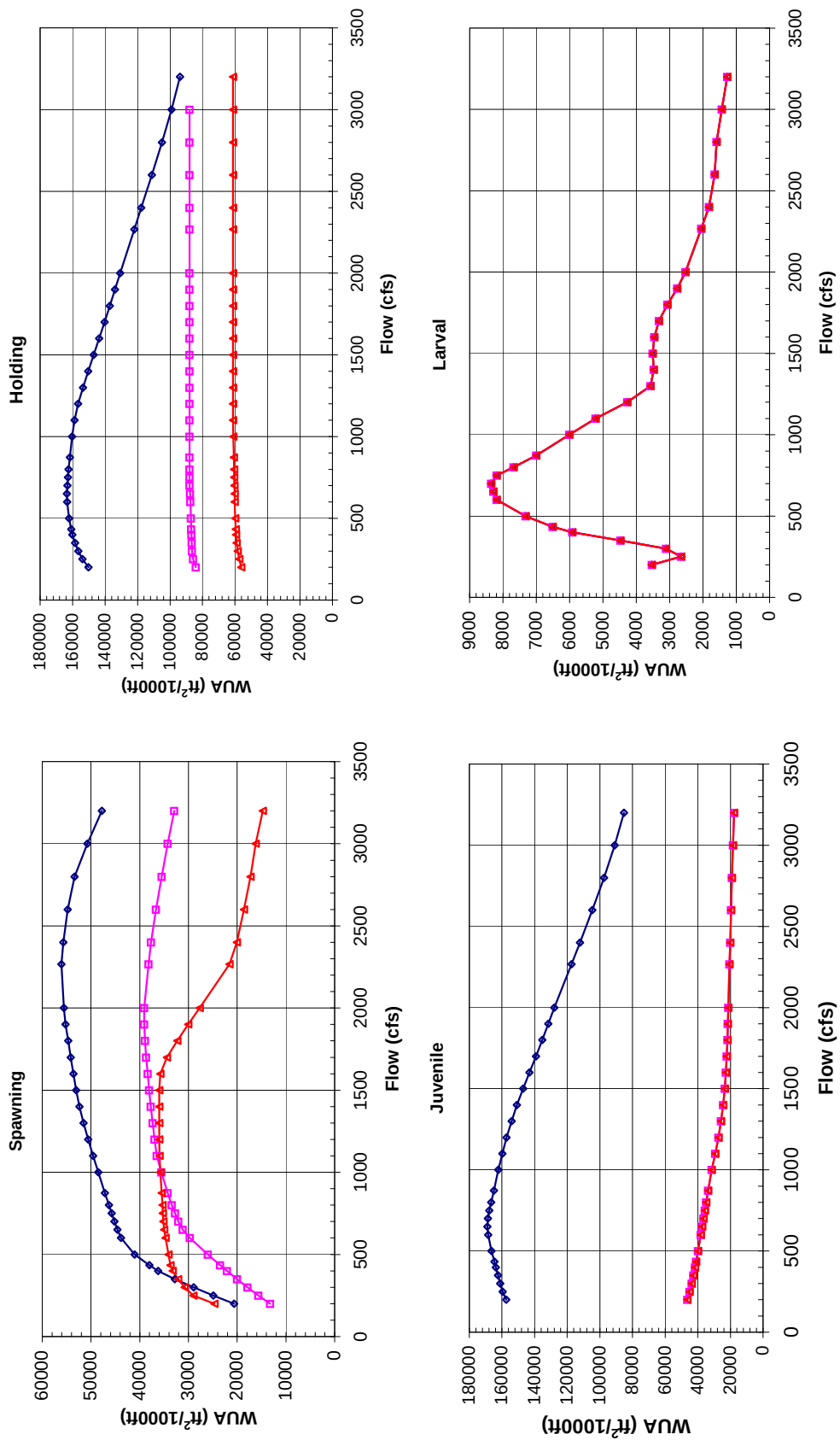
Unknown, "Ex. 277-US-420" (2009). *In re Klamath River (Klamath Tribe)*. 36.
<https://digitalcommons.law.uidaho.edu/klamath/36>

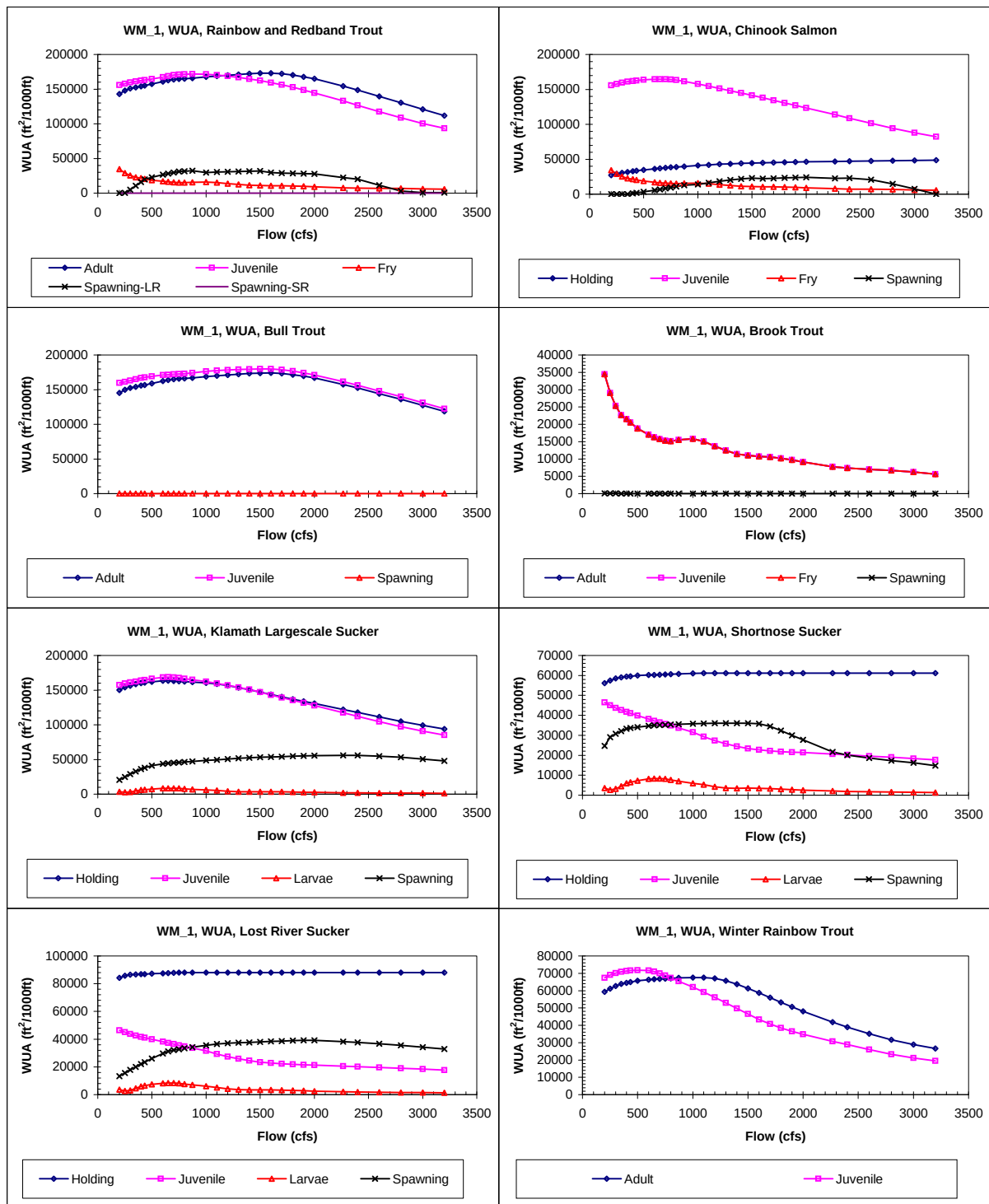
This Expert Report is brought to you for free and open access by the Hedden-Nicely at Digital Commons @ UIdaho Law. It has been accepted for inclusion in In re Klamath River (Klamath Tribe) by an authorized administrator of Digital Commons @ UIdaho Law. For more information, please contact annablaine@uidaho.edu.

Site WM 1 Priority Species Habitat - Flow Curves



Site WM 1 Priority Species Habitat - Flow Curves





Reach 625 Williamson River, Site 1, Composite WUA

	Q (cfs)	WUA (ft ² /1000ft)				
		Adult	Juvenile	Fry	Spawning - Large River	Small River
Rainbow and Redband Trout	200	142858	155887	34472	0	0
	250	148071	157828	29040	254	4
	300	150763	159729	25307	5126	52
	350	152526	161035	22663	10564	35
	400	154119	162266	21508	15987	0
	434	155216	163043	20557	19742	0
	500	157347	164732	18774	22836	0
	600	160887	167432	17032	26639	0
	650	162563	168807	16311	28208	0
	700	163846	170268	15773	29767	0
	750	164602	171075	15314	31056	0
	800	165118	171590	15169	31676	0
	873	165919	171801	15494	32264	0
	1000	167543	171551	15794	29819	0
	1100	168788	170440	15035	30393	0
	1200	170002	168828	13693	30970	0
	1300	171176	166800	12490	31181	0
	1400	172184	164761	11408	31524	0
	1500	172937	162342	10989	31892	0
	1600	173125	159486	10742	29500	0
	1700	172080	156349	10585	28850	0
	1800	170254	152855	10219	28508	0
	1900	167852	148835	9724	28108	0
	2000	164939	144632	9139	27748	4
	2267	154533	132906	7787	22434	7
	2400	148700	126665	7339	20286	6
	2600	139688	117456	6987	11354	6
	2800	130544	108596	6695	2997	6
	3000	120940	100548	6205	687	4
	3200	111642	93597	5617	646	1

	Q (cfs)	WUA (ft ² /1000ft)			
		Holding	Juvenile	Fry	Spawning
Chinook Salmon	200	27232	155887	34472	0
	250	29130	157828	29040	0
	300	30632	159729	25307	0
	350	31845	160966	22663	88
	400	32969	162033	21508	1089
	433.8	33599	162582	20557	1812
	500	34796	163609	18774	3278
	600	36365	164547	17032	5569
	650	37045	164633	16311	6923
	700	37735	164706	15773	8214
	750	38359	164104	15314	9538
	800	38969	163212	15169	10813
	873.2	39810	161332	15494	12650
	1000	41153	157711	15794	14011
	1100	42070	154567	15035	16269
	1200	42887	151431	13693	18411
	1300	43559	148077	12490	20552
	1400	44140	144864	11408	22006
	1500	44568	141598	10989	22920
	1600	44950	138048	10742	22127
	1700	45296	134303	10585	22653
	1800	45630	130579	10219	23329
	1900	45945	126998	9724	23812
	2000	46246	123448	9139	24268
	2267	46953	113821	7787	22659
	2400	47272	108836	7339	23037
	2600	47729	101572	6987	20840
	2800	48110	94406	6695	14625
	3000	48429	87880	6205	7650
	3200	48577	82237	5617	0

	Q (cfs)	WUA (ft ² /1000ft)			
		Adult	Juvenile	Fry	Spawning
Bull Trout	200	145285	159774		0
	250	149992	161304		0
	300	152496	163095		0
	350	154182	165063		0
	400	155738	166889		0
	433.8	156806	167768		0
	500	158909	169166		0
	600	162364	171006		0
	650	163967	171589		0
	700	165162	172203		0
	750	165870	172561		0
	800	166344	173092		0
	873.2	167101	174166		29
	1000	168654	176315		75
	1100	169864	177566		96
	1200	171073	178406		107
	1300	172225	178987		114
	1400	173216	179403		114
	1500	173936	179863		103
	1600	174129	179889		82
	1700	173221	178781		53
	1800	171612	176839		24
	1900	169490	174265		15
	2000	166907	171210		21
	2267	157563	161461		32
	2400	152318	156162		35
	2600	144211	148087		36
	2800	135955	139906		33
	3000	127187	131127		28
	3200	118572	122330		19

	Q (cfs)	WUA (ft ² /1000ft)			
		Adult	Juvenile	Fry	Spawning
Brook Trout	200	34472	34472	34472	107
	250	29040	29040	29040	82
	300	25307	25307	25307	53
	350	22663	22663	22663	21
	400	21508	21508	21508	0
	433.8	20557	20557	20557	0
	500	18774	18774	18774	0
	600	17032	17032	17032	0
	650	16311	16311	16311	0
	700	15773	15773	15773	0
	750	15314	15314	15314	0
	800	15169	15169	15169	0
	873.2	15494	15494	15494	0
	1000	15794	15794	15794	8
	1100	15035	15035	15035	15
	1200	13693	13693	13693	20
	1300	12490	12490	12490	22
	1400	11408	11408	11408	22
	1500	10989	10989	10989	21
	1600	10742	10742	10742	18
	1700	10585	10585	10585	17
	1800	10219	10219	10219	14
	1900	9724	9724	9724	13
	2000	9139	9139	9139	13
	2267	7787	7787	7787	13
	2400	7339	7339	7339	12
	2600	6987	6987	6987	12
	2800	6695	6695	6695	10
	3000	6205	6205	6205	8
	3200	5617	5617	5617	5

Reach 625 Williamson River, Site 1, Composite WUA

	Q (cfs)	WUA (ft ² /1000ft)			
		Holding	Juvenile	Larvae	Spawning
Klamath Largescale Sucker	200	150269	157419	3537	20663
	250	153983	159595	2656	24872
	300	156379	161160	3107	28928
	350	158476	162459	4473	32825
	400	160085	163800	5920	36205
	433.8	160816	164660	6507	38034
	500	162163	166372	7321	41070
	600	163309	168476	8185	43845
	650	163458	168957	8290	44585
	700	163261	168566	8355	45207
	750	162891	167737	8190	45777
	800	162472	166622	7684	46334
	873.2	161732	164967	7000	47133
	1000	160320	162226	6009	48488
	1100	158804	159805	5218	49542
	1200	156566	157156	4274	50578
	1300	153614	154029	3572	51543
	1400	150468	150846	3473	52391
	1500	147107	147086	3512	53070
	1600	143702	143082	3458	53616
	1700	140322	139132	3320	54157
	1800	137028	135291	3066	54691
	1900	133845	131581	2772	55208
	2000	130647	127873	2521	55579
	2267	122002	117389	2048	56058
	2400	117696	112258	1816	55704
	2600	111225	104724	1651	54783
	2800	104892	97456	1590	53384
	3000	99140	90943	1435	50737
	3200	93875	85180	1267	47766

	Q (cfs)	WUA (ft ² /1000ft)			
		Holding	Juvenile	Larvae	Spawning
Shorthose Sucker	200	56147	46425	3537	24691
	250	57439	45021	2656	28999
	300	58453	43774	3107	30780
	350	59000	42665	4473	32117
	400	59385	41711	5920	33235
	433.8	59628	41042	6507	33676
	500	59926	39841	7321	34112
	600	60180	38151	8185	34690
	650	60281	37273	8290	34975
	700	60402	36490	8355	35138
	750	60509	35637	8190	35248
	800	60616	34821	7684	35354
	873.2	60761	33682	7000	35506
	1000	61004	31501	6009	35757
	1100	61169	29350	5218	35953
	1200	61200	27363	4274	36000
	1300	61200	25797	3572	36000
	1400	61200	24439	3473	36000
	1500	61200	23374	3512	36000
	1600	61200	22779	3458	35794
	1700	61200	22234	3320	34418
	1800	61200	21771	3066	32304
	1900	61200	21575	2772	30042
	2000	61200	21333	2521	27699
	2267	61200	20554	2048	21611
	2400	61200	20160	1816	20058
	2600	61200	19580	1651	18599
	2800	61200	19013	1590	17288
	3000	61200	18374	1435	16232
	3200	61200	17733	1267	14773

	Q (cfs)	WUA (ft ² /1000ft)			
		Holding	Juvenile	Larvae	Spawning
Lost River Sucker	200	84168	46425	3537	13250
	250	85760	45021	2656	15622
	300	86451	43774	3107	17878
	350	86698	42665	4473	20046
	400	86850	41711	5920	22090
	433.8	86949	41042	6507	23470
	500	87176	39841	7321	25992
	600	87524	38151	8185	29702
	650	87701	37273	8290	31193
	700	87912	36490	8355	32059
	750	88033	35637	8190	32768
	800	88033	34821	7684	33441
	873.2	88033	33682	7000	34289
	1000	88033	31501	6009	35566
	1100	88033	29350	5218	36500
	1200	88033	27363	4274	36980
	1300	88033	25797	3572	37364
	1400	88033	24439	3473	37723
	1500	88033	23374	3512	38059
	1600	88033	22779	3458	38372
	1700	88033	22234	3320	38685
	1800	88033	21771	3066	38937
	1900	88033	21575	2772	39111
	2000	88033	21333	2521	39080
	2267	88033	20554	2048	38214
	2400	88033	20160	1816	37672
	2600	88033	19580	1651	36666
	2800	88033	19013	1590	35478
	3000	88033	18374	1435	34269
	3200	88033	17733	1267	32941

	Q (cfs)	WUA (ft ² /1000ft)			
		Adult	Juvenile	Fry	Spawning
Winter Rainbow Trout	200	59340	67399		
	250	61168	69058		
	300	62631	70062		
	350	63836	70865		
	400	64551	71405		
	433.8	64978	71580		
	500	65685	71833		
	600	66322	71609		
	650	66540	71066		
	700	66741	69963		
	750	66950	68709		
	800	67113	67419		
	873.2	67321	65406		
	1000	67474	61994		
	1100	67504	59201		
	1200	67121	56134		
	1300	65660	52941		
	1400	63674	49776		
	1500	61240	46503		
	1600	58760	43338		
	1700	56001	40709		
	1800	53269	38475		
	1900	50643	36486		
	2000	48092	34755		
	2267	41859	30707		
	2400	38906	28852		
	2600	35059	26061		
	2800	31693	23336		
	3000	28966	21080		
	3200	26672	19402		