

**STUDY REPORT WA&R-20**  
***ONCORHYNCHUS MYKISS* SCALE COLLECTION**  
**AND AGE DETERMINATION**

**ATTACHMENT A**

**SCALE SAMPLE COLLECTION, AGE, AND GROWTH DATA**

**Table A-1. *O. mykiss* scale collection data for W&AR-20.**

Sample ID	Date	Flow	Reach	Capture Coordinates		Habitat Type	Capture Time	Species	Sex	Ad-clip	FL (mm)	TL (mm)	COMMENTS
1	2/13/2012	339	La Grange Dam to Basso	N 37.66961	W 120.44402	RUN	8:30	RBT	UNK	N	250	265	
2	2/13/2012	339	La Grange Dam to Basso	N 37.66651	W 120.46959	RUN	12:35	RBT	UNK	N	342	367	
3	2/13/2012	339	La Grange Dam to Basso	N 37.65221	W 120.49345	RUN	14:45	RBT	F	N	370	395	
4	2/16/2012	337	Basso to TLSRA	N 37.63773	W 120.50255	RUN	9:00	RBT	M	N	365	391	RIPE
5	2/16/2012	337	Basso to TLSRA	N 37.63715	W 120.50459	RUN	9:45	RBT	M	N	400	420	RIPE
6	2/16/2012	337	Basso to TLSRA	N 37.62635	W 120.52553	POOL	11:19	RBT	F	N	390	410	RIPE
7	2/16/2012	337	Basso to TLSRA	N 37.62635	W 120.52553	POOL	11:25	RBT	M	N	370	390	RIPE
8	2/16/2012	337	Basso to TLSRA	N 37.62706	W 120.52666	POOL	11:44	RBT	M	N	440	460	RIPE
9	2/16/2012	337	Basso to TLSRA	N 37.62706	W 120.52666	POOL	11:50	RBT	UNK	N	230	248	
10	2/16/2012	337	Basso to TLSRA	N 37.62706	W 120.52666	POOL	12:00	RBT	UNK	N	270	285	
11	2/16/2012	337	Basso to TLSRA	N 37.62706	W 120.52666	POOL	12:10	RBT	UNK	N	235	250	
12	2/16/2012	337	Basso to TLSRA	N 37.62830	W 120.53002	RUN	12:30	RBT	F	N	335	380	
13	2/16/2012	337	Basso to TLSRA	N 37.62830	W 120.53002	RUN	12:30	RBT	UNK	N	345	--	FISH ESCAPED BEFORE TL MEASURED
14	2/16/2012	337	Basso to TLSRA	N 37.62830	W 120.53002	RUN	12:35	RBT	UNK	N	215	230	
15	2/16/2012	337	Basso to TLSRA	N 37.62830	W 120.53002	RUN	12:40	RBT	F	N	340	365	
16	2/16/2012	337	Basso to TLSRA	N 37.62804	W 120.53241	POOL	13:00	RBT	M	N	360	380	
17	2/16/2012	337	Basso to TLSRA	N 37.62833	W 120.53299	RUN	13:15	RBT	UNK	N	194	210	
18	2/16/2012	337	Basso to TLSRA	N 37.62932	W 120.53584	POOL	13:41	RBT	F	N	370	400	
19	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	13:45	RBT	UNK	N	220	235	CAPTURED IN DISCONNECTED SIDECHANNEL WITH NO FLOW
20	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	13:50	RBT	UNK	N	240	255	CAPTURED IN DISCONNECTED SIDECHANNEL WITH NO FLOW
21	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	13:51	RBT	F	N	345	370	
22	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	14:00	RBT	M	N	365	390	
23	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	14:20	RBT	F	N	370	400	
24	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	POOL	14:32	RBT	UNK	N	220	235	
25	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	RUN	14:37	RBT	F	N	335	355	
26	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	RUN	14:40	RBT	F	N	355	385	
27	2/16/2012	337	Basso to TLSRA	N 37.63932	W 120.53584	RUN	14:45	RBT	F	N	370	400	
28	2/16/2012	337	Basso to TLSRA	N 37.62939	W 120.54090	RUN	14:55	RBT	F	N	375	400	
29	2/16/2012	337	Basso to TLSRA	N 37.62784	W 120.54388	RUN	15:15	RBT	F	N	405	435	
30	2/16/2012	337	Basso to TLSRA	N 37.63026	W 120.56529	POOL	16:06	RBT	UNK	N	230	255	
31	2/16/2012	337	Basso to TLSRA	N 37.62985	W 120.57455	POOL	16:15	RBT	M	N	445	475	
32	3/12/2012	324	Basso to TLSRA	N 37.62667	W 120.52645	POOL	11:35	RBT	UNK	N	230	247	
33	3/12/2012	324	Basso to TLSRA	N 37.62798	W 120.53220	RIFFLE	12:31	RBT	UNK	N	150	165	
34	3/12/2012	324	Basso to TLSRA	N 37.63220	W 120.56063	RUN	16:03	RBT	M	N	450	480	
--	3/12/2012	324	Basso to TLSRA	N 37.62807	W 120.53188	RIFFLE	12:46	RBT	UNK	N	365	390	NO SCALES COLLECTED
35	4/3/2012	318	Basso to TLSRA	N 37.62833	W 120.53046	POOL	11:30	RBT	UNK	N	220	230	
36	4/3/2012	318	Basso to TLSRA	N 37.62795	W 120.53240	POOL	12:15	RBT	F	N	345	355	
37	4/3/2012	318	Basso to TLSRA	N 37.63218	W 120.56055	RUN	13:59	RBT	M	N	350	365	TOP OF BOBCAT
38	4/3/2012	318	Basso to TLSRA	N 37.63231	W 120.56139	RUN	14:22	RBT	UNK	N	225	243	
39	4/3/2012	318	Basso to TLSRA	N 37.63247	W 120.56159	POOL	14:30	RBT	UNK	N	250	268	
40	4/3/2012	318	Basso to TLSRA	N 37.63129	W 120.56373	POOL	15:21	RBT	UNK	N	267	283	
41	4/3/2012	318	Basso to TLSRA	N 37.62975	W 120.56725	POOL	16:02	RBT	UNK	N	247	264	
42	4/3/2012	318	Basso to TLSRA	N 37.62975	W 120.56725	POOL	16:13	RBT	UNK	N	224	245	
--	4/3/2012	318	Basso to TLSRA	N 37.63129	W 120.56373	POOL	15:05	RBT	F	N	355	370	NO SCALES COLLECTED
--	4/3/2012	318	Basso to TLSRA	N 37.63129	W 120.56373	POOL	15:07	RBT	M	N	373	383	NO SCALES COLLECTED
--	4/3/2012	318	Basso to TLSRA	N 37.62795	W 120.53240	POOL	11:50	RBT	F	N	380	390	NO SCALES COLLECTED
--	4/4/2012	317	La Grange Dam to Basso	N 37.66321	W 120.57455	POOL	10:22	RBT	F	N	375	397	NO SCALES COLLECTED
43	4/9/2012	317	Basso to TLSRA	N 37.63095	W 120.51774	RUN	10:58	RBT	UNK	N	302	322	
44	4/9/2012	317	Basso to TLSRA	N 37.62665	W 120.52514	POOL	11:35	RBT	UNK	N	270	292	
45	4/9/2012	317	Basso to TLSRA	N 37.62635	W 120.52574	POOL	11:46	RBT	UNK	N	287	307	
46	4/9/2012	317	Basso to TLSRA	N 37.62840	W 120.53299	RUN	12:52	RBT	M	N	335	355	
47	4/9/2012	317	Basso to TLSRA	N 37.63116	W 120.56380	RUN	15:30	RBT	UNK	N	345	371	
48	6/2/2012	140	Waterford RST	N 37.620176	W 120.786765	---	11:00	RBT	UNK	N	78	81	Waterford RST capture

Table A-2. *O. mykiss* scale age and growth data for W&AR-20.

W&AR-20 Scale Age and Growth Data																	
Sample #	Sex (M/F)	Age	Length at capture (mm FL)	radius of scale (mm)	radius from nucleus to 1st annuli (mm)	radius from nucleus to 2nd annuli (mm)	radius from nucleus to 3rd annuli (mm)	radius from nucleus to 4th annuli (mm)	length at 1st annuli (mm)	length at 2nd annuli (mm)	length at 3rd annuli (mm)	length at 4th annuli (mm)	1st yr growth (mm)	2nd yr growth (mm)	3rd yr growth (mm)	4th yr growth (mm)	
48	unk	0.5	78	0.3776073													
33	unk	1	150	0.8475186	0.4483337				97				60				
1	unk	2	250	1.2542316	0.4198873	0.899964			108	190			71	82			
9	unk	2	230	1.2379286	0.5089187	1.0270079			116	197			79	81			
10	unk	2	270	1.4466075	0.5492328	1.0483457			125	206			89	81			
11	unk	2	235	1.2114601	0.5244306	0.9826421			123	198			86	75			
14	unk	2	215	1.0964157	0.4680173	0.9431072			113	190			76	77			
17	unk	2	194	0.9050587	0.3236634	0.6353392			93	147			56	54			
19	unk	2	220	0.8772596	0.4021218	0.7790578			121	199			84	79			
20	unk	2	240	1.2853632	0.3708583	0.8209902			95	167			59	71			
24	unk	2	220	1.091321	0.4599856	0.7607049			114	164			77	51			
30	unk	2	230	1.1304244	0.3104771	0.7120595			90	158			53	69			
32	unk	2	230	1.1088468	0.2912971	0.6629106			87	152			51	65			
35	unk	2	220	1.360585	0.47111	1.0668904			100	180			63	80			
38	unk	2	225	0.9314313	0.3296572	0.6473268			103	168			67	64			
39	unk	2	250	1.1963558	0.3847998	0.8846799			105	194			69	89			
41	unk	2	247	1.2167346	0.3943898	0.8379286			105	182			68	77			
42	unk	2	224	1.074083	0.4507312	0.9074562			115	195			79	80			
2	unk	3	342	1.5463918	0.3632222	0.816351	1.2694797		108	198	287		72	89	89		
13	unk	3	345	2.0079118	0.4937305	1.0628386	1.6561856		112	200	291		76	87	91		
15	F	3	340	2.1525054	0.4165308	0.7956126	1.461532		95	149	243		59	53	94		
16	M	3	360	1.7142172	0.4512467	0.8193119	1.3004196		122	191	282		85	69	91		
21	F	3	345	1.9575641	0.4639175	0.9721889	1.5715656		110	190	284		73	80	94		
23	F	3	370	1.885531	0.4591225	0.8151522	1.1364181		118	181	238		81	63	57		
25	F	3	335	2.1457684	0.553824	0.991369	1.5248142		114	174	249		77	61	74		
26	F	3	355	1.8104891	0.4039799	0.7624071	1.1771757		108	171	244		71	63	73		
36	F	3	345	2.1781347	0.4279549	0.9745864	1.4924479		97	175	248		61	77	73		
37	M	3	350	2.006713	0.4687125	0.9853752	1.5176217		110	191	274		73	81	83		
40	unk	3	267	1.3641813	0.3836011	0.7228482	1.0680892		101	159	217		65	57	58		
43	unk	3	302	1.4972429	0.4255574	0.8882762	1.3641813		112	194	278		75	82	84		
44	unk	3	270	1.4444977	0.5226564	0.8906737	1.2383122		121	181	237		84	59	56		
45	unk	3	287	1.3989451	0.3883961	0.7420283	1.1268281		106	169	238		70	63	69		
46	unk	3	335	1.5616159	0.4099736	0.8343323	1.2757372		115	196	280		78	81	84		
47	unk	3	345	1.9669264	0.5248981	0.9923999	1.4367058		119	192	262		82	73	70		
22	M	3	365	1.841393	0.3996883	0.8400863	1.2965716		108	186	268		71	79	81		
3	F	4	370	2.3705227	0.495193	0.9997602	1.5715656	2.0888396	106	177	258	330	70	71	80	73	
4	M	4	365	1.9467634	0.44234	0.9901702	1.4157276	1.7765524	111	204	275	336	75	92	72	61	
5	M	4	400	1.904819	0.4627188	0.830736	1.1567969	1.5511868	125	195	257	333	88	70	62	75	
6	F	4	390	2.2332774	0.4051786	0.7839847	1.2467034	1.8652601	101	161	234	332	64	60	73	98	
7	M	4	370	2.0895828	0.4878926	0.8296092	1.2194318	1.7421482	114	169	231	315	78	55	62	83	
8	M	4	440	2.4310717	0.456725	0.9170463	1.2718772	1.7705586	112	189	248	330	76	76	59	83	
12	F	4	335	2.0206665	0.4878926	1.0093503	1.3414049	1.7669624	109	186	235	298	72	77	49	63	
18	F	4	370	2.1637497	0.4155598	0.8031647	1.3545912	1.8700551	101	160	245	325	64	60	85	79	
27	F	4	370	1.9488492	0.3883961	0.7722848	1.1850156	1.647087	103	169	239	318	66	66	71	79	
28	F	4	375	1.58076	0.4017861	0.6792136	0.9546871	1.2979381	123	182	241	314	86	59	59	73	
29	F	4	405	2.121194	0.44234	0.9158475	1.3665788	1.8269	113	196	274	354	77	82	78	80	
34	unk	4	450	2.2236874	0.4866938	0.9458164	1.3521937	1.8568689	127	212	288	382	90	85	76	94	
31	M	na	445	regenerated scales only													
									1+	2+	3+	4+					
									Min	87	147	217	298	51	51	49	61
									Max	127	212	291	382	90	92	94	98
									Average	110	182	257	331	73	72	74	78