

Metolius River Redband Trout Redd Survey 2001-2002

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Objectives

Annual spawning surveys are conducted on the Metolius redband trout population to monitor the health of the fishery and the river habitat. From December of 2001 through May of 2002 the Metolius River was walked every two weeks to count redband trout (*Oncorhynchus mykiss gairdneri*) redds. This is part of a continuing monitoring project started in 1995-1996 (Houslet and Riehle 1997). Methods and site descriptions from Houslet and Riehle (1997) were followed. In the 2001-2002 spawning year only Metolius River sections 0 through 8 were surveyed, upstream from the Camp Sherman Bridge (Table 2). Lake Creek was surveyed from February through June of 2002. Abbot Creek was not surveyed during the 2001-2002 season.

Results and Discussion

Metolius River

The total number of redds in the Metolius River upstream from the Camp Sherman Bridge increased from previous year's data (Table 1 and Figure 1). In 2001-2002 there were 1027 redds above the Camp Sherman bridge (sections 0 through 8) compared with 789 redds in 2000-2001, only 228 redds in this same section in 1999-2000, and 489 redds in 1998-1999 (Table 1 and Figure 1). It should be noted that with the exception of the 1999-2000 count there has been a steady upward trend in the number of redds counted in the Metolius River over the last seven years (Table 1). The total number of redds counted rose approximately 30% from the previous year (Figure 1 and Table 1). When comparing only sections 0 through 5, from the Metolius Head Spring downstream to the Tract C bridge, the number of redds was up nearly 15% from the previous year (Figure 2). In 2001-2002 Metolius River sections 0 through 5 were surveyed 11 times, while sections 6 through 8 were surveyed six times, and Lake Creek section 1 was surveyed seven times (Table 4).

It can be argued that the steady increase in redband redd numbers since 1995 is directly related to recent fishery management and habitat enhancement actions. For example, in 1996 the Oregon Department of Fish and Wildlife (ODFW) ended its program of stocking hatchery rainbow trout in the Metolius. ODFW had annually stocked 40,000 legal sized rainbow trout until 1988, when the number was decreased to 17,500 and in 1996 all stocking was discontinued. Additional regulation changes that may be affecting the increase include, catch and release angling for all fish and the seasonal angling closure upstream from Allingham Bridge both of

which went into effect in 1997. It is interesting to note that as ODFW has continued to increase angling opportunities, over that same time period redband redd numbers have steadily increased.

Fish habitat projects were started in 1985 with the placement of boulders and wood in the river above Camp Sherman (USDA 1995). Since that time trees which are considered hazards to developed recreation sites and cabins along the river have been directionally felled into the river to provide fish habitat. Each year the Sisters Ranger District fisheries biologist identifies between five to ten such hazard trees which might be felled into the river to provide fish habitat. Pre and post snorkel data has been collected at sites where large wood has been added to assess fish utilization, although data from these surveys has not yet been analyzed.

This “aquatic wood” project is part of an ongoing effort to recruit more large wood into the Metolius River so that it is in line with historic large wood levels, and do so in a safe and responsible manner while taking into consideration all of the activities people enjoy along the river. Photographs from the 1920s and reports of local residents confirm that the Metolius River naturally held more large wood than it does today (Riehle and Mullong 1991). Early efforts to float logs down the river were preceded by a systematic cleaning of river obstructions. In the late 1930s the Civilian Conservation Corps removed wood from the Metolius River in the Camp Sherman area. In addition, long-term residents have reported that stream cleaning after the 1964 flood and flushing flows during the flood reduced the amount of wood in the Metolius River and some of its tributaries (Riehle and Mullong 1991).

From 1989 to 2000, large and medium sized in-stream wood has decreased in the upper Metolius River from 12 pieces/mile to 8 pieces/mile while during that same period small sized in-stream wood has increased from 16 pieces/mile to 22 pieces/mile (Dachtler et al. 2000). Stream survey protocol classifies medium or large wood pieces as at least 12” in diameter and 35’ long. Small wood must be at least 6” in diameter and 20’ long. The decrease in medium and large sized in-stream wood during the 1989 to 2000 period may have resulted from the February 1996 flood event which may have moved some of the wood out of the system (Dachtler et al. 2000). However, it seems unlikely that large pieces of wood were moved for great distances in the upper Metolius River, due to its stable, spring-fed flows. Other reasons for these differences might be a result of changes in how large wood was accounted in the stream survey protocol during that period (Dachtler et al. 2000). Dachtler et al. (2000) concluded that the increase in small-sized wood in the upper Metolius may have at least partially resulted from Forest Service wood additions.

Tributaries

The number of redds in Lake Creek increased slightly in 2001-2002 over 1999-2000 (Table 3). Lake Creek was not surveyed in 2000-2001 and Abbot Creek was not surveyed in 2001-2002. It has been decided that surveys alternate between Lake Creek and Abbot Creek on successive years. Spawning in Lake Creek started in late February and ended in late May, consistent with Houslet and Riehle (1997).

Recommendations

It has been recommended that in future years section 8, between the old Spring Creek Lane Bridge site and Camp Sherman, be dropped as there is limited spawning habitat available. We will continue to focus our efforts on the upper sections (0 through 7) where the majority of spawning occurs.

Acknowledgements

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Table 1. Comparison of the number of redband trout redds counted in the Metolius River for sections (0 through 8) upstream from the Camp Sherman bridge.

Section Number	Year						
	95-96	96-97	97-98	98-99	99-00	00-01	01-02
0	0	1	7	1	0	24	16
1	6	57	73	39	48	81	145
2	7	39	68	87	63	166	161
3	62	69	122	152	86	206	298
4	19	36	49	104	28	176	151
5	9	4	5	17	3	49	33
6	34	19	40	58	-	*39	174
7	4	5	5	7	-	*29	34
8	6	10	8	24	-	*19	15
Totals	147	240	377	489	228	789	1027

Note: * = Not sampled as frequently as other sections
 - = Not Surveyed

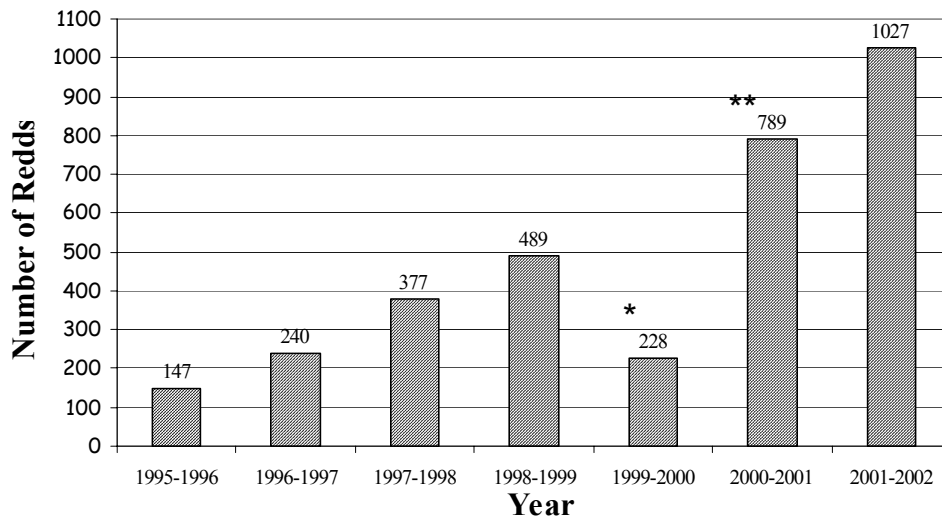


Figure 1. Metolius River Redband Redd Counts 1995 through 2002 (Sections 0 through 8).
 * = Sections 6-8 of the Metolius River were not surveyed in 1999-2000 and sections 0-5 were not surveyed as frequently as other years.
 ** = Sections 6-8 of the Metolius River were sampled less frequently in 2000-2001

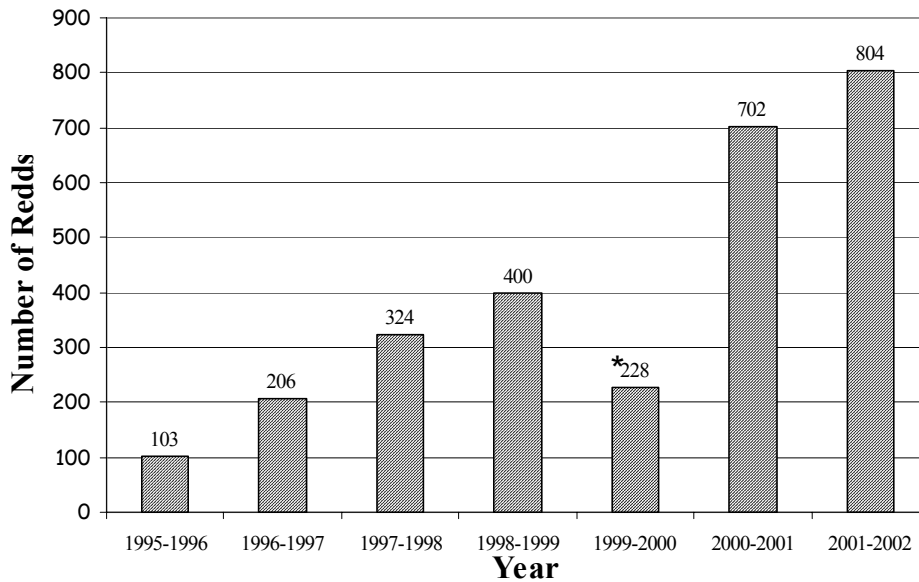


Figure 2. Metolius River Redband Redd Counts 1995 through 2002 (Sections 0 through 5)
 * = Not sampled as frequently as other years

Table 2. Number of redband trout redds counted per section of the Metolius River from 18 December 2001 through 8 May 2002. Boundary name describes the lower end of section (Houslet and Riehle 1997).

Section #	Boundary Name	Dec	Jan	Feb	Mar	Apr	May	Total
0	Source to first foot bridge	0	5	4	3	4	0	16
1	2 nd foot bridge	6	46	44	42	7	0	145
2	Fence line	3	57	62	32	7	0	161
3	Start of Habitat Project	12	122	44	96	24	0	298
4	Ponderosa above Blue Hole	6	58	34	44	9	0	151
5	Tract C Bridge	0	7	12	10	4	0	33
6	Lake Creek Confluence	-	-	17	129	25	3	174
7	Old Spring Creek Lane Bridge Site	-	-	2	23	7	2	34
8	Camp Sherman Bridge	-	-	3	4	7	1	15
Total		27	295	222	383	94	6	1027

Table 3. Summary of redband trout redds counted for Lake Creek, Section 1.

Year	Feb	Mar	Apr	May	Jun	Other months	Total
1994-1995	-	-	-	-	-	-	-
1995-1996	-	15	-	1	-	-	16
1996-1997	2	16	10	0	-	8	36
1997-1998	7	-	14	5	0	1	27
1998-1999	9	15	29	0	-	-	53
1999-2000	-	28	19	-	6	-	53
2000-2001	-	-	-	-	-	-	-
2001-2002	0	32	24	2	0	-	58

Table 4. Redband redd survey effort for periods 1998-1999 through 2001-2002

Stream	1998-1999		1999-2000		2000-2001		2001-2002	
	Sections	Times Surveyed	Sections	Times Surveyed	Sections	Times Surveyed	Sections	Times Surveyed
Metolius River	0-8	10	0-5	5	0-5	8	0-5	11
	9-14	4	6-12	-	6-9	5	6-8	6
			13-14	2	10-14	4		
Lake Creek	1	5	1	3	-	-	1	7

Note: - = Not Surveyed

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