

Addendum to the South Fork Salmon River Subbasin Assessment



July 2003

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Subbasin Assessment**

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Introduction and Analysis of New Data

The South Fork Salmon River Subbasin Assessment (SBA) and Total Maximum Daily Load (TMDL) was originally prepared in 1991 as a cooperative effort between the Boise National Forest, Payette National Forest and the Department of Environmental Quality. The assessment concluded that salmonid spawning and rearing were impaired by excess depth fines and cobble embeddedness. As a result, a sediment TMDL was prepared.

No explicit allocations were made as part of the 1991 TMDL. Rather, the TMDL relied on surrogate instream targets for depth fines and cobble embeddedness (as described below). The targets were intended to apply for the first ten years, through 2001, with the assumption that management actions would eventually lead to reduced sedimentation and the targets would be achieved by 2001. Table 1 shows the depth fines and cobble embeddedness targets as defined by the 1991 TMDL.

Table 1. 1991 depth fines and cobble embeddedness targets

Surrogate Measure	Target as defined by 1991 TMDL
Depth Fines	Five year mean of 27% by weight with no single year over 29%
Cobble Embeddedness	Five year mean of 32% with no single year over 37%
(or)	Acceptable improved trends in other monitored water quality parameters directly related to salmonid spawning and cold water biota beneficial uses support

In May 2002 the South Fork Salmon River Subbasin Assessment was revised and updated by DEQ. The 2002 revision serves as the base document for this addendum. The purpose of this addendum is to evaluate progress toward meeting the 1991 TMDL using the most recent data available as of June 2003.

Tables 2 and 3 show the updated 5-year averages for each parameter at the monitoring locations defined in the TMDL. Due to the time lag caused by a thorough analysis of the data, 2001 data is the most recent available. Figures 1 and 2 show the data in graphical format.

Table 2. Five-year mean depth fines (%)

Year	Stolle	Dollar	Poverty Flats	Glory	Oxbow	Ice Hole	Chamberlain Cr.	WF Chamberlain Cr.
1993	49.28	56.86	63.52	50.74	55.38	54.28	52.04	59.74
1994	47.24	54.22	64.9	49.5	55.46	56	48.44	56.82
1995	47.72	52.64	65	52.24	56.3	59.98	44.02	54.64
1996	50.66	53.7	66.6	56.86	58.54	59.74	43.12	56.66
1997	50.96	54.52	68.96	59.4	62.06	60.46	38.16	55.28
1998	51.44	60.78	65.82	66.18	65.34	59.38	35.08	54.94
1999	56.08	61.5	68.48	72.42	65.98	58.2	33.08	57.06
2000	54.94	62.14	67.96	69.58	63.1	53.76	34.26	60.32
2001	52.46	61.56	64.38	63.36	59.68	53.46	34.34	57.92

Table 3. Five-year mean cobble embeddedness

Year	EFSFSR	WF Chamberlain 1	WF Chamberlain 2	Chamberlain 2
1993	34.4	36.28	27.64	30.64
1994	34.325	37.2	28.76	31.32
1995	32.16	34.82	30.5	32.06
1996	32.92	27.42	33.2	33.56
1997	31.56	25.32	34.15	32.74
1998	31.9	22.08	35.95	34.38
1999	32.28	20.86	35.68	35.92
2000	35.18	19.8	34.2	32.88
2001	33.84	23.86	30.88	29.88

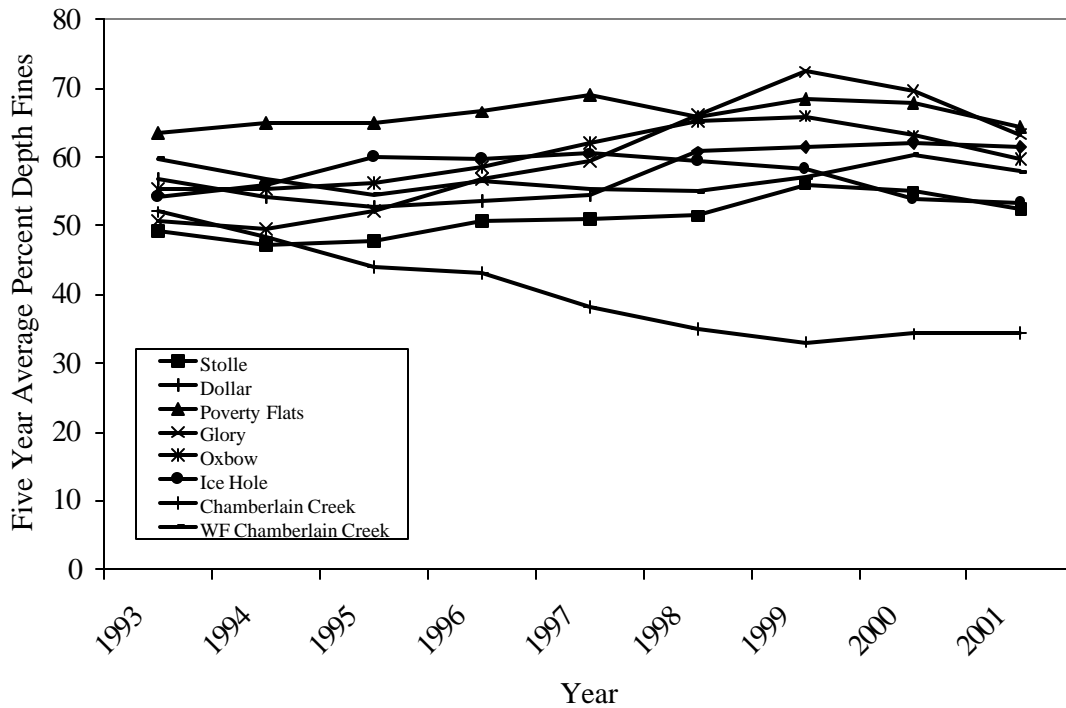


Figure 1. Five-Year Mean Percent Depth Fines for the SF Salmon and Chamberlain Basins

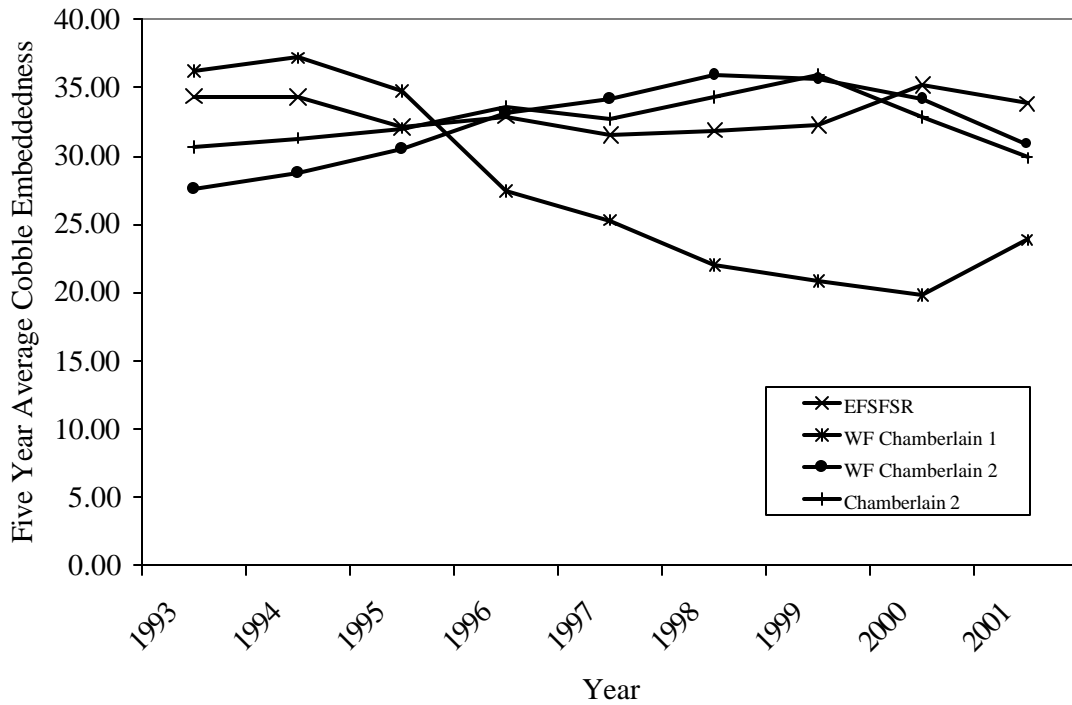


Figure 2. Five-Year Mean Cobble Embeddedness for the SF Salmon and Chamberlain Basins

The depth fines data in Table 1 and Figure 1 show that the five year mean of 27% with no single year over 29% targets have not yet been achieved. Only the Chamberlain Creek monitoring site, which serves as a reference site, showed a significant decrease in the five-year mean between 1993 and 2001. The remainder of the monitoring sites showed a slight increase or no significant change over time.

The cobble embeddedness data in Table 2 and Figure 2 show that the five year mean of 32% with no single year over 37% targets are being achieved at the WF Chamberlain 1 monitoring site. The no single year over 37% target is being achieved at the remainder of the sites. The five-year mean of 32% target is close to being achieved at the remainder of the monitoring sites. The percentage fluctuates slightly above or slightly below (within 3%) the target, but since 1993 has not been consistently below the target.

Recommended Action

The data in Tables and Figures 1 and 2 show that the depth fines and cobble embeddedness targets have not yet been achieved. However, no additional reduction controls beyond those already in place or being planned by the Forest Service are recommended by DEQ. The sediment management strategies currently in place or planned for the future are consistent with the best available management practices for meeting the TMDL.

References Cited

Nelson R.L., Burns, D.C., Newberry, D.D., Faurot, M., 1999a. Deposition of Fine Sediment in the South Fork Salmon River and Chamberlain Creek Watersheds, Payette and Boise National Forests, Idaho: Intragravel Conditions in Spawning Areas, Report of Sediment Trends from Core Sampling, 1966-1998. USDA Forest Service, Payette National Forest, McCall, Idaho.