Section G

SEDIMENT INPUT SUMMARY

Introduction

The estimated sediment inputs for the Noyo WAU have been summarized and are presented. The purpose of this summary is to determine the relative amount of different sediment sources, determine priorities for erosion control, and assist in interpretation of stream channel conditions in relation to sediment deposition and transport. A sediment budget provides quantification of sediment inputs, transport, and storage in a watershed (Reid and Dunne, 1996). In this case we are not doing a true sediment budget, only a estimation of the sediment inputs. However, this estimation is useful for source analysis, numeric targets, and allocation of responsibility as needed in a Total Maximum Daily Load (TMDL) for 303(d) listed rivers, such as the Noyo River. However, care must be used when interpreting these estimated values; by no means can the estimates be considered absolute. Rather, the sediment input estimates are best interpreted for relative comparisons between processes and planning watersheds.

This section combines and summarizes the sediment input results from the Mass Wasting and Surface and Fluvial Erosion modules of the watershed analysis for the Noyo WAU. Sediment input for the Noyo WAU is estimated from hillslope mass wasting, road associated mass wasting, road surface and fluvial erosion, and skid trail erosion. The sediment inputs have been estimated for the past forty years (1958-1998).

Sediment Inputs

The average estimated sediment input for the past forty years for the Noyo WAU is 470 tons/square mile/year. The inputs in the Noyo WAU over the last 40 years have come from hillslope mass wasting (42%) and road mass wasting, surface and fluvial erosion (48%) and to a lesser extent skid trail erosion (10%) (Figure G-1). The breakdown of total sediment input is presented by planning watershed for the Noyo WAU (Table G-1 and Figure G-2). The greatest amount of sediment inputs is estimated to be from the Hayworth Creek planning watershed.

Road associated erosion is the dominant sediment contributing process in the Noyo WAU. The road associated mass wasting, surface and fluvial erosion combined accounts for 48% of the estimated sediment inputs in the Noyo WAU. Mass wasting from roads and hillslopes combined accounts for 66% of the sediment inputs in the Noyo WAU. Future forest practices must give the potential of mass wasting and road erosion careful attention in the Noyo WAU to attempt and reduce this sediment input over time.

Figure G-1. Estimated Percentage of Sediment Inputs for the Noyo WAU, 1958-1998

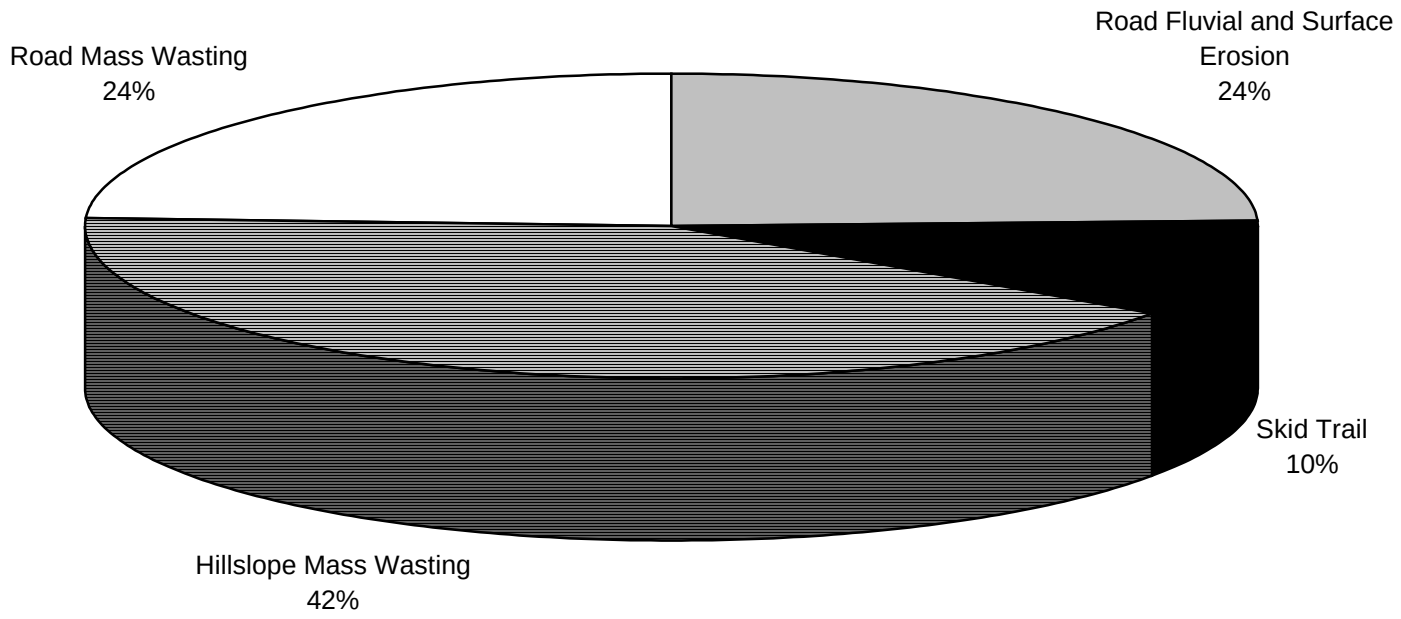
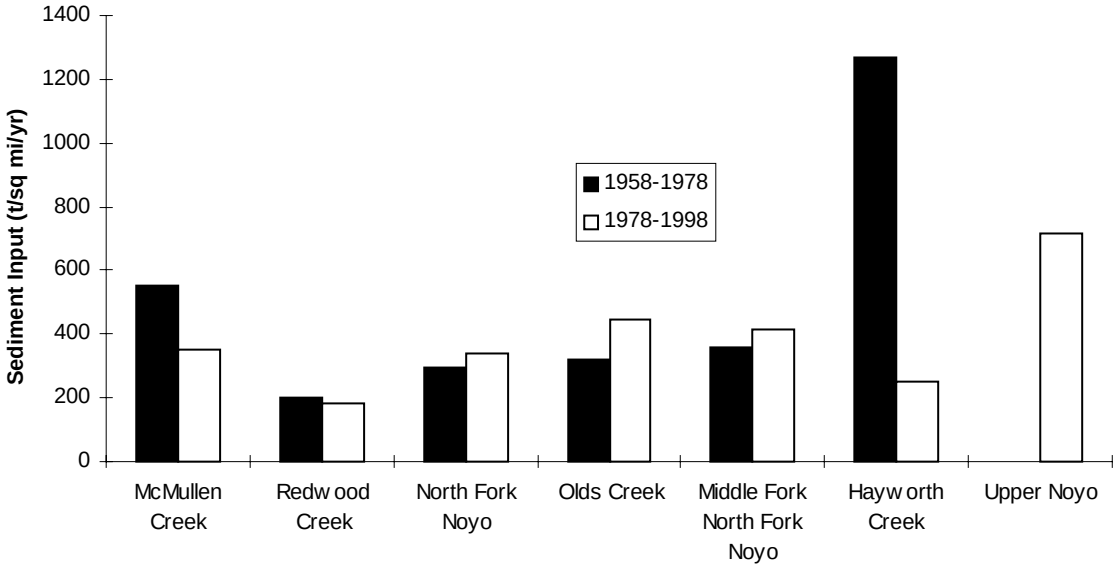


Table G-1. Estimated Sediment Inputs by Input Type for Planning Watersheds of the Noyo WAU, Averaged over the Last Forty Years (1958-1998).

Planning Watershed	Road Surface & Fluvial Erosion (tons/mi^2/yr)	Hillslope Mass Wasting (tons/mi^2/yr)	Road Mass Wasting (tons/mi^2/yr)	Skid Trails (tons/mi^2/yr)	Total (tons/mi^2/yr)
McMullen Creek	53	257	100	38	448
Redwood Creek	87	44	29	23	183
North Fork Noyo	112	104	31	60	307
Olds Creek	133	123	103	11	370
Middle Fork North Fork	138	165	7	63	373
Hayworth Creek	96	347	19	115	577
Upper Noyo*	108	185	432	n/a	725

*- only estimated for past 20 years

Figure G-2. Estimated Sediment Inputs by Planning Watershed of the Noyo WAU, by Time Period.



With the exception of the Hayworth Creek planning watershed, the sediment inputs of the planning watersheds in the Noyo WAU remained similar between time periods. The Hayworth Creek planning watershed had extensive tractor yarding done on steep slopes in the late 1960s and early 1970's prior to current Forest Practice Rules. Also there was one very large landslide that skews the sediment inputs for the 1958-1978 time period.

Literature Cited

Reid, L. and T. Dunne. 1996. Rapid evaluation of sediment budgets. Catena Verlag GMBH. Reiskirchen, Germany.