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THE NORTH FORK OF CASPAR CREEK:
A COOPERATIVE VENTURE BETWEEN CDF AND USFS

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The Caspar Creek Watershed Study on JDSF has taken a new direction in the last two years, as our work progresses towards full instrumentation of the North Fork phase. When most of the equipment has been installed by the end of the summer, this 1195-acre watershed will become the most intensively sampled drainage ever studied by hydrologists.

As has been the case since this paired watershed study was begun in 1962, the U.S. Forest Service continues to be an equal partner with the California Department of Forestry in this undertaking. In keeping with this dual agency affiliation, JDSF was recently visited by several U.S. Forest Service researchers. Dr. Roger Bay and Dr. Ronald Steward, Director and Assistant Director, respectively, of the Pacific Southwest Forest and Range Experiment Station (PSW), toured the North Fork with JDSF personnel. Also present was Dr. Raymond Rice, Research Hydrologist with the Redwood Sciences Laboratory in Arcata. Dr. Rice is the principal investigator for the Caspar Creek study.

On the tour they examined the Parshall flumes being installed in the headwaters of the drainage (Fig. 1). Some of these flumes are now fully operational, while others are in varying stages of construction. These wooden structures are specially designed, open-channel flow sections which easily allow accurate water discharge measurements to be made. Automatic pumping samplers, programmed to operate at predetermined flow levels, will provide suspended sediment data during storm events at these sites. Additionally, three operational rated control sections were visited along the main stem of the North Fork. These stretches confine the channel to a defined area. Current meters are then used to measure velocity and depth at varying flows and stage-discharge relationships are being determined for these sites. As with the Parshall flume sites, pumping samplers will provide corresponding sediment levels at the rated sections. When completed, there will be nine Parshall flume sites on small tributaries, and the three rated sections on the larger main stem.

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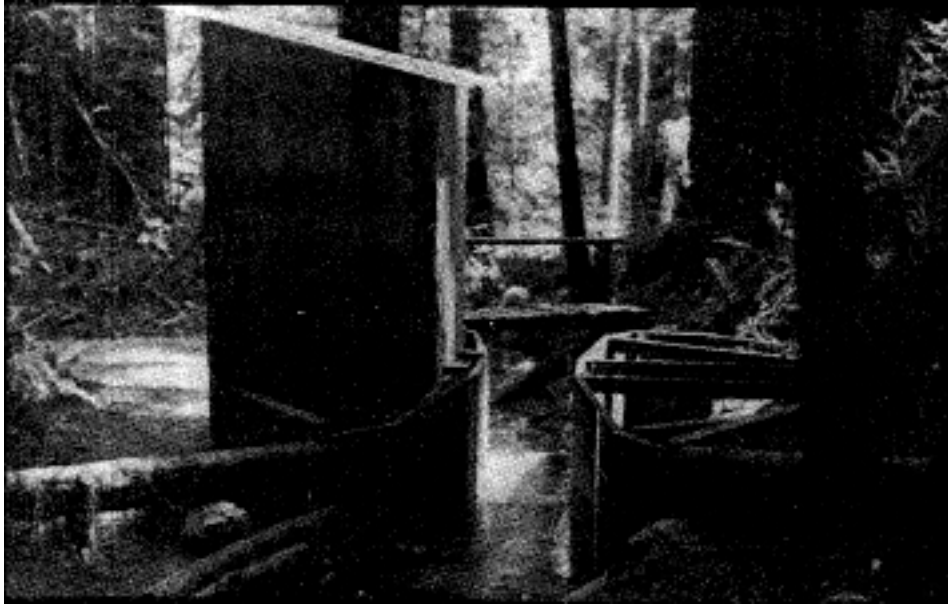


Fig.1. Parshall flume in operation at Subwatershed I.

Dr. Bay stated that he was "very impressed with the, good, close-working relationships that have developed and been maintained for so many years between the Station and CDF." He went on to say, "Alone, we certainly could not have embarked on such an ambitious effort. Working together, I think we've got a really good chance of providing extremely important information to resource managers concerning watershed management throughout a key area of northern California."

Similarly, Dr. Stewart stated that "this is one of the best examples of a cooperative venture between two organizations that jointly perceive the importance of a problem."

Subjects to be addressed during the North Fork phase will be provisions applicable to some of the newer California Forest Practice Rules, including the sensitive issue of "cumulative impacts," and sediment transport mechanisms operating in small logged watersheds: To effectively study these concerns, CDF and U.S. Forest Service personnel are working as a team to complete several tasks.

In addition to completing the Parshall flume installations, an intensive stream survey of the main stem and all major tributaries is nearing completion. Soon, work will start on laying out road locations, sale boundaries, and conducting a final cruise on areas to be logged. When fall and winter storms arrive, calibration work will be done, as well as intensive sediment sampling. Water samples will be processed at our recently constructed laboratory in Fort Bragg.

A future California Forestry Note and newsletter articles will explain the harvesting plan to be implemented in the North Fork, and more specific details of the watershed sampling scheme which will be used.

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