Bear River -- Facilities and Operations Overview

The Bear River today is part of an extensively-developed problemshed that includes portions of the Middle Yuba, South Yuba, and North Fork American Rivers. Water from each of these sources is diverted into the Bear River system at or below Lake Spaulding, and eventually finds its way (if not consumed or depleted) into the lower Bear River, the lower American River, or one of many creeks and ravines in the associated Valley/foothill region.

The majority of co-mingled supplies are controlled and managed by the Pacific Gas and Electric Company (PG&E) and the Nevada Irrigation District (NID), and to a lesser extent by the South Sutter Water District (SSWD). Priority beneficial uses include hydropower generation and the satisfaction of agricultural, municipal, and residential consumptive demands within the NID and SSWD service areas, portions of the Placer County Water Agency (PCWA), and the cities of Roseville, Loomis, and Lincoln. Instream needs are addressed primiarily through minimum release requirements at the major storage and diversion sites described below. (See Upper Yuba River Studies Program, July 2004).

Most water diverted from the Middle Yuba, South Yuba, and North American Rivers (approximately 200,000 AF per year on average) enters the Bear River system via the Drum canal and powerhouse, though some Yuba River water is released from PG&E's South Yuba Canal to meet minimum release requirements in the Bear Valley reach (upper section). The combined waters then flow downstream into or past the Chicago Park hydropower diversion, and from there on into Rollins Reservoir.

Immediately downstream of Rollins Dam are the Bear River Canal headworks, the major point of diversion for PG&E's Halsey, Wise, and Newcastle hydropower plants; for contract deliveries to PCWA; and for supplemental deliveries of surplus NID water to SSWD when available. (Annual diversions into the Bear River Canal averaged 263,100 AF over water years 1932-1998. Rougly 90 percent of those diversions were routed through PG&E's Halsey and Wise powerhouses en-route to PCWA, SSWD, and the Newcastle powerhouse via the South Canal, Auburn Ravine creek, Miners and/or Secret Ravines, and eventually Folsom Lake. *See USGS Water Supply Statisics, Water Year 1998 and Summary Statisics, Station 11422000, Bear River Canal Intake near Colfax.*)

Water released from Rollins Reservoir that is not diverted into the Bear River Canal, including required minimum releases of 10 cfs, flows downstream into Combie Reservoir (Lake Combie) for diversion into NID's Combie North, Combie South, or Lake of the Pines canals. (Diversions into NID's Combie North or "Phase 1" Canal average about 43,000 AF per year.) Water not diverted at Combie Dam, including required minimum releases of 5 cfs, flows downstream into New Camp Far West Reservoir. One mile downstream of New Camp Far West Dam, at River Mile 15, is a diversion dam operated by SSWD. This diversion dam moves water released from New Camp Far West Dam into the South Sutter Canal and the Camp Far West Canal located, respectively, on the

south and north sides of the river. (SSWD diversions average approximately 124,500 AF per year.) Water not diverted at this location, including required minimum releases of 10-25 cfs, flows downstream towards the Bear-Feather confluence, the natural terminus of the Bear River system.