

NID Raw Water Master Plan Update (May 1993)

The following notes and observations are derived from NID's 1993 Raw Water Master Plan Update. The document describes existing water supplies as well as the lack of conservation measures and programs. NID is currently preparing a new RWMP which should be available for public review around Spring 2005.

Agricultural land use Two methods were used to identify currently irrigated land and other lands which could be classified as arable. Black and white infrared aerial photos were taken in 1982 to identify irrigated lands and a 1982 computerized crop report based on information received from customers was analyzed. They gave significantly different estimates. A detailed crop report of 1984 water deliveries was then prepared and field updated by staff. District irrigation customers annually complete a questionnaire which is then compiled into a crop report. Crop totals for 1992 equaled 22,691.2 acres with irrigated pasture (16,444.6 acres) representing 72% of the use. Family gardens at 2828 acres were the second highest user of irrigated water. Between 1984 and 1992 there has been a 13.6% increase in irrigated acreage.

On page 19, the Plan notes that "The trend is towards smaller water users. These customers, as discussed earlier in the section on irrigated acreage, do not necessarily utilize their water to irrigate the higher quality arable land." This is shown by a 144% increase in summer seasonal accounts of up to 1.5 miners inches between 1979 and 1992 with only a 23% increase on service sizes in excess of 1.5 miners inches. Approximately 40,000 acres of net arable lands are located within the boundaries of the District.

Treated water "Comparing plant production and sales records indicate a current water loss factor of about 27% in the treated water system. Unaccounted for water can include that used for fire fighting, water main flushing, system leaks, construction purposes as well as filter backwashing at the treatment plant." Canal loss is factored in at 15%. The District has 421 miles of raw water transportation facilities with piped sections representing less than 10% of the total.

Water Supply This section describes the reservoirs and water supply system, including maps of the upper watershed, the diversion points which begin along Deer Creek and the Bear River and the canals. The Report concludes that adequate water supplies were available for the anticipated growth of the District's treated water systems to the year 2002. The overall conclusion of the various reports was that available raw water needed to be increased by stretching current supplies through water conservation practices and more efficient system operation as well as by negotiating future water purchases from PG&E.

Water conservation: "If on-farm irrigation efficiencies could be increased by 10%, a savings of about 17,000 acre feet of water per year could be realized. Other measures involve determining if larger customers could be sold water on a volume basis. Alternative water rate structures which promote conservation are also to be studied."

However, the Report states that such conservation measures “require” voluntary actions so are of doubtful benefit.

Miscellaneous A discussion of the District’s facilities rates their condition as poor, fair or good but does not provide a graph or table that would establish by percentage which conditions apply by overall mileage or capacity.

Three alternatives are presented as a means to reduce irrigated water use during a drought: Reduce supply and length of season, Reduce season, Reduce supply. No recommendations are made.

The greatest value of the report is descriptive. It is, however, deeply flawed by not seriously looking at demand side conservation measures, dismissing them as voluntary and therefore ineffective. Or, in the urban setting, not having a significant impact as urban use only represents about 10% of usage. Although Table 15, Section 8.3.2 of the Urban Plan does note that installing conserving fixtures could reduce per capita per day use from 68 gpcd to 37.5 gpcd. The Ag report fails to investigate the significant savings which could be reached through both changes in pricing and through investment in water saving technology.

Schedule 5-G Schedule of rates and charges: As of January 1, 2002, NID charges \$318 for one miners inch, \$549.13 for two miners inches, and only \$120.07 per miners inch for purchasers of 20 or more miners inches.

There is no consideration given to the long term cost benefits of investing in water saving technology through a fund which could help offset costs of such demand-side investments by water customers. And, although the report does refer to the trend toward increased sales to customers who are irrigating gardens and/or other land that is not classified as arable and who are buying smaller amounts, it makes no effort to classify the value or public benefits of the various uses and then tie the classification to pricing schedules. (For example, landscape, garden, golf courses and other such uses could pay a higher rate than users of water for permanent crops or large pastures which help to keep viable the rural qualities of Nevada and Placer counties.)

The report also fails to investigate water routing below the canals. How much “unused” irrigation water is recovered in various watersheds? Nor does it look at the difference between the amount of irrigation water ordered and the amount used. Would it be possible to reduce irrigation diversions based on a finding of a significant difference between the two amounts?

Environmental issues Other than for a brief presentation on potential fish flow requirements, there is no discussion of environmental issues related to water use. (The report refers to an unknown amount of flows under draft SWRCB Decision 1630 that NID might have to provide to meet its allocated share of fishery releases in the Sacramento River at Freeport. That draft decision was dropped in 1993 in anticipation of development of a long-term Delta improvement plan.)

Over the past one hundred years many of the open canals have created small ecosystems. Lining or piping the canals to reduce water loss could have major negative impacts on the local environments; however, it should be possible to identify portions of the canals where upgrades could have significant savings in water loss with little impact to the micro environment. Additionally, seasonal requirements of water customers and fish and wildlife could be studied, permitting adjustments to the amount of the water in the diversions. Savings from these and other programs could be accounted for in an environmental water bank. The bank could then be drawn on for increased flows in the Bear and in other parts of the system.