



CITY OF SACRAMENTO

DIVISION OF WATER AND SEWERS

927 10TH STREET SACRAMENTO, CALIFORNIA 95814-2796
SUITE #201 TELEPHONE (916) 449-5271

ROBERT C. BITTEN
MANAGER
ROBERT W. JOHNSTON
ASSISTANT MANAGER

November 17, 1982

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City Council
Sacramento, CA

Honorable Members in Session:

SUBJECT: Informational Report
Water and Energy Conservation
Campaign - Summertime 1982

SUMMARY

Attached is a report submitted to the Budget & Finance Committee and approved on October 16, 1982.

The report summarizes the impact of the Water and Energy Conservation Campaign during Summertime 1982.

Respectfully submitted,

Robert C. Bitten
Manager

For City Council Information:

Walter J. Slipe
City Manager

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October 23, 1982
All Districts



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TELEPHONE (916) 449-5271

ROBERT C. BITTEN
MANAGER

ROBERT W. JOHNSTON
ASSISTANT MANAGER

November 10, 1982

Budget & Finance Committee
Sacramento, California

Honorable Members in Session:

SUBJECT: Informational Report
Water and Energy Conservation
Campaign - Summertime 1982

SUMMARY

During the April 15, 1982 meeting of the Budget and Finance Committee, Councilman Lloyd G. Connelly requested that a final report be prepared concerning the subject matter and brought back to the Council indicating the overall effects of the campaign.

Based on a 10-year data base for the months of June, July, August, and September for the base years of 1973 through 1982, there appears to have been a one percent (1%) conservation impact for the summer of 1982. However, the data base indices indicate a ten percent (10%) change between the summer of 1981 and the summer of 1982. Attempts to make a differentiation between the effects of the campaign and the below normal summertime temperatures for 1982 would only amount to a fabrication of the raw data.

BACKGROUND

On May 6, 1982 the City Council adopted Ordinance Number 82034 establishing "A Water Conservation Program to Conserve Water Resources and Energy; An Administrative Board to Review Water Waste Violators." A major component of this Ordinance was the implementation of a "Violation and Penalties" Section which set forth criteria for the issuance of citations for water wasting by our Water Waste Inspectors. There were four classes of violations for water wasting and are briefly outlined hereinbelow:

- First Class - First violation, a written notice.
- Second Class - A second violation, another written notice.
- Third Class - For the third violation, another written notice, and the subject property water rates increased to five times (5) the normal monthly water rates for the duration of the campaign up to September 15, 1982.

Fourth Class - For the fourth violation, another written notice, and, the subject property water rates permanently increased to five times (5) the normal monthly water rates.

The subject campaign started on June 16, 1982 and ended on September 15, 1982. During the campaign we had three Water Waste Inspectors covering the City's water service area. During this period, we made 2,441 calls on people regarding water waste. Of these calls, there were 313 first class violations issued, and 10 second class violations given. There were no third or fourth class violations issued. Most of these violations were for missing sprinkler heads, or for water running in one location for an extended period of time.

In addition, the Division sent out 89 letters for water waste due to broken pipes located on private property.

Also, the Division spearheaded a cooperative Water and Energy Conservation Campaign among the City, State Department of Water Resources (DWR), Pacific Gas & Electric Co. (PG&E), and the Sacramento Municipal Utility District (SMUD). This cooperative campaign involved mailing out 76,730 water conservation kits provided by DWR, with the City, SMUD and PG&E sharing the mailing cost. This mailing cost amounted to \$9,361.89 with the City's share being \$2,961.63, SMUD's cost \$2,961.63, and PG&E's cost \$3,438.63. The additional cost for PG&E was due to their request for additional data inserted into the conservation kits concerning energy savings.

ANALYSIS OF DATA

In developing the data base for the possible conservation effects of our campaign for summertime 1982, we decided to utilize a 10-year frequency base involving the summer months of June, July, August, and September. For these specific months, the following parameters were investigated: 1) maximum daily temperature; 2) water production from the American River and Sacramento River Water Treatment Plants, and the well field production in the North Sacramento area; 3) City population changes over the 10-year base period; 4) electrical power consumption for water production; 5) rainfall records; 6) City limits changes; and 7) any unusual weather conditions.

After reviewing the possible parameters available, it was decided to use three key parameters which would be good indicators to determine changes. These were the maximum day temperatures, daily total pumpage from all water sources, and population. Attempts to utilize electrical power consumption were investigated and it was determined that it would be a major effort to capture all the separate electrical billings for the 44 groundwater wells along with the two water treatment plants. It was felt that by using water production records, electrical power consumption may be directly related to the amount of water produced in millions of gallons.

Based on these three parameters, the following indices were developed using the equation of:

For years 1973-82: Index = $\frac{\text{Total Water Produced in Million Gallons}}{(\text{Mean Maximum Daily Temperature})(\text{Population})}$

MONTHS	YEARS									
	73	74	75	76	77	78	79	80	81	82
JUN-JUL-AUG-SEPT	1.01	0.99	1.01	0.98	0.86	1.02	1.07	0.99	1.09	0.99

The effects of the 1976-77 drought can be seen in the indices shown above which indicate a below normal water usage, based on the 10-year base, of a two percent (2%) reduction in water consumption for 1976 and a fourteen percent (14%) reduction for 1977.

Continued examination of the indices shows that the 1982 campaign had at least a positive impact of one percent (1%) conservation. Also, the major point of interest is that there is a ten percent change between the summertime water usages of 1981 and 1982 (1.09 for 1981 and 0.99 for 1982).

FINANCIAL DATA

Our overall costs for the 1982 campaign amounted to:

1. Three limited term employees for Waste Water Inspectors	\$ 5,212.99
2. Mileage for three City vehicles	2,500.00
3. City's share of the postage for the Conservation Kits	2,961.63
Total 1982 Campaign Costs	<u>\$10,674.62</u>

Assuming at least a one percent (1%) Water and Energy Conservation for the 1982 campaign, we would estimate a savings of approximately \$14,720.

Therefore, we would estimate that the campaign paid for itself and should be considered as a regular summertime water and energy conservation effort by the City.

RECOMMENDATION

This report is presented for informational purposes.

Respectfully submitted,

Vera Zazzette for

Robert C. Bitten
Manager

APPROVED FOR COMMITTEE INFORMATION:

SOLON WISHAM, JR.
Assistant City Manager