Newsletter of the V.I. Planning Office and the V.I. Water Resources Research Center

WAA TA

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Vol. 2 No. 4 July-August 1979

WATERPLAN COMPLETED

Waterplan: A Comprehensive Water Management Framework for the U.S. Virgin Islands has been completed by the staff at the Water Resources Research Center. The report presents a comprehensive view of water problems currently facing the territory and recommends short and long term solutions. It is intended to be read by the interested citizen and is neither lengthy nor highly technical in content.

Current and future supplies and costs are discussed in the context of island water demands; strong emphasis is placed on opportunities to maximize self-sufficiency and reliability in water supply through careful use of water and a sensible mix of natural and manufactured sources of water. Water law, administrative procedures for the management of water and agency responsibilities are discussed. Several options for both short and long-term improvement of the water situation are presented.

Among the conclusions of the report are:

Water is and always will be a scarce commodity in the Virgin Islands. Our climate is semi-arid, we have no flowing streams and ground water resources are very limited. This does not mean however, that conservation, wise management and full use of our local, natural and renewable water resources, especially rainfall, are not the best water resource development strategies.

-A fundamental change in policy is needed to turn from dependence on manufactured (desalted) and imported (barged) water as basic public supply, to dependence on the local resources, especially rainfall and ground water, as the basic supply. We can no longer afford to ignore our resources.

-Water management responsibilities in the U.S. Virgin Islands are scattered among several agencies with the result that attempts to institute policies, implement programs or determine accountability most often fail. A single agency with adequate financing, appropriate staffing and broad powers for water planning and research and resources management and control should be created to carry out the mandates of the Water Resources Conservation Act of 1965.

-The present pricing structure regarding Government purchases of desalted water from the V.I. Water and Power Authority and sale of water to the consumers is in no way related to the true costs of producing and distributing water. The entire water supply and wastewater management system is heavily dependent on direct

subsidies from the General Fund. The pricing structure should be self-supporting public utilities. The price of water should be equitably shared by consumers, and should promote conservation.

- Future demand for potable water from public supply should remain at or be reduced from present per capita levels. Important target figures are 50 gallons per capita per day (gpcd) for domestic use and 100 gpcd for hotel guest use. Wastewater flows should not exceed 60 gpcd.

- We must make best use of our adundant and cheap nonpotable source, sea water, by continuing and, in some cases, reestablishing its use for sanitary flushing.

Copies of Waterplan are currently available at the Water Resources Research Center. To obtain a copy, call 774-1252 Ext. 250 or 251 or write: Water Resources Research Center, Caribbean Research Institute, College of the Virgin Islands, St. Thomas, U.S.V.I. 00801.

USEFUL LITERATURE AVAILABLE

As part of its information dissemination effort, the Water Center distributes Water Research Capsule Reports. The Water Research Capsule Report series was instituted by the Technology Transfer Program of the Office of Water Research and Technology (OWRT), U.S. Department of the Intetior. This series is intended to give national recognition to successful water resources research and to make available the useable research results and applications to potential users. The Capsule Report series is coordinated by the Water Resources Center of the University of Nevada System under a grant from OWRT.

Several of these Capsule Reports are especially useful to persons concerned or simply interested in water resources here in the V.I. Two of the most recent capsule reports deal specifically with membrane. processes for the purification of water (reverse osmosis and electrodialysis). Both reports summarize the developments, applications, economics, advantages and disadvantages, and performances of the processes. Many helpful pictures, diagrams, tables and figures are included.

Another Capsule Report that all concerned with water conservation (everyone in the V.I.!) should read, reviews available water conservation devices and water conservation as a whole. The significance, application and economics of water conservation are examined.

All the reports mentioned and others in the series are available on request at the WRRC without charge.

HOW MUCH WATER DO WE USE

Considerable attention has recently been devoted to water use figures, which are needed in order to plan for future water supply. Some data recently obtained by the WRRC indicate that 50 gallons per capita per day (gpcd) is a reasonable water use figure for households. This figure does not include water used outside the house for such things as car washing, lawn sprinkling and swimming pools. This figure is supported by domestic water use figures reported from the continental United States which range from 40 to 80 gpcd (these figures include water used for lawn sprinkling). For reference purposes, this information is from "Water Resources Engineering," R.K. Linsley and J.B. Franzini, McGraw-Hill, 1979

We would be grateful for any use figures that our readers can provide for us. We hope to have more on water use in the near future as we gather more local data.

ANALGESTER UNIT AT RED HOOK

Even though the research project, The Water Economy of a Toilet in a Water Deficient Region, described in the last issue of Waa ta' has been completed, the Water Center is still continuing investigations at the Red Hook restroom facility. In addition to continuation of the monitoring program, an analgester unit will be installed. This tank filled with redwood chips will intercept the effluent from the low-flush toilets before discharge for treatment to improve its quality. Analgesters have been used successfully in other areas to inexpensively treat sewage. It will be interesting to observe the performance of such a unit in the Virgin Islands.

The public is urged to visit the restroom facility to determine if such an installation is applicable to their needs. The staff at the Water Center is available to answer inquiries. Feel free to call us at 774-1252 Ext. 250 or 251.

WAA TA' STATISTICS

Beginning with this issue of WAA TA', we will regularly carry a summary of monthly water Statistics. These statistics will be more complete with subsequent issues. You can help us by providing any related information that you might have. We also welcome your suggestions. The statistics below are totals for July 1979.

Rainfall in Inches

St. Croix:	
A.H. Airport	8.11
East End	4.64
Annally	6.46
St. Thomas:	
Red Hook	3.73
East Wintberg	5.41
St. John:	
Cruz Bay	6.78
Catherineberg	4.25

WAPA Water Production in Gallons

St. Thomas	35,780,070
St. Croix	29,744,700

CISTERN WATER QUALITY STUDY UNDERWAY

Even though in the Virgin Islands virtually all rural potable water supply and much urban supply is from cisterns supplied by rooftop catchments, the quality of cistern water here is not well known. Because of this widespread dependence on individual supplies, the intent of insuring safe drinking water to the public through drinking water standards is difficult to realize.

In order to characterize the quality of cistern water and indicate recommended treatment, a project The Quality of Cistern Water in the U.S. Virgin Islands has been undertaken. The principal investigators are Dr. Roger Peebles of the WRRC and Dr. Frank Rinehart of the Science and Mathematics Division of CVI. In this project samples of cistern water are being analysed for particulate matter, microorganisms and chemical quality. To insure meaningful results, samples were taken from cisterns of various ages, sizes and construction, and located in diverse areas on the islands.

It is hoped that the forthcoming results will be used by local agencies with responsibility, to recommend water treatment procedures or to develop building codes that minimize contamination of cistern water.