

PUERTO RICO GROUND WATER CONDITIONS

Ground Water importance: Puerto Rico, composed of three (3) islands (see figure below) covers 4,390 square miles with 3.5 million inhabitants. Since, some of the water resources are limited or are threatened, therefore appropriate management and protection is important.

Puerto Rico uses approximately 660 MGD to supply the demand for domestic, commercial, industrial and agricultural uses. Of these, 250 MGD is obtained from aquifers. The drinking water supply system in many areas of Puerto Rico is combined (surface water and ground water). In other areas ground water is a sole source. There are 486 public ground water systems in the island; 283 are community wells operated by the Puerto Rico Department of Health (PRDOH) and 203 are wells operated by the quasi public agency, the Puerto Rico Aqueduct and Sewer Authority (PRASA). These wells supply water to 92,721 persons.

Where Is It? The most important aquifers in Puerto Rico are found through the valleys of the north and south coasts of the island, while other aquifers, also, are found on the east and west coasts and in the valleys of Caguas, Cidra and Cayey. On the north coast the flat aquifer provides more than 50 MGD of water for industrial, agricultural and domestic uses. In the area of "Cruce Dávila" on Barceloneta the aquifer provides about 10 MGD for industrial uses. Also, the deep artesian aquifer of the north coast provides more than 6 MGD for industrial and domestic uses in the area of Cruce Dávila.

The aquifers of the south coast provide more than 25 MGD of water for irrigation, industrial and domestic consumption.

How Good Is The Water? In general, the quality of the water supplied by the PRASA or by the Community Systems in Puerto Rico is good. Both systems receive the treatment established by the federal and state regulations. Also, the facilities are monitored by the Puerto Rico Environmental Quality Board to verify compliance with the water quality standards, established under the Puerto Rico Water Quality Standards Regulation and by the

PRDOH to determine compliance with the drinking water criteria.

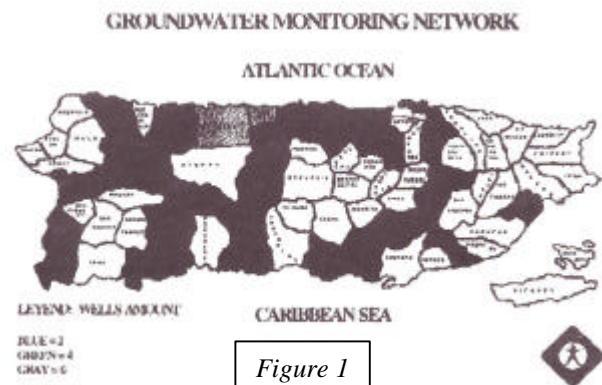
Puerto Rico has nine (9) "superfund sites"; the ground water has been impacted in seven (7) of these sites.

These sites are located in the north and east parts of Puerto Rico; and the substances detected are VOC's and heavy metals. Also, are located in industrial areas, and two of the sites are municipal landfills.

Cost of Contamination: The government of Puerto Rico has not invested in site cleanup and remedial actions because all sites have the responsible parties identified.

These responsible parties negotiated with the US Environmental Protection Agency (USEPA) a voluntary specific cleanup action. All the work performed by these parties is closely guided and monitored by USEPA and meet the same standard requirement for actions financed through the superfund program.

Effort To Protect Ground Water: In Puerto Rico different agencies have the responsibility for the protection of ground water: Puerto Rico Department of Natural and Environmental Resources (PRDNER), PRDOH, PRASA, and the PREQB. The PRNER is the lead agency in managing the ground water resources. The PREQB has the role of protecting the ground



water quality and has the responsibility for the development of all wellhead protection activities. To perform this task, the PREQB

developed Memorandums of Agreement (MOA's) among PREQB and the other agencies, also PREQB continuously implements a ground water monitoring network island wide to obtain data of ground water quality (See Figure 1).

The MOA allows a continuous flow of information with respect to activities, regulations

and policies that could effect ground water quality, identify area of overlapping jurisdiction and for conflicting policies, establish responsibilities, avoid duplication of effort between agencies, develop and maintain an effective ground water quality management and protection program.