

The Role of Water Reuse in Water Resources Management

Abstract:

Water reclamation and reuse provides a unique and viable option to augment traditional water supplies. As a multiple-disciplined and important element of integrated regional water resources management, water reclamation and reuse can help to close the loop between water supply and wastewater disposal as well as integrating water and reclaimed water supply functions. More specifically, water reuse accomplishes two important functions: (1) the treated effluent (reclaimed water) is used as a water resource for beneficial purposes, and (2) the effluent is kept out of streams, lakes, and beaches; thus, reducing pollution of surface water and groundwater.

The foundation of water reuse is built upon three major principles: (1) providing reliable treatment of municipal wastewater to meet strict water quality requirements for the intended water reuse application, (2) protecting public health, and (3) gaining public support and acceptance. Whether water reuse is appropriate for a specific locale depends upon careful economic considerations, potential uses for the reclaimed water, and the relative stringency of waste discharge requirements. Public policies can be implemented that promote water conservation and reuse rather than the costly development of additional water resources with considerable environmental expenditures. Through integrated regional water resources planning, the use of reclaimed water provide sufficient flexibility to allow a water agency to respond to short-term needs as well as increase the reliability of long-term water supplies in the region.

The discussions will include water quality changes as shown in Fig. 1 as well as the future of indirect potable reuse with respect to appropriate technologies and public acceptance.

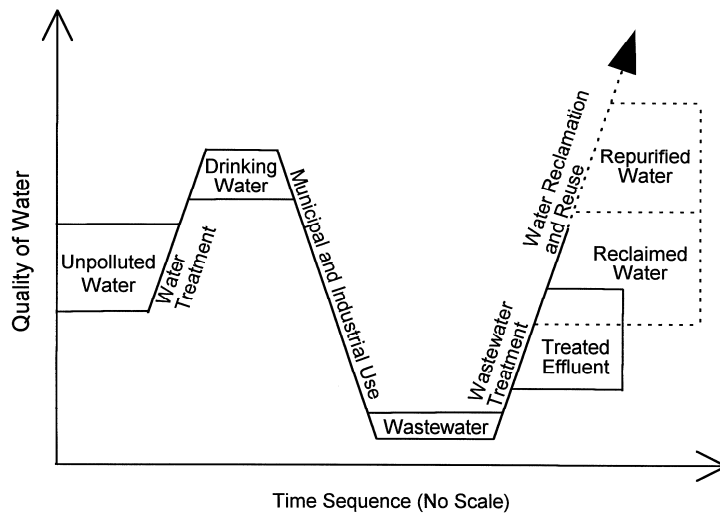


Fig. 1. Water quality changes during municipal uses of water and treatment in a time sequence