



Figure 5. Generalized hydrologic information in the Rio Grande--Rio Conchos to Amistad Reservoir subarea.

main-stem sites in the study area, with potential effects more prevalent at tributary sites. The assessment assigned "slight" to "moderate" potential for toxic chemical effects in the Rio Grande upstream from Presidio, Tex., as well as a "slight" to "moderate" potential for toxic chemical effects near the mouth of the Rio Conchos. A more focused assessment (Phase II) for areas exhibiting the highest potential for toxic chemical effects is scheduled for publication in 1998.

Extremely high rates of siltation in Amistad Reservoir near the confluence of the Rio Grande and Pecos River are a concern of the NPS. The extreme siltation has made sections of the rivers virtually impassable and has helped establish extensive stands of tamarisk within the conservation pool area of the reservoir. The USGS has conducted studies addressing surface-water-quality trends and potential sediment contamination for selected constituents in this reach of the Rio Grande. The most recent study (Van Metre and others, 1997) defined historical changes in surface-water quality in the Rio Grande Basin by analyzing changes in sediment chemistry in cores from three reservoirs, including Amistad Reservoir. The study reveals that bottom sediments in the reservoir contain relatively low concentrations of industrial organic contaminants. The remarkably high sedimentation rates in the reservoir effectively dilute the load of anthropogenic contaminants associated with sediments. Total DDT concentrations decreased in sediments deposited from the 1970's to 1997. Concentrations of eight trace elements increased in the sediment core from the Rio Grande arm, and six of eight increased in the Devils River arm. All eight are associated with atmospheric sources including solid-waste incineration and power-plant emissions.

Scheritz and others (1994) reported increasing trends in concentrations of dissolved sulfate, chloride, and dissolved solids for the period 1975-89, at the Rio Grande near Langtry, the Pecos River near Langtry, and downstream from Amistad Reservoir. Concentrations of dissolved solids are about 750, 1,800, and 200 milligrams per liter in the Rio Grande near Langtry, in the main stem of the Pecos River, and in the Devils River, respectively. The increasing trends in the Rio Grande downstream from Amistad Reservoir primarily are a result of increasing trends in the Pecos River and, to a lesser extent, in the Rio Grande upstream from the Pecos River.

In Big Bend National Park, wells completed in the alluvium along the Rio Grande at the Castolon Area produce water not suitable for public supply. The ground water contains large concentrations of fluoride, sulfates, and dissolved solids; the water pumped from the supply wells probably is a combination of ground water from adjacent aquifers and infiltration of water from the Rio Grande (National Park Service, 1996).