11/1/99

Sandia Canyon Geomorphic Investigation

Objective

Use geomorphic and stratigraphic approach as tools for understanding depositional history and guiding sampling strategy.

Approach

1) Define Reaches based on canyon physiography, nature of sediment storage, and potential contaminant sources.

- Reach S-1: Above debris dam. Includes a small portion of north branch of canyon to assess sources of contamination. Narrow canyon, historic sediment storage is largely confined to narrow zone along active channel.

- Reach S-2: "Wetlands" Area. Below debris dam. Wide canyon with flat valley floor. Much of the sediment is derived from road-building aggregate in surrounding TA-3. Also, potential sediment contribution from LA County Landfill.

2) Make initial estimate of volume of historic sediment in each reach.

3) Glean sediment transport and deposition history using a time series of aerial photographs and geomorphic mapping.

4) Assess alluvial stratigraphy (variability and complexity) in stream banks and "potholes" dug along transects perpendicular to canyon axis to define sediment packages to sample.

5) Use statistical approach to make initial determination of number of samples required for each reach.

6) Sediment sampling. Stratigraphy gleaned from potholes and stream banks will guide subsurface sampling strategy (depth and number of samples).

- If thick layers of homogenous alluvium are present (no stratigraphic breaks implying deposition over short time periods), larger intervals will be sampled.

- If important stratigraphic breaks are identified, then samples will be collected above and below, but not across, the stratigraphic break.

- Association of contamination with sediment grain size will also be determined.