

Water Quality Monitoring at Santa Monica Mts.

By Caroline Hall

One of the projects currently being conducted by NPS in the Santa Monica Mountains NRA is water quality monitoring. The project was initiated in 1982 under the supervision of Paul Rose, a resource management specialist with the Park Service. One aspect of the program focuses on the levels of fecal coliforms found at particular watershed sites in the mountains. Fecal coliform bacteria are found in the intestinal tracts of warm blooded animals and they are commonly associated with harmful organisms responsible for sicknesses transmitted through water contact. Fecal coliforms are used to determine water quality because they are easy to culture and can be accurately isolated and counted. The present EPA standard for water suitable for swimming is a maximum 200 fecal coliforms per 100 ml sample. Unfortunately, some locations within the Santa Monica Mountains exceed this level.

Typical sources for higher coliform densities include untreated sewage effluent, septic tank leaks, and streams which are frequented by livestock and wildlife.

Results thus far indicate a tendency toward higher fecal coliform levels in watersheds of the eastern portion of the Santa Monica Mountains. This area is closest to greater Los Angeles and is subject to intense development activity. The problem is thought to be a combination of faulty sewage systems, steep slopes that encourage rapid runoff, and poor, shallow soils which are unable to properly filter any effluent that escapes.

Conversely, the relatively undisturbed western part of the mountains reveals a low fecal coliform count. It is also believed that some relationships exist between rainfall and the amount of fecal coliforms "flushed" into the system, but more data must be collected before any specific determinations can be made.

At this time, the project is still at the data gathering stage. The numerous factors involved in the determination of water quality prevent quick interpretation of results. It is anticipated that after a few years of monitoring, pollution sites and causes will be pinpointed. This will encourage better health protection for the public and improve water conditions for ecosystems within the recreation area.

Hall was a summer intern at Santa Monica Mountains NRA from Colgate University.