sew´·ẽr sō·ci·ōl´o·gy, *the science of society, social institutions, and social relationships viewed through the eyes of a sewer; specifically the systematic study of the development, structure, interaction, and collective sewer use of organized groups of human beings.*

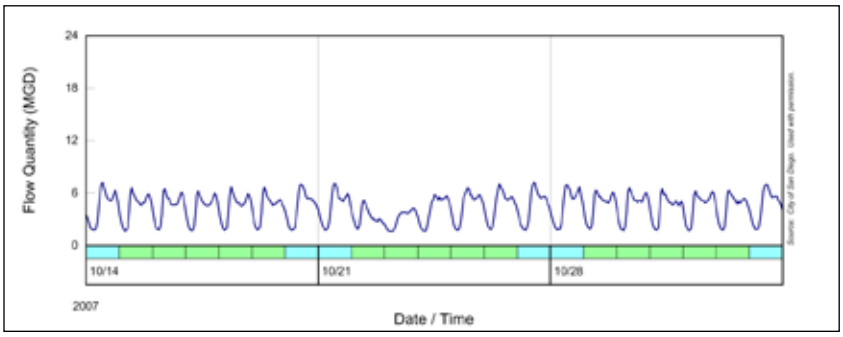
California Wildfires

Kevin L. Enfinger and
Patrick L. Stevens

Most sewer flows are characterized by repeatable diurnal patterns that vary among weekdays, weekends, and holidays. Variations are also observed when natural disasters occur. This month, we examine the impact wildfires have on sewer flows.

Several devastating wildfires raged through San Diego County in late October, prompting the evacuation of more than 500,000 residents as firefighters fought to save lives and protect property. The Witch Creek Fire alone burned nearly 80,900 ha (200,000 ac) and threatened residents in Ramona, Rancho Bernardo, Poway, Escondido, and other communities. A hydrograph of sewer flow rates observed at a monitoring location in Poway before, during, and after the

Figure 1. Hydrograph of Sewer Flow Monitor Data From Poway, Calif.

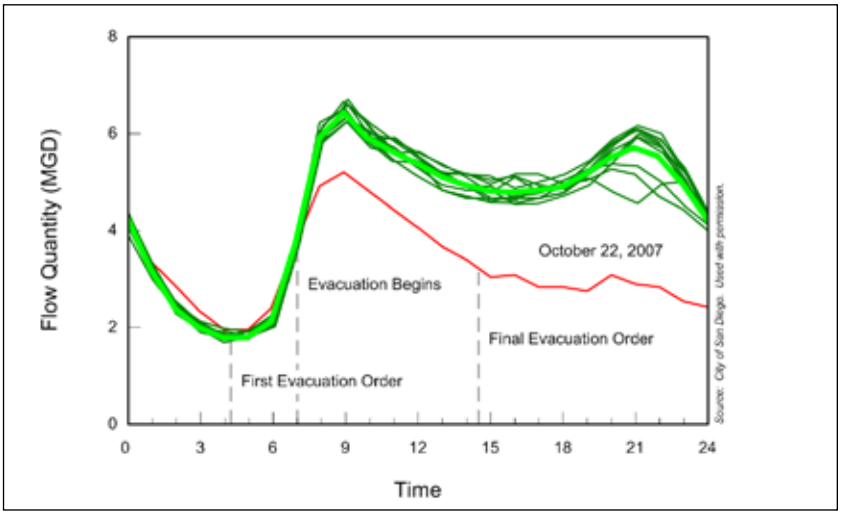


© 2008 Water Environment & Technology All rights reserved

Witch Creek Fire is shown in Figure 1 (p. 95). Note the decrease in sewer flows on Oct. 22, the day evacuation orders were first issued, and the return to normal a few days later as residents began to return home.

Sewer flows observed during the evacuation (red line) are compared to average sewer flows (green lines) in the composite hydrograph shown in Figure 2 (left). The first evacuation order was issued at 4:15 a.m., and sewer flows reveal that substantial evacuations were in progress by 7:00 a.m. A total of 88 homes were destroyed in Poway, and the wildfire claimed the lives of two residents north of the city.

Figure 2. Evacuations From Witch Creek Wildfire



Although sewer flows have returned to normal, life has not fully returned to normal for those directly affected by the wildfires. Our thoughts are with the residents of San Diego County as the recovery effort continues.

Kevin L. Enfinger *is senior project engineer, and* ***Patrick L. Stevens*** *is vice president of engineering at ADS Environmental Services, a division of ADS LLC (Huntsville, Ala.).*

© 2008 Water Environment & Technology All rights reserved