Honey, did you pay the water bill?

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sew´·ẽr sō·ci·ol´ō·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.*

Most sewer flows are characterized by repeatable diurnal patterns that vary across weekdays, weekends, and holidays. Differences in land use are also apparent, and distractions and disruptions of daily life can often be observed.

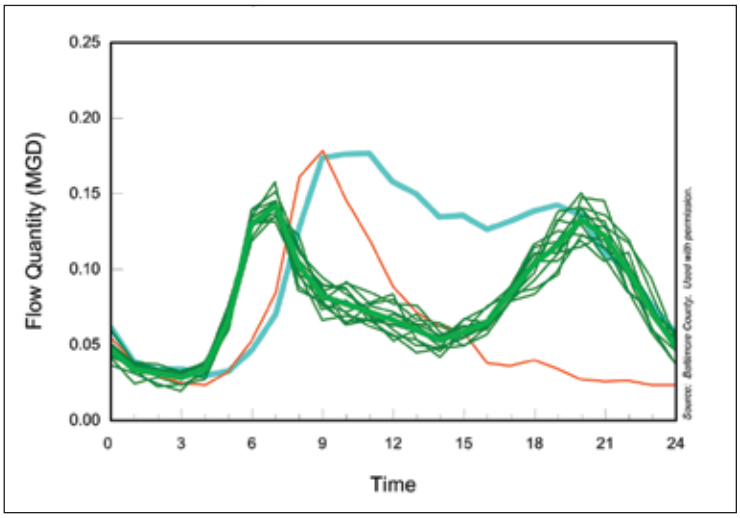
This month, we take a look at a water-main break and its interruption of daily life as seen through the eyes of a sewer. Bad things often happen at the worst time and in the worst place, and water-main breaks are no exception. During the wee hours of the morning on Saturday, March 6, 2010, a 900-mm (36-in.) water main ruptured in suburban Baltimore, leaving 100,000 customers without water. To complicate the matter, the break was located under a stream in a wooded area. Access was difficult, to say the least.

Baltimore city and county officials, along with several contractors, worked without stopping for 4 days to fix the break and restore service.

The figure (below) shows a composite hydrograph from a flow monitor located in one of the affected neighborhoods. Weekdays are shown in green, and weekends are shown in blue. The day of the water-main break is shown in red.

The break was reported first at 2:30 a.m., and this neighborhood lost water later that morning when nearby water tanks emptied and could not be replenished. Sewer flows plummeted soon after, showing how a disruption in one basic service can affect the use of another.

Impact of water main break on sewer use



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