Flushed fans

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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 also are apparent, and distractions and disruptions of daily life often can be observed.

This month, we take a look at the art of crowd estimation through the eyes of a sewer.

Unlike baseball and football, motorsports have notoriously guarded their attendance figures. Crowd estimates often are left to the best guess of the media. We thought *Sewer Sociology* might offer some insight and decided to take a closer look.

The figures below show composite hydrographs of sewer use from the Town of Speedway, Indiana – home of the Indianapolis Motor Speedway. Weekdays are shown in green, weekends are shown in blue, and two key race events are shown in red.

Based on sewer use data, the 2009 Brickyard 400 generated 3.0 million L (788,000 gal) of wastewater, and the 2010 Indianapolis 500 generated 3.4 million L (910,000 gal). Crowd estimates provided by the media were 180,000 and 300,000, respectively – resulting in per capita sewer use of 16.7 and 11.4 L (4.4 and 3.0 gal) per fan.

Based on experience with sewer use at other major sporting events, the per capita sewer use computed from the Indianapolis 500 crowd estimate seems the most reasonable, leaving us to question either the accuracy of the Brickyard 400 crowd estimate or the assumption of similar per capita sewer use between NASCAR and Indy fans.

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Sewer use patterns from various racing events