

**sew·ēr sō·ci·ōl·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.

## Big Flow on Campus

**M**ost sewer flows are characterized by repeatable diurnal patterns that vary among weekdays, weekends, and holidays. Variations are also observed when disasters and other major disruptions occur. This month, we examine the impact of college football on sewer flows.

In big-time college towns, football games are big-time events as students, alumni, and fans descend upon campus for a day of spirited festivities. Flow monitoring data from Tallahassee, Fla. — home to Florida State University (FSU) — pro-

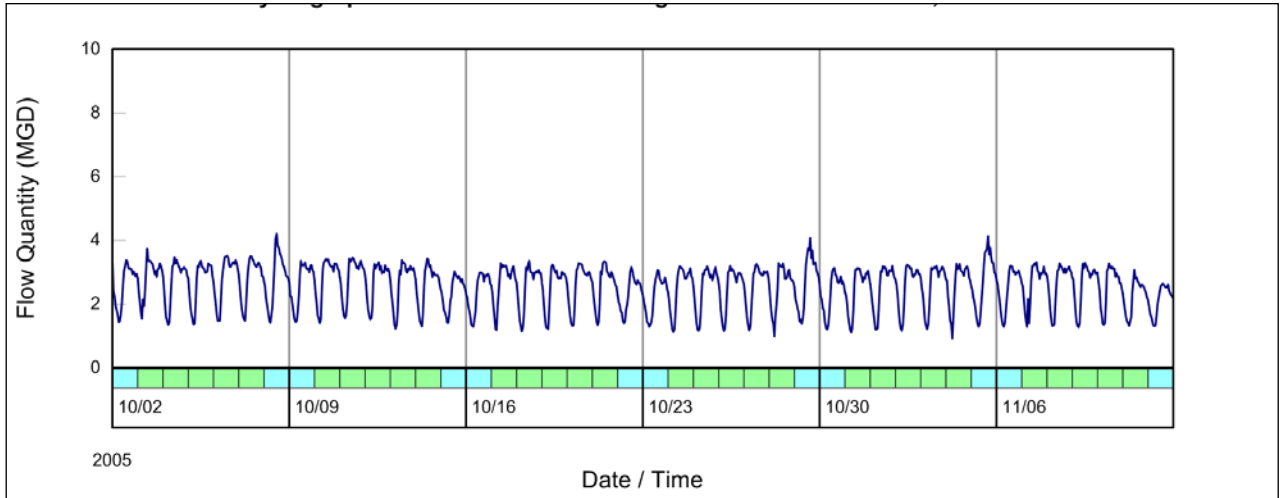
vide a glimpse into this world (see Figure 1, p. 104).

These data were obtained during a portion of the 2005 football season at a monitoring location downstream from the FSU campus. Flow rates at this location show a dramatic increase on three occasions that correspond to home football games against Wake Forest University (Winston-Salem, N.C.), University of Maryland (College Park), and North Carolina State University (Raleigh). The flow rates observed during these games are compared to average dry day flows on the composite hydro-

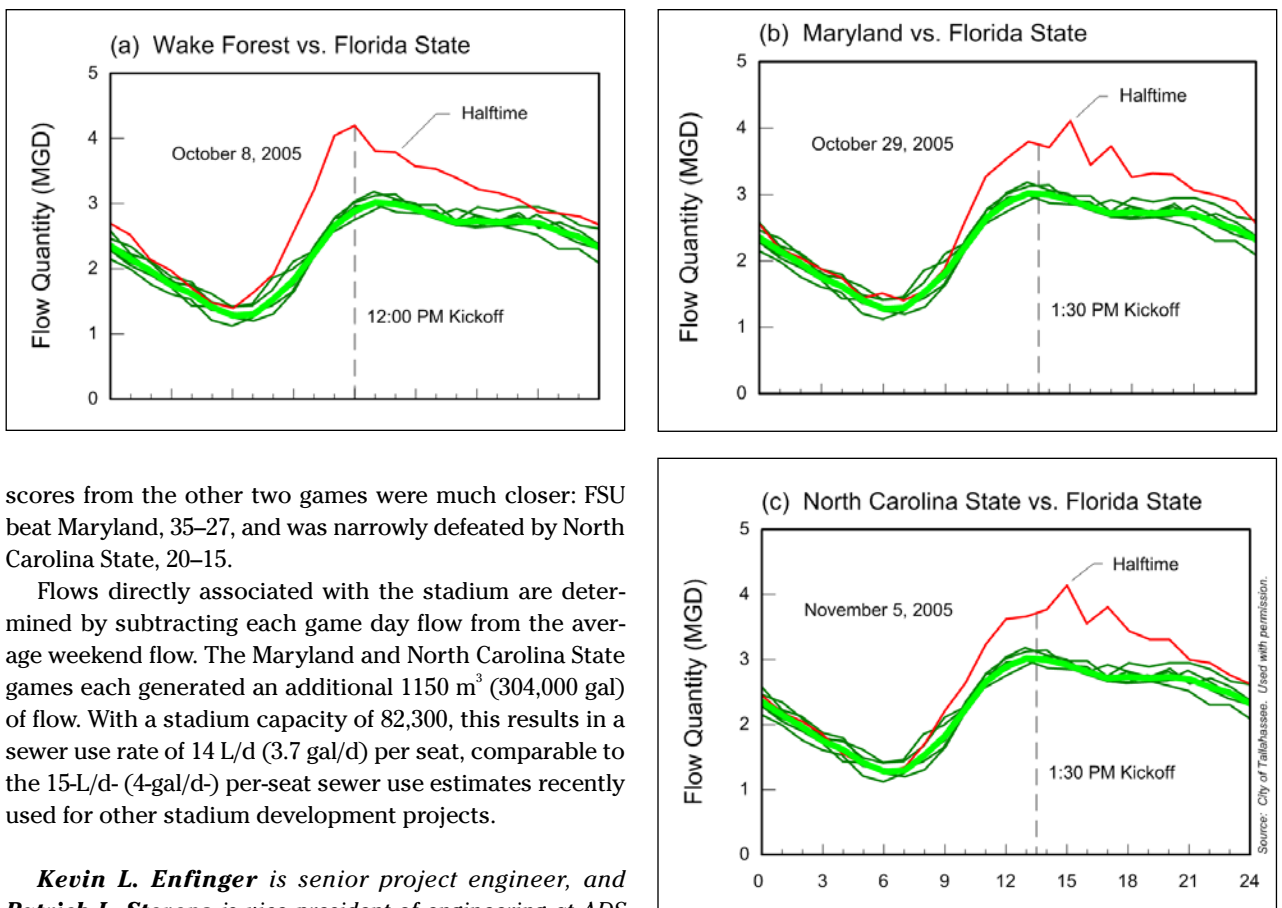
graphs shown in Figure 2 (p. 104).

All three games began in the early afternoon, and as expected, sewer flows began to increase a few hours prior to kickoff. During the Oct. 29 Maryland and Nov. 5 North Carolina State games, two distinct flow increases were observed that coincide with half-time and the end of the game. Note, however, that the same pattern was not observed during the Oct. 8 Wake Forest game, in which Wake Forest was routed by FSU, 41–24. The flow monitoring data reveal that fans began to depart the stadium early in the game. The final

**Figure 1. Hydrograph of Sewer Flow Monitoring Data From Tallahassee, Florida**



**Figure 2. College Football Games**



scores from the other two games were much closer: FSU beat Maryland, 35–27, and was narrowly defeated by North Carolina State, 20–15.

Flows directly associated with the stadium are determined by subtracting each game day flow from the average weekend flow. The Maryland and North Carolina State games each generated an additional 1150 m<sup>3</sup> (304,000 gal) of flow. With a stadium capacity of 82,300, this results in a sewer use rate of 14 L/d (3.7 gal/d) per seat, comparable to the 15-L/d- (4-gal/d-) per-seat sewer use estimates recently used for other stadium development projects.

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Source: City of Tallahassee. Used with permission.