

ENV Report 3 - *Physical Forces Study, Kampsville, Illinois Waterway* by Stephen T. Maynard and Sandra K. Martin (Knight)

ABSTRACT

A 1:25-scale model of the Illinois Waterway near Kampsville, IL, was used to determine tow-induced return velocity and drawdown. The model was adjusted to account for scale effects based on a comparison of physical model and prototype data from the Kampsville reach. Return velocity and drawdown were determined for various pool elevations, tow positions, vessel speeds, drafts, and direction relative to flow. The vertical profile of return velocity was shown to be uniform, except near the bed. Physical model and prototype data were compared to a numerical model.