**ENV Report 45 – *Decay of Tow-Induced Drawdown in Backwaters and Secondary Channels***
by Stephen Maynord.

**ABSTRACT**
Field data were collected on the decay of tow-induced drawdown along backwaters and compared to predictions from the UNET model. Drawdown from tows was measured along 10 backwaters on the Illinois Waterway. At the longest channel, Bath Chute, drawdown could be clearly detected at 11.6 km (7.2 miles) from the point of origin although the magnitude was significantly reduced. The UNET model predictions of drawdown ranged from 10 percent overprediction to 30 percent underprediction for all backwaters except Bath Chute. At Bath Chute, UNET predictions overpredicted drawdown by 40 percent or more, particularly at the three gages located about 7 miles above the mouth of the backwater where drawdown magnitude was about 0.015 m (0.05 ft). Drawdown for various probabilities of exceedance was determined for the entrances of backwaters and secondary channels used in the UMR-IWW study. Based on the data and model comparisons presented herein, the UNET model is appropriate for determining drawdown decay along backwaters.