Coliphages are potential indicators of human fecal contamination and enteric viruses in ambient water, but current detection methods may underestimate counts by overlooking effects of temperate phages that may reside within the cells of native bacteria. This study evaluated the contribution of temperate phages to male-specific and somatic coliphages numbers from diluted sewage detected by EPA Method 1602, the single agar layer plaque assay. Twenty-two parallel assays were run with and without induction using mitomycin-C or ultraviolet light as inducing agents. Ultraviolet light appeared to have toxic effects but coliphage counts of samples exposed to mitomycin-C were significantly higher ($p < 0.05$) than non-induced counts for both somatic and male-specific coliphages. The magnitude of difference between induced and non-induced counts tended to be small but could affect regulatory decisions for counts close to threshold values.