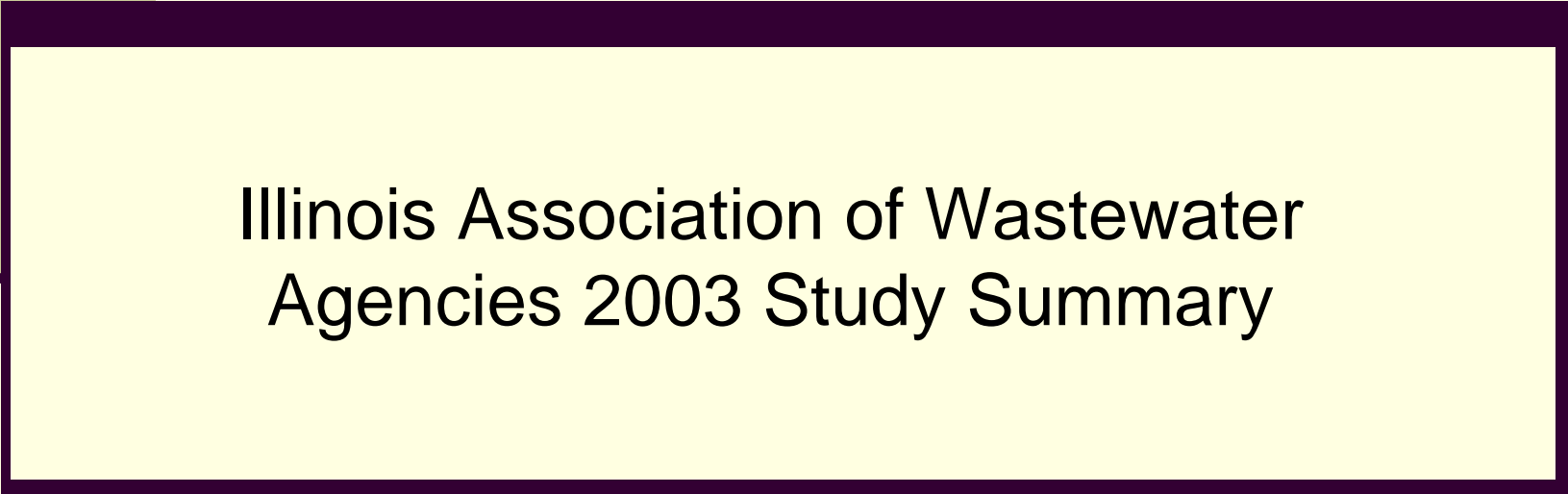




# POTW NUTRIENT REMOVAL IN ILLINOIS



Illinois Association of Wastewater  
Agencies 2003 Study Summary

# Scope of Study

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- 814 Treatment Plants
- 3,196 MGD
- 32 Million P.E.
- > 50% of Flow MWRDGC
- > 50% of Plants are Smaller Than 0.5 MGD (5000 P.E.)

# 2003 Technology Knowledge Base

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- Empirical Capital Cost Data Based on 1994 Study
- Operating Cost Based on 1994 Study, \$/gallon for Complete Treatment
- MWRDGC Developed Independent Capital Cost Estimates for 3 Largest Plants
- Data for P and N Removal to Technology Based Limit (0.5, 3), Not Separated

# Cost Methodology

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- Applied 1994 Empirical Cost Data to Illinois Plants in Different Size Categories
- Used Estimate of 50% Increase over 1994 Study Average \$/gallon Cost

# Overall Findings

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- Capital Cost Increase Estimated at \$5.3 Billion (1994 Dollars)
- O&M Cost Increase of \$500 Million / Yr (1994 Dollars)
- Capital Cost Ranges from \$74 - \$5,500 per PE, Avg of \$165 per PE
- O&M Cost Avg Increase of \$15/year/PE

# Current Technology Knowledge Base

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- Chesapeake Bay Experience – 2007 Data to be Presented at WEFTEC 2008
- Capital Costs Projected to be 5-10 X Those Estimated in 2003 IAWA Study (\$25 to \$50 B)
- O&M Increase of 50% Estimated at \$1.1 Billion/year (IAWA 2007 Survey Data)
- ENR CCI Up 50%, CPI Up 45% Since 1994

# Current Cost Ranges

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- For Small POTWs, >\$75,000 per household in Capital Cost
- For Largest POTWs, >\$2,500 per household in Capital Cost
- Average Cost >\$5,500 per household
- Annual O&M cost increase of \$70.00 per household
- ~\$50/month per household