



Escola de Camins

Escola Tècnica Superior d'Enginyeria de Camins, Canals i Ports
UPC BARCELONATECH

DISSERTATION

Title

**NATURAL SYSTEMS FOR WASTEWATER TREATMENT IN WARM CLIMATE
REGIONS (ANNEX I)**

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ANNEX I: Concentration values under normal conditions

| | n | Tank | | HUSB | | Vertical SSF | | Horizontal SSF | | FWS | | Overall (%) |
|--------------------------------|---|--------------------|---|--------------------|--------|-------------------|-------|------------------|-------|------------------|-------|--------------|
| | | Av ± s.d. | % | Av ± s.d. | % | Av ± s.d. | % | Av ± s.d. | % | Av ± s.d. | % | |
| COD (mg/l) | 7 | 226.24 ± 100.11 | - | 265.71 ± 144.50 | -17.44 | 173.20 ± 78.72 | 34.82 | 69.94 ± 24.92 | 64.51 | 62.43 ± 9.56 | 17.66 | 77.63 |
| BOD₅ (mg/l) | 5 | 154 ± 45.06 | - | 190 ± 70.71 | -23.38 | 35.25 ± 31.28 | 81.45 | 14 ± 5.89 | 64.68 | 8.8 ± 4.87 | 44.62 | 95.52 |
| TSS (mg/l) | 7 | 94.95 ± 40.65 | - | 175.98 ± 233.34 | -85.34 | 53.29 ± 41.01 | 69.72 | 16.31 ± 13.32 | 72.60 | 4.06 ± 2.14 | 78.08 | 96.63 |
| NH₄-N (mg/l) | 7 | 26.85 ± 10.72 | - | 37.25 ± 7.34 | -38.73 | 12.15 ± 9.08 | 67.38 | 6.53 ± 7.64 | 52.66 | 2.78 ± 3.27 | 57.41 | 90.82 |
| pH | 6 | 8.09 ± 0.36 | - | 7.65 ± 0.12 | - | 7.80 ± 0.23 | - | 7.48 ± 0.36 | - | 7.39 ± 0.10 | - | - |
| Eh (mV) | 6 | 47.20 ± 33.87 | - | -276.64 ± 10.92 | - | 58.62 ± 33.29 | - | 62.62 ± 35.50 | - | 37.94 ± 30.30 | - | - |
| DO (mg/l) | 6 | 4.06 ± 1.05 | - | 2.13 ± 0.92 | - | 2.95 ± 1.89 | - | 1.69 ± 2.63 | - | 2.51 ± 2.53 | - | - |

Table 1: Average concentrations (± s.d.) and removal efficiency (%) of water quality parameters in each stage of the treatment under normal conditions (800l/d)

