

**Draft: Deer Lake, Polk County
Endothall Concentration Monitoring Summary, 2013**

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Deer Lake has an area of 807 acres, a maximum depth of 46 ft, and a mean depth of 26.1 ft. On 28 May 2013, five areas totaling 32.4 acres were treated with a liquid formulation of endothall (Aquathol K) to control curly-leaf pondweed (*Potamogeton crispus*) (Figure 1). The Treatment Record reported water temperatures to be 56°F (13.3°C) at the time of treatment. The Wind was reported to be 5 mph from the south east. The wind was reported by www.wunderground.com to be 6 mph from the east, southeast.

Endothall was applied at a target concentration of 1500 ug/L (1.5 mg/L) active ingredient (ai). Endothall application rates are specified as active ingredient (ai) in the product label, while endothall chemical analysis is specified as acid equivalent (ae). A concentration of 1500 ug/L ai is equal to 1060 ug/L ae.

Water sample sites were established in treatment areas DEA (8.2 acres), DEC (4.6 acres), and DEE (4.7 acres) (Figure 2). An additional sample site (DE1) was located in an untreated area near site DEC.

Water samples were collected from each sample site using an integrated water sampler which collects water from the entire water column. Water samples were collected at intervals of approximately 1, 2, 4, 24 and 72 hours after treatment (HAT). Samples were taken to shore after completion of each sample interval, and 3 drops of muriatic acid were added to each sample bottle to fix the endothall and prevent degradation. Samples were then stored in a refrigerator, until shipped to the US Army Engineer Research and Development Center (ERDC) laboratory in Gainesville, FL for analysis of endothall.

Maximum endothall concentrations in water samples collected from treatment area DEA ranged from 1347 to 1673 ug/L ae for 0 to 4 HAT compared to the target concentration of 1060 ug/L ae (Figure 3). Endothall concentrations dropped to 127 ug/L ae by 24 HAT.

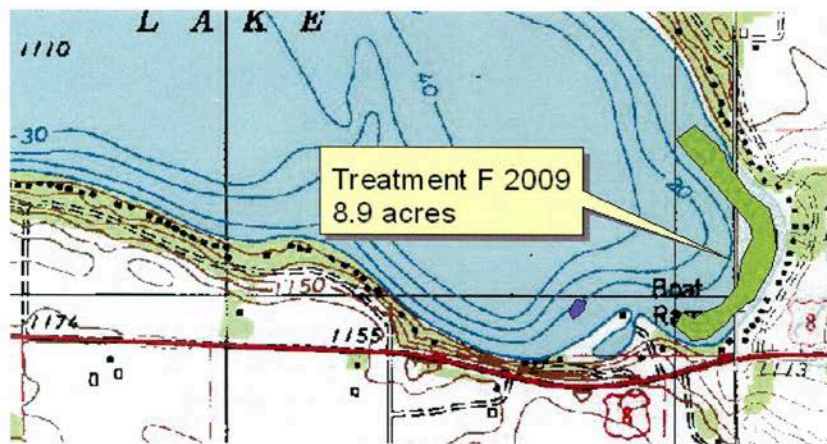
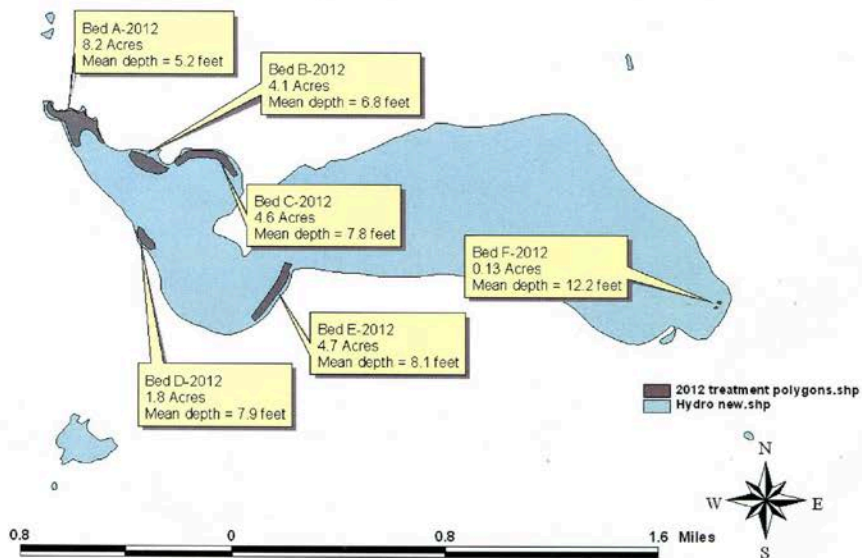
Maximum endothall concentrations in water samples collected from treatment area DEC ranged from 454 to 677 ug/L ae for 0 to 2 HAT compared to the target concentration of 1060 ug/L ae. Endothall concentrations dropped to 143 ug/L ae by 46 HAT.

Maximum endothall concentrations in water samples collected from treatment area DEE ranged from 218 to 466 ug/L ae for 0 to 2 HAT compared to the target concentration of 1060 ug/L ae. Endothall concentrations dropped to 141 ug/L ae by 4 HAT.

Maximum endothall concentrations in water samples collected from the untreated area DE1 ranged from 179 to 663 ug/L ae for 0 to 4 HAT compared to the target concentration of 1060 ug/L ae. Endothall concentrations dropped to 116 ug/L ae by 24 HAT.

Figure 1. Deer Lake 2013 Endothall Treatment Areas

Deer Lake 2012 Treatment Beds



Deer Lake Treatment Area F

Figure 2. Deer Lake 2013 Endothall Sample Sites



Figure 3

