**Proposed Large Scale Serenity Bay, Minong Flowage Rhodamine WT Treatment Plan**

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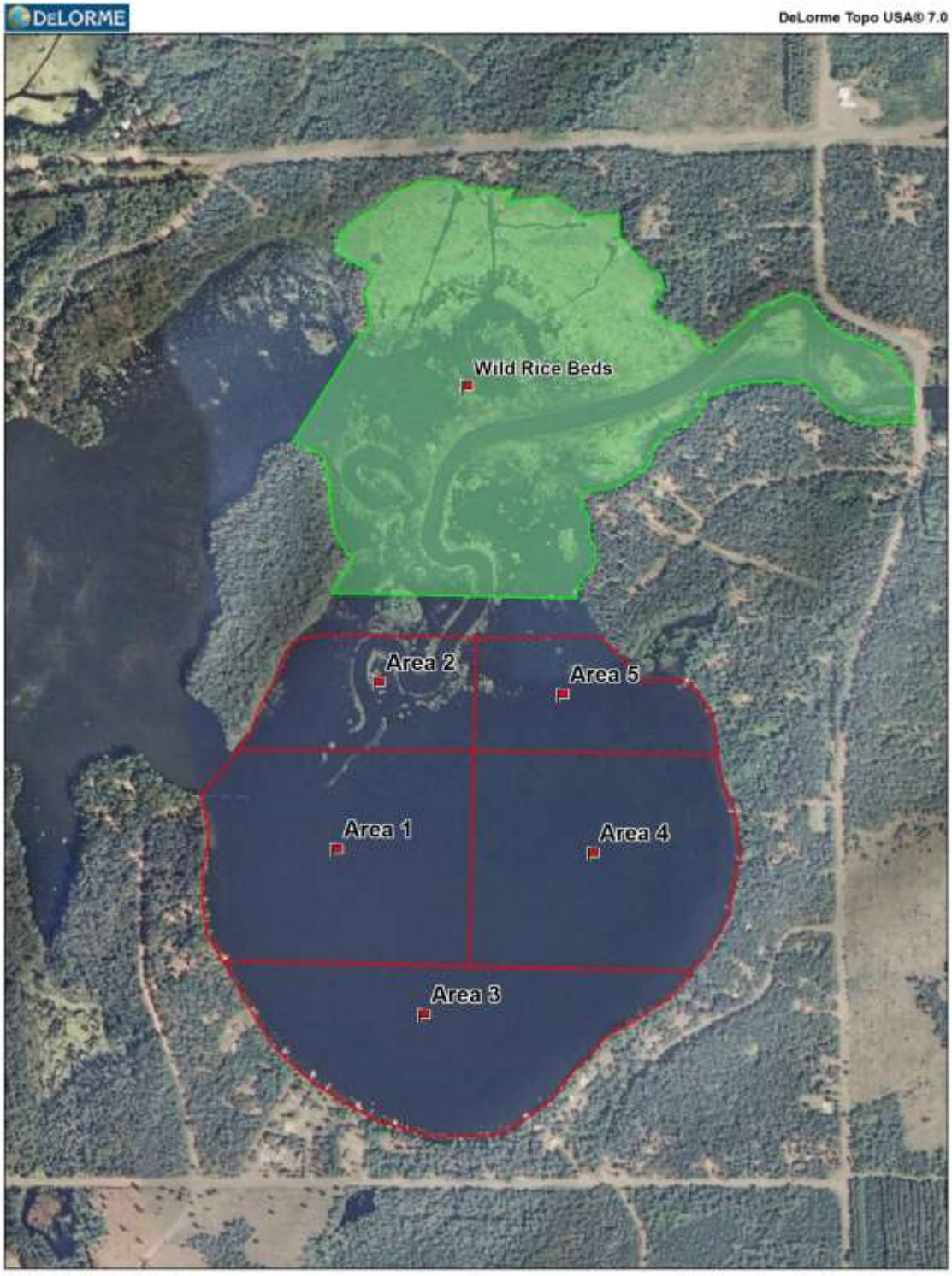
Rhodamine WT dye (dye) will be applied to a large area in Serenity Bay, Minong Flowage to simulate a large scale herbicide treatment to control Eurasian Water Milfoil (Figure 1). The purpose is to determine the most cost effective herbicide application rates and potential impacts to nearby wild rice beds. The proposed treatment area is divided into 5 application areas totaling 126.9 acres, which should be treated in the order that they are numbered. Dye will be applied at a concentration of 10 ppb (0.05 L/acre-ft) to each of the 5 areas (Table 1).

| Table 1. Minong, Large Scale Serenity Bay Dye Treatment: June 2015 | | | | | |
|---|---|---|---|---|---|
| Treatment | Treatment Area | Mean Depth | Treatment Volume | Dye Requirement | Dye Requirement |
| Site | acres | ft | acre-ft | liters | gallons |
| 1 | 33.7 | 6.5 | 219.1 | 11.0 | 2.9 |
| 2 | 14.3 | 5.0 | 71.5 | 3.6 | 0.9 |
| 3 | 31.6 | 6.5 | 205.4 | 10.3 | 2.7 |
| 4 | 33.3 | 6.5 | 216.5 | 10.8 | 2.9 |
| 5 | 14.0 | 5.0 | 70.0 | 3.5 | 0.9 |
| | | | | | |
| | 126.9 | | 782.4 | 39.1 | 10.3 |

Dye concentrations will be quantified using a Turner Designs Cyclops Rhodamine WT dye sensor and DataBank. A point intercept grid (140 m X 140 m) was developed to established dye sampling locations (Figure 2). Dye concentrations will initially be measured in treatment areas and then extended into non target areas depending on the direction of dye movement. Dye concentrations will be measured at appropriate time intervals until dye concentrations are less than 1 ppb. Background fluorescence was approximately 0.75 to 0.9 ppb in previous dye studies conducted in the area.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Wild Rice Beds
Area 2
Area 5
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MN (1.2° W)
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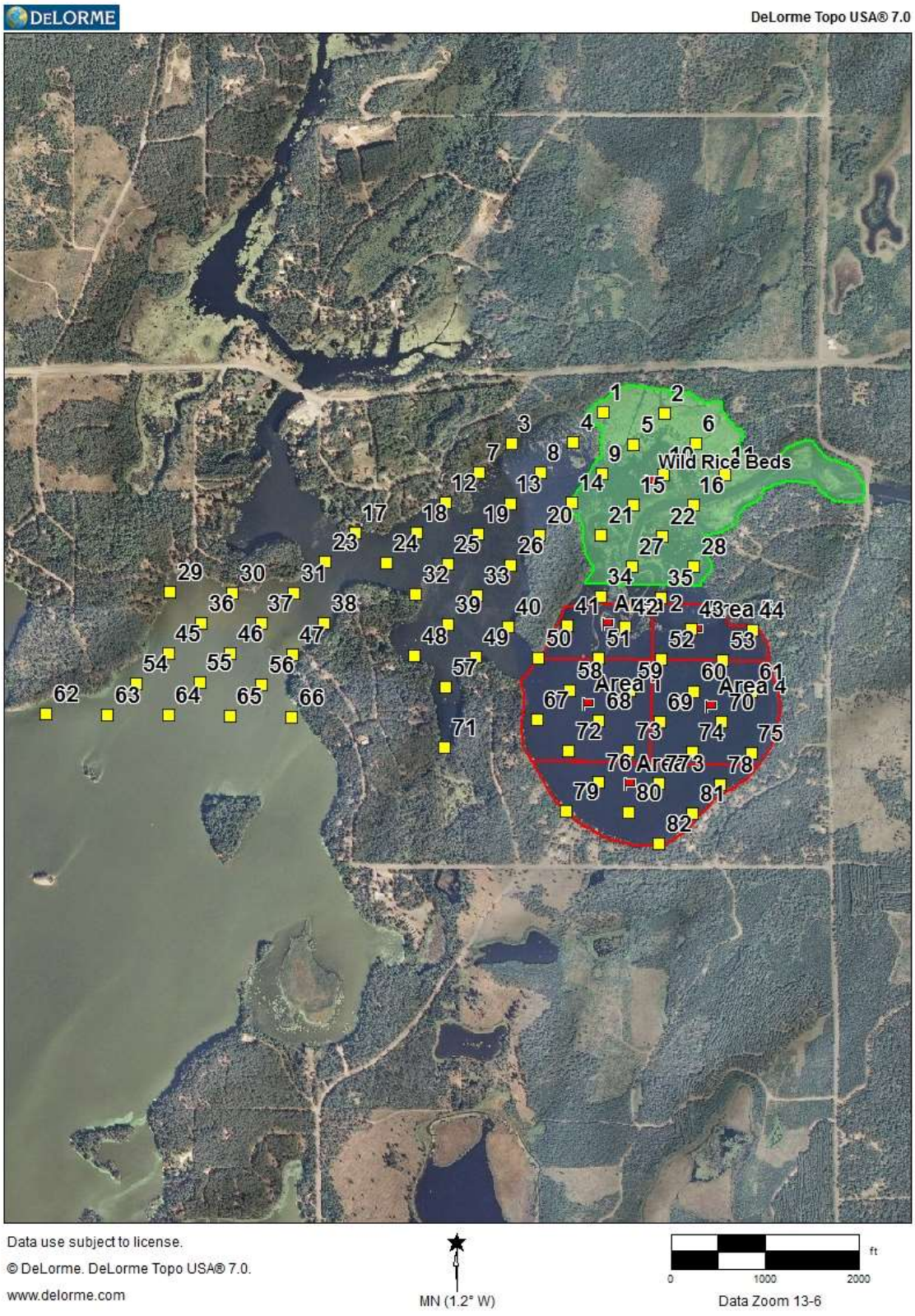


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