Monitoring and Water Testing

The entire treatment is monitored with the use of Global Positioning System (GPS) technology. Each application vessel is equipped with two GPS devices. By using two GPS devices, the applicator is able to monitor their progress within the treatment area from multiple perspectives. In addition, using two devices insures that no loss of data will occur.

GPS tracks are downloaded to ArcView 10.2.1 at the end of each treatment day. Tracks are analyzed for thoroughness of the treatment and are available for review by the Project Manager.

When required by permit, or at the request of the appointed project manager, water samples are collected and tested for herbicide residues. This activity is planned based on the distribution of treatment areas around the water body.

Dissolved oxygen (DO) is necessary for life in a water body. Dissolved oxygen is the concentration of oxygen dissolved in water, expressed in milligrams per liter (mg/l)‡. Dissolved oxygen gets into the water by diffusion from the atmosphere, aeration of the water as it tumbles over falls and rapids, and as a waste product of photosynthesis. Dissolved oxygen levels can range from 0 mg/l to a maximum of 18 mg/l.

Large daily fluctuations in DO are characteristic of bodies of water with lots of plant growth; DO levels rise from morning through the afternoon as a result of photosynthesis, reaching a peak in late afternoon. Photosynthesis stops at night, but plants and animals continue to respire and consume oxygen. As a result, DO levels fall to a low point just before dawn. Dissolved oxygen levels may dip below 4 mg/l in such waters - the minimum amount needed to sustain warm water fish like bluegill, bass, and pike†.

‡from www.biologyonline.org/dictionary

†from http://www.water-research.net/Watershed/dissolvedoxygen.htm