



## Sonar A.S. Information:

### **What is Sonar A.S. and How Does it work?**

Sonar A.S. (chemical name fluridone) is an aquatic herbicide used to control a variety of target weed species. It is unique in that it is applied on a whole lake basis and achieves lake wide/uniform control. It works by inhibiting the plants ability to produce carotenoid pigments which protect the “food” producing pigment chlorophyll from direct sunlight. As the chlorophyll breaks down from direct sunlight (photodegradation), the plants ability to produce carbohydrates is diminished. The plant will utilize carbohydrate reserves in the root system and eventually deplete those reserves. Once exhausted, the plant can no longer sustain itself and dies.

In Michigan, we are allowed to use Sonar at a 6 ppb concentration which is a low, selective rate for the exotic weed species Eurasian watermilfoil. Treatments consist of an initial treatment and a “bump up” treatment (~17-21 days after the initial). The product then acts on the plants over a 45-60 day period.

### **When will it be applied?**

Since Sonar is a slow acting herbicide, it is best to apply it early in the season (late April). However, we must wait until the lake is thermally stratified (warmer water on top of colder water) before the application can occur. Since plants typically grow in the 0-15’ depths, we only try to bring the concentration of the “upper” waters to 6 ppb. This is the protocol required by MDEQ (State permitting agency). If product is added too early, it may become diluted and target concentrations would not be achieved. The lake will be checked prior to treatment to make sure it is stratified. Ultimately it is up to mother nature.

### **What restrictions will be imposed?**

Sonar has a 30 day restriction on irrigation (lawns, ornamental plants, and crops) and livestock watering. It has a one day restriction on swimming (day of treatment). The thirty day restriction will be imposed on the date of the initial treatment and the bump up treatment. There is no restriction on fishing or fish consumption.

It is important to note that Sonar is applied at a low concentration of 6 ppb. Once levels drop below 5 ppb, then the restriction is lifted for irrigation. Since concentration monitoring is required, it is likely that we can lift the restriction if lake-wide average concentration falls below 5 ppb. It is fine to start up your irrigation system during this period but do not advise routine watering during this period.

**How will Sonar affect other weeds?**

The 6 ppb rate allowed in Michigan is a selective rate for Eurasian watermilfoil and Curlyleaf pondweed. Most native species are tolerant to this rate. Sonar does “stunt” some native species the year of treatment but does not kill them. Typically these impacts are only seen in early growing species. By early summer, concentrations have dropped to levels where there are no impacts on native species.

**How will Sonar affect fishing?**

Sonar will have no direct impacts on fishing.

**What should you see after treatment and how long before control is achieved?**

Control is usually achieved over a 45-60 day period. Visual impacts to plants are typically seen three weeks after treatment. Initial impacts consist of a whitening of the stem tissue as a result of chlorophyll breakdown. Later, it is common to see drooping of the upper portions of the plant and partial defoliation. It is not uncommon to see the plants develop a light coating of algae as they finally begin to die off. Eventually they will collapse and fall to the bottom where they will break down.