



## UI Extension Forestry Information Series

### Open Water for Winter Wildlife

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If you have a pond, lake, or other wetland that is at least 6 feet deep during the winter months, you can prevent the water from freezing with benefits to some wildlife species. The water at the bottom of a pond is warmer than the top layer that freezes. If you place a weighted plastic tube in the deepest section of the pond attached to an air pump, the air bubbles released at the bottom will carry warmer water to the top and help prevent freezing. The aerator will keep a large area open with temperatures down to 20 degrees Fahrenheit. When temperatures are near zero or below, the open hole will be very small, but still of some benefit.

An aerator to prevent freezing will benefit fish, birds, and some mammals. When ponds freeze and are covered with snow, sunlight cannot penetrate through this barrier. Without sunlight, aquatic plants die and the process of decaying vegetation uses oxygen. Many fish are sensitive to low oxygen levels, which cause a phenomenon known as “winter kill.” Many wildlife species need water during winter, which can be in short supply during periods of freezing weather. If your pond has little disturbance from people, dogs, etc., many species including waterfowl, upland game birds, and small mammals will learn to use the open water source, especially if there is nearby escape cover and a source of food (I feed wheat screenings). Some species such as Canada geese and Mallard ducks will stay on such ponds all winter in regions where they are normally forced to migrate south.

If you buy an electric air pump, ask your pump dealer for a high-volume, low-pressure, continuous-run pump. A good one will cost several hundred dollars; mine has operated trouble free for over 10 years. If you do not have a source of electricity, there are

several types of non-electric aeration systems available, but they do not work as well. One type operates on a “wind-mill” system, and only functions well with consistent wind. This type also has the disadvantage of creating a disturbance factor for wildlife, i.e., the structure and above-water movement will discourage some species. A second type operates from a submerged propane-gas tank. This system does not create any disturbance, but the bubbling action is weak and submersing the tank requires substantial set-up effort. In general, I do not recommend the non-electric aerators. Over the long term it is best to establish a remote electric outlet.

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