

# Winter Pond FAQs

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**faq**

## **Why is it important to keep an area of the pond free of ice?**

Having an area free of ice is crucial for koi ponds or ponds with fish to allow proper gas exchange. A pond is essentially dormant during cold winter months when biological activity is at a minimum. However, this does not mean there is no biological activity. Fish respiration and metabolic processes still occur, steadily releasing waste products while using up oxygen. Without an opening in the ice, not only do harmful gasses such as carbon dioxide remain trapped under the ice but also the supply of dissolved oxygen steadily decreases. If this condition is to progress and oxygen is

not replenished, the fish are unable to survive the toxic environment and fall victim to what is commonly referred to as "Winter Kill."

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## **faq** What is the best way to provide an opening on the pond surface?

There are several ways of maintaining an opening on the frozen pond's surface. However, never use physical force to break an opening in the ice. Fish are very sensitive to vibrations and hitting the ice can stun or severely injure fish. Thermostatically controlled de-icers are the ideal method. They are easy to use, energy-efficient, and maintain an opening in the ice, even in below zero temperatures. Keep in mind that de-icers are not water heaters and are not designed to raise the water temperature of the entire pond. They are designed to maintain an opening in the ice to allow proper gas exchange.

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## **faq** How large an area do I need to keep open?

Even a small hole will support oxygen and gas exchange. You do not need, nor should you expect, to keep large areas of your pond open in frigid northern zones.

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## **faq** I've placed a de-icer in my pond, but it isn't keeping the ice open. What can I do?

When using a de-icer, you must keep in mind that heat loss during the winter is very rapid, so the heat your de-icer is producing will disperse quickly. Place your de-icer near the shallowest part of your pond. To minimize heat loss to the air, you can also block the wind directly around and over the unit. Some pond owners place a sheet of plywood directly over a small corner of their pond where they've placed a de-icer to maximize its efficiency.

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## **faq** Will my de-icer raise the temperature of the water?

De-icers are not designed to raise water temperature; they are designed only to allow a small opening in the ice. Pond de-icers are not designed to heat the entire water volume of the pond.

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## **faq** Can I use an aerator to keep my ice open?

Yes, an aeration system is an effective way to keep water open in the winter. It agitates the surface to keep a small opening in the ice, similar to the way water moving over a dam keeps from freezing. It's important to house the air pump in an insulated box outside the pond, so that it uses dryer, somewhat warmer air than the outside air. You'll want to avoid moisture condensation in the airline tubing - this could cause the airline to freeze, which would plug the bubbler. It's also important to avoid placing the bubbler on the bottom of the pond, so it won't stir up any sediment or rapidly cool overall pond water temperature by mixing colder and warmer water layers. Place the bubbler (diffuser) near the pond water surface at the edge or shallowest part of your pond.

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## faq **How can I keep my pond open if I lose power in a winter storm?**

A generator can be used to provide power in the event of an outage. You can also use a [battery back-up system](#) to operate your pond equipment.

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## faq **Why is it important to measure water temperature instead of air temperature?**

[Measuring water temperature](#) is the most accurate way to determine when to change diet, stop feeding, and start feeding your koi again. After a long winter, many pond owners are anxious to feed their koi again. On the first warm day of spring, the air temperature may read above 50°F but the water temperature will still be much cooler. Be sure to measure water temperatures several times a day to get an accurate reading. If the average water temperature is above 50°F for several consecutive days, then you can start feeding [easy-to-digest wheat germ pellets](#).

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## faq **Won't the freezing temperature kill all the beneficial bacteria in my pond?**

No. Though the colder winter water temperatures may slightly reduce the population of beneficial bacteria and slow their biological activity, the majority will survive the winter. In fact, nitrifying bacteria continue to process organic material throughout the winter and [seasonal or cold water bacterial formulations](#) remain active in cold water. By adding [bacterial additives](#) during autumn, the population of beneficial bacteria is fortified and conditions the pond for the coming spring.

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## faq **What can I do to prepare my pond for spring?**

One of the most important things you can do to prepare for spring is to observe and monitor your pond during winter. Make sure there's an opening on the pond's surface for proper gas exchange. Keeping debris from decaying will help prevent algae blooms in the spring when water warms. Winter is also the ideal time to plan for any [renovations or improvements](#). Consider installing a new [water fountain](#) or additional [lighting for your pond](#). Design a new planting scheme to make your pond appear more natural. Planning for next spring may allow you to enjoy your pond even in the dead of winter.

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