

Rebecca Konopka
Carter County Extension Office

Pond Turnover Could Be Why the Fish in Your Pond are Dying

Each summer through the early fall, we get questions from landowners searching for reasons why fish are dying in their ponds. Pond turnover is often the answer.

During the summer months, water can become stagnant and stratify, which means it separates into distinct layers of cool and warm water. This occurs because the sun only penetrates the water closest to the surface. Since the sun is unable to penetrate to the water at deeper depths, that water stays cooler. These waters will start to mix when cooler air temperatures begin to arrive and cool the surface water. Heavy rains or strong winds can mix pond water too. This mixing process is called pond turnover.

When the water from the lower depths of the pond reaches the surface, it may not be as oxygenated as the previous surface water. This is because water in the bottom of the pond may have a higher organic matter content and fewer oxygen producing plants. Fish need dissolved oxygen to live. This water may also contain gases, such as hydrogen sulfide, which are toxic to fish. When turnover occurs, it can cause an algal bloom die-off, a fish kill due to low dissolved oxygen or both.

Turnover usually only occurs during the warmer months of the year. Late fall, winter and early spring typically have lower surface water temperatures, and wind and rain help pond waters stay well mixed and maintain a more uniform temperature.

People will build commercial fish production ponds at shallower depths to prevent pond turnover. For existing ponds, the only way to prevent turnover is to install a system that mechanically aerates or mixes the pond and circulates the water from spring through fall. However, these systems are often expensive.

If you have dead fish in your pond, you can allow the fish to decompose in the water. You can also remove and discard the fish, but they may smell far more pungent on land than in the water.

More information on pond management is available at the Carter County office of the University of Kentucky Cooperative Extension Service or by contacting the Division of Aquaculture at Kentucky State University. Educational programs of the Cooperative Extension Service serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin,

creed, religion, political belief, sex, sexual orientation, gender identity, gender expressions, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability.

Upcoming Events:

- The **Grayson Farmer's Market** is open on Saturdays from 9:00 AM until noon and on Thursdays from 2:00-6:00 PM. The market is located in the shed behind the Extension Office. The **Olive Hill Farmer's Market** is located in the Save-a-Lot parking lot and is open on Saturdays and Wednesdays at 8:00 AM and Mondays at 3:00 PM until sell out each day. There will be a pop-up market on the first Tuesday of the month in the Friendship & Chapel House parking lot from 6:00-8:00 PM.
- **Hike & Learn** – Friday, August 2nd at 9:00 AM – Grayson Lake State Park Lick Falls Overlook Trail
- **Little Sandy Beekeepers Meeting** – Tuesday, August 6th at 6:30 PM- Speaker: Chris Palmer, Dadant Manager; Topic: Varroa Mite Control & Preparing for Winter
- **Carter County Extension Council & District Board Meetings** – Tuesday, August 13th @ 10:00 AM – The District Board will meet immediately following the conclusion of the CEC meeting.