



# PLAY

Winter  
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Pennsylvania • League • of • Angling • Youth

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## WHERE DO THEY GO IN WINTER?

Most of us know how groundhogs spend the winter. They find a cozy den and go into **hibernation**. What about the critters under the Pennsylvania Fish & Boat Commission's jurisdiction? How do reptiles, amphibians and fish survive the winter? Snakes, turtles, frogs, toads and fish are often called "cold-blooded," but the technical term is ectothermic. Humans are **endotherms** and burn much energy to keep their body heat within a narrow range. We sweat when it is hot and shiver when it is cold. **Ectotherms** do not do these things and use less energy since they can function in a much wider range of temperatures. They have physical or behavioral adaptations that allow them to survive these extremes. Let's explore how these animals survive the cold winter months.



## VOCABULARY

(Watch for these words!)

- **Ectotherms** - also known as cold-blooded, body temperature varies with the environment
- **Endotherms** - also known as warm-blooded, metabolism used to maintain body temperature
- **Freeze tolerant** - species that can survive freezing
- **Freezing point** - the temperature at which a liquid freezes. The freezing point of water is 32-degrees F (0-degrees C).
- **Frost line** - maximum depth of ground where the soil freezes in the winter
- **Hibernaculum** - place where an animal hibernates during the winter
- **Hibernation** - the practice of certain animals to remain dormant (or inactive) throughout the winter, metabolism slows down
- **Hypothermia** - lowering of body temperature
- **Metabolism** - the processes occurring within an organism that are necessary for life (some substances are broken down or converted to energy)