

## What is an ice house? Bob Cornes explains

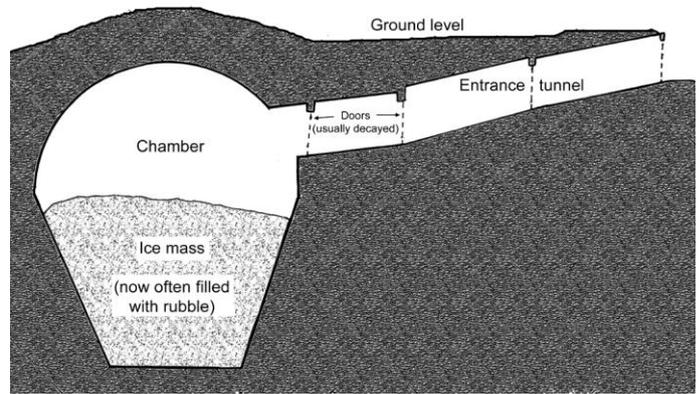
Before modern refrigeration technology was developed, having ice in summer was a privilege of the wealthy. Those who could afford it were willing to pay for the luxury of iced desserts and chilled drinks on hot summer days. But where could they get ice from? The secret of transporting and storing ice is to operate on a large scale, because a large and well-insulated mass of ice takes a very long time to melt even in hot weather. The eighteenth and nineteenth century equivalent of a freezer was a much larger structure an ice house.

An ice house could hold a large quantity of ice (perhaps twenty tonnes or more) in an underground chamber. Such chambers were dug into the ground, often on the side of a hill. They were frequently constructed of brick (up to four layers with cavities between) with a mound of soil heaped over the top. Access was provided by tunnels with a series of doors, and sometimes by trapdoors in the roof. When possible, the whole structure was built near a large pond or other mid-winter source of ice. Near seaports, ice houses were sometimes filled with ice shipped in from the Arctic. In the days of cheap human labour, gardeners and estate workers could be set to work as a team to carry out the strenuous task of cutting ice and transporting it to the ice house, to be packed into the chamber with insulating layers of straw. A well constructed ice house with good insulation and a suitable designed entrance tunnel could remain cold until the following winter, providing a regular supply of ice throughout the summer months

### Structure of a typical ice house

More than a dozen ice houses still exist in Bedfordshire, in varying states of disintegration; some converted to new uses such as storage of fruit while others are filled with rubbish and neglected, hidden in wooded dells and rarely-visited corners of old estates. By virtue of their design and, in many cases, of a high standard of construction, they remain cold, damp and dark during the winter. Which brings us (finally) to bats.

In winter, British bats need a dark, sheltered place at a constant 1 to 6°C and with a high humidity. There they can hibernate, allowing their bodies to cool to ambient temperatures, with their metabolism ticking over at the lowest possible rate to conserve their limited store of fat until spring when insects once



again provide them with a source of food. These are exactly the conditions that a good ice house can provide and, in the absence of natural caves, bats are likely to take advantage of the opportunity.



Photo Bob Cornes

And so we find them, tucked into crevices in the brickwork, hanging in ones and twos behind lintels or in cracked walls. Daubenton's Bats hook their large curved toes around flakes of brick, Brown Long-Eared Bats tuck their enormous ears under their wings and squeeze into narrow slits between bricks, and Natterer's Bats and the occasional Barbastelle hide themselves away in holes and cavities, all passive save for infrequent arousals until their insect prey is once again available.

Hibernating bat surveys in Bedfordshire include six ice houses as well as a range of other underground sites. Numbers of bats in the ice houses are never large, but it remains a fascinating experience to glimpse an inert but still living bat sheltering in a relic of an unfamiliar age. The past, as we know, is a foreign country, but perhaps the bats don't always do things differently there.

*Our favourite question ever about ice houses. "Where did they get the ice to fill it up? They didn't have fridges then"*

*NB This really was a genuine question*