

Complex Bat Gates

A gate built years ago to protect the bats of Bat Cave in Oregon County, Missouri, turned out to be more a problem than a solution. The original gate, designed with now-outdated information, was placed deep in the cave where the passageway shrinks sharply, creating a bottleneck so severe that the bats virtually abandoned the site. The problem was solved, to some extent, by keeping the gate's doorway locked open, and by last summer more than 100,000 bats were counted, making this the state's largest summer colony of endangered gray myotis.

But the area around this important cave in the Mark Twain National Forest is partially surrounded by private land and crisscrossed with trails for all-terrain vehicles, putting the cave bats at great risk of human disturbance. Now, however, the old gate is gone. And in its place are a pair of unusually complex gates at that really are bat friendly.

This challenging project was accomplished through a partnership with the U. S. Forest Service, which provided core funding, manpower and vehicles; the not-for-profit Cave Research Foundation (CRF), which served as project manager and provided the steel, tools and other equipment; and Bat Conservation International, which dispatched BCI cave specialist Jim Kennedy to design the gates and oversee construction.



BatGate.jpg: The 'chute gate' built to protect the bats of Bat Cave in Oregon County, Missouri. Â© Jim Kennedy, BCI

This is one of the most biologically important caves on the sprawling national forest. In addition to the critical colony of gray myotis, it is also home to other bat species, as well as frogs, salamanders, spiders, beetles, crickets and leeches. Special gates were required because summer colonies leave a cave each night to forage, and a basic bat gate could cause a massive traffic jam with so many bats.

"This was the most difficult cave-gate project I have ever done," said Kennedy. "The entrances were high on a cliff, so access was very difficult. The steep slope, the entrance dimensions, the cultural sensitivity and the design that was necessary for such a large summer colony combined to create problems that are rarely encountered."

After year and a half of planning, Kennedy and the Forest Service/CRF crew, reinforced by nine AmeriCorps members, went to work in October. All materials and equipment were hauled up to the cave with a winch along a well-anchored steel cable.

One structure was a "flyover gate," which leaves an opening high at the top that lets bats come and go. The other was an extremely difficult "chute gate." These rarely built gates feature a large, tube-like vent through which even very large numbers of bats can move freely in either direction. Kennedy learned to design such gates from master-gater Roy Powers, with whom he has worked off and on since the mid-1980s.

Both gates were completed ahead of schedule in just 1½ weeks. The equipment was hauled off, the old gate removed, trails and other signs of construction were returned to a natural state and the weary workers went home. Now we all wait until next summer, to see what the bats think about our efforts.

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