DECORAH IMPACT CRATER IMPACT STUDIES

The Decorah Crater is 3.5 miles across. The meteor that created the Decorah Crater would have been about 660 ft wide, which is roughly the length of two football fields. Extraterrestrial objects of this size are estimated to collide with Earth roughly once per 10,000 years on average, but most impact craters are erased from the Earth's surface by erosional processes.

The Decorah Crater was preserved because after the impact, the area was flooded by a shallow inland sea, and the crater was filled with sediments. Later, additional sediments were deposited across the whole area, creating the limestones, shales, and sandstones seen around the region today.

The State of Iowa is also home to another well-known impact crater, the Manson Crater in north-central Iowa's Calhoun County. This much-larger crater (22 miles across) was created around 74 million years ago, compared to 465 million years ago like the Decorah Crater, and was once thought to be formed by the impact responsible for the mass extinction of the dinosaurs. However, this distinction belongs to the Chicxulub Crater in the Yucatan Peninsula, which is an incredible 93 miles across and was formed by an meteor that was 6 to 9 miles in diameter.



Chicxulub Crater Decorah Crater 465 million years (Yucatan) 66 million years ago ago CRATER COMPARISONS The size of the Decorah Manson Crater Crater is compared, to scale, (lowa) with Iowa's Manson Crater 74 million years ago and the Chicxulub Crater, from the impact event that caused the dinosaur extinction.



The meteor impact that formed Chicxulub Crater is estimated to have caused the extinction of 80% of all living species, but the effects of the Decorah impact would have been more localized.

Instead of causing widespread extinction, the Decorah impact might actually have helped to encourage the diversification of life during the Ordovician Period. An unusual number of extraterrestrial impacts, including the Decorah impact, occurred during the Ordovician, most likely caused by the break-up of a large object in the asteroid belt at that time. Some scientists have suggested that the frequent but small scale disruptions caused by these impacts may be an explanation for life's accelerated diversification during an interval known as the Great Ordovician Biodiversification Event.



THE GREAT ORDOVICIAN BIODIVERSIFICATION EVENT RENDERING

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