The Catholic mission to Idaho's Coeur d'Alene Indians began with services that Jesuit Father Nicolas Point conducted on December 2, 1842, on the north shore of Lake Coeur d'Alene where the modern city of Coeur d'Alene is located. Point had been living with a band of Coeur d'Alene since November 4, and he based the mission at their winter camp where the Spokane River flows out of the lake. When spring came, he established the mission at a site on a river he named after St. Joseph, northwest of modern St. Mary's. By 1844 a hundred converts were assembled at the mission, which likely at first was also named for St. Joseph.

Because the riverside location was subject to flooding, the mission was moved in 1846 to a site selected by Father Joseph Joset above the Coeur d'Alene River west of later Cataldo. A temporary chapel and three log cabins housed the renamed Mission of the Sacred Heart until a large permanent mission church, designed in 1848 and under construction until 1855, could be completed. By that time, hundreds of Indians had settled at the mission and a dozen of their families lived in log cabins. A large barn, a flour mill, a dairy, and two hundred acres of cultivated farmland supported mission activities.

Anthony Ravalli, a Jesuit missionary from Ferrara, Italy, who had studied mathematics and science as well as theology and philosophy, had experience in both a mechanic's shop and an artist's studio. With skilled Coeur d'Alene craftsmen who used broadaxes, a whipsaw they had to make from local materials, augers, and ropes and pulleys from European sources, Ravalli managed to construct a spectacular church overlooking the Coeur d'Alene Valley. The structure depends upon heavy timber frames and braces, the intervening spaces filled with local forms of plaster, grass, and mud. Ravalli was building a European mission church to serve Idaho Indians who had not even come under United States jurisdiction until the mission moved to its new site in 1846, and he used Italian designs that reflected nineteenth-century styles in his native country. Such designs also became popular in United States architecture. His building—now Idaho's oldest surviving structure—made a great impression upon anyone who came by. It is still an imposing monument, maintained for the Coeur d'Alene people as an Idaho state park.

After three decades of operation at the site near Cataldo, a new location for the Coeur d'Alene Mission of the Sacred Heart was developed farther west, within the bounds of the Coeur d'Alene Reservation at Desmet, in 1877. But a pilgrimage by the Coeur d'Alenes to the old mission church and religious services are still conducted each August 15, on the Feast of the Assumption.