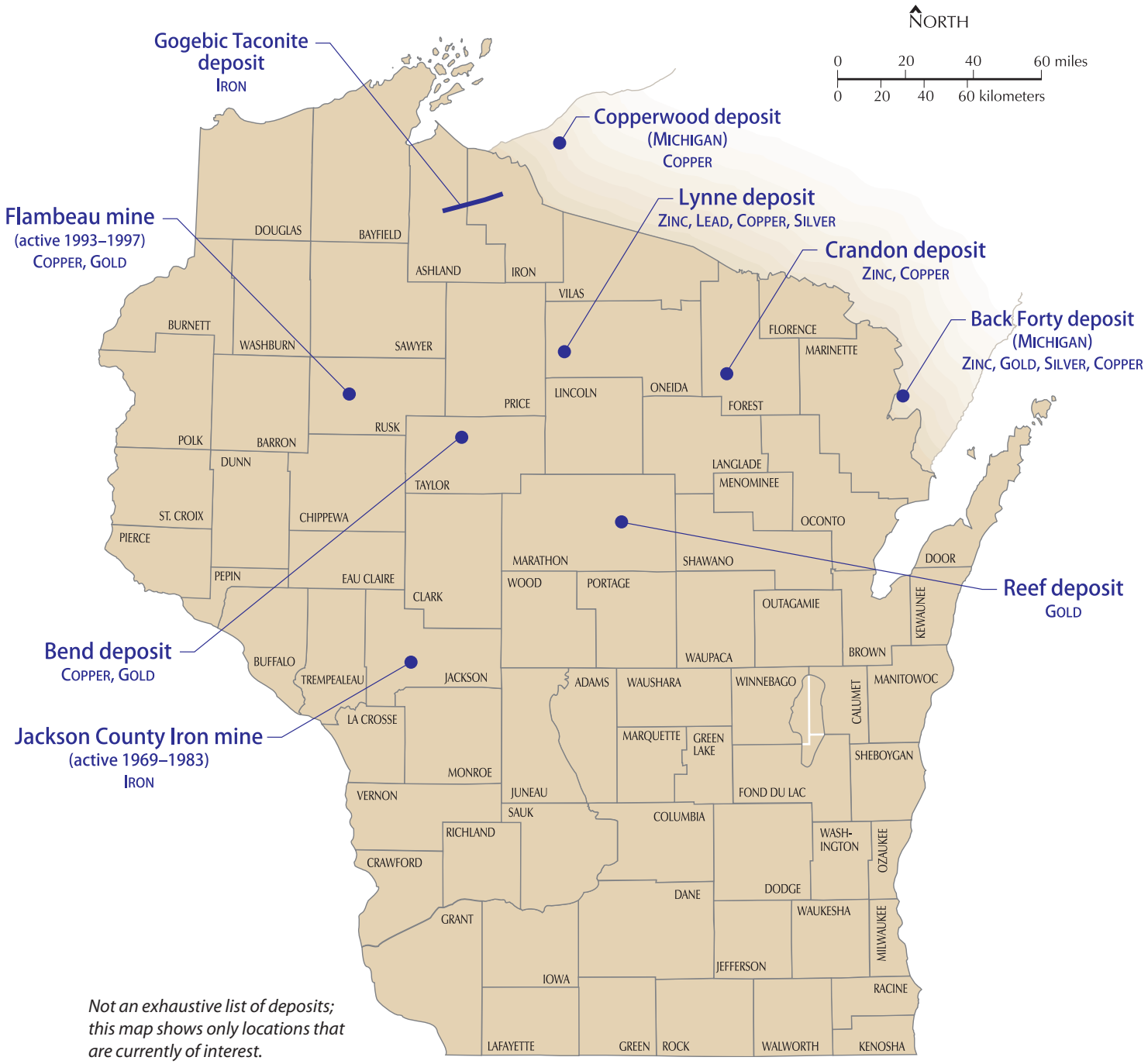
# Metallic mineral deposits

Wisconsin Geological and Natural History Survey 2011




*Not an exhaustive list of deposits; this map shows only locations that are currently of interest.*


UW Extension Cooperative Extension

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**Director and State Geologist:** James M. Robertson

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Metallic mineral deposits are defined as naturally occurring, local concentrations of metal-bearing minerals. Where iron is the dominant metal, the deposit may be characterized as *ferrous*. Deposits containing concentrations of all other metals are termed *nonferrous*. Depending on the particular metal-bearing mineral, the metal may be chemically combined with a variety of compounds including oxides, sulfides, carbonates, and silicates. This is true for both ferrous and nonferrous deposits.

Metallic mineral deposits become "economic" only when they can be mined at a profit. The locations shown on the attached map are divided into *deposits*—known concentrations of metal-bearing minerals that have not yet proven to be economic, and *mines*—deposits that were economically viable, permitted, mined, and subsequently reclaimed.

Over the past 50 years, exploration in Wisconsin has identified approximately 20 nonferrous metallic mineral deposits scattered across the northern half of the state. (The map on the opposite side shows only deposits that are currently of interest.) The Crandon deposit, containing approximately 55 million tons of zinc and copper ore, is the "giant" in the region. The Bend and Lynne deposits are the largest of the rest, each containing 4 to 6 million tons of proven metal reserves.

Two Michigan deposits (Copperwood and the Back Forty) are included on the map. Both are relatively large tonnage, nonferrous sulfide deposits. Copperwood has just begun the formal state permitting process; the Back Forty is scheduled to apply for a mining permit early in 2012. If these deposits are permitted and become mines, they will likely include ore processing infrastructure (such as a mill) whose proximity to northern Wisconsin sulfide deposits may well make those deposits more economically viable.



▲ **Flambeau mine, 1996:** *Production at the Flambeau mine began in 1993. The mine produced 1.9 million tons of high-grade copper ore—yielding 181,000 tons of copper, 3.3 million ounces of silver, and 334,000 ounces of gold—before it was closed in 1997.*

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