

# Metallic Mineral Deposits of Maine

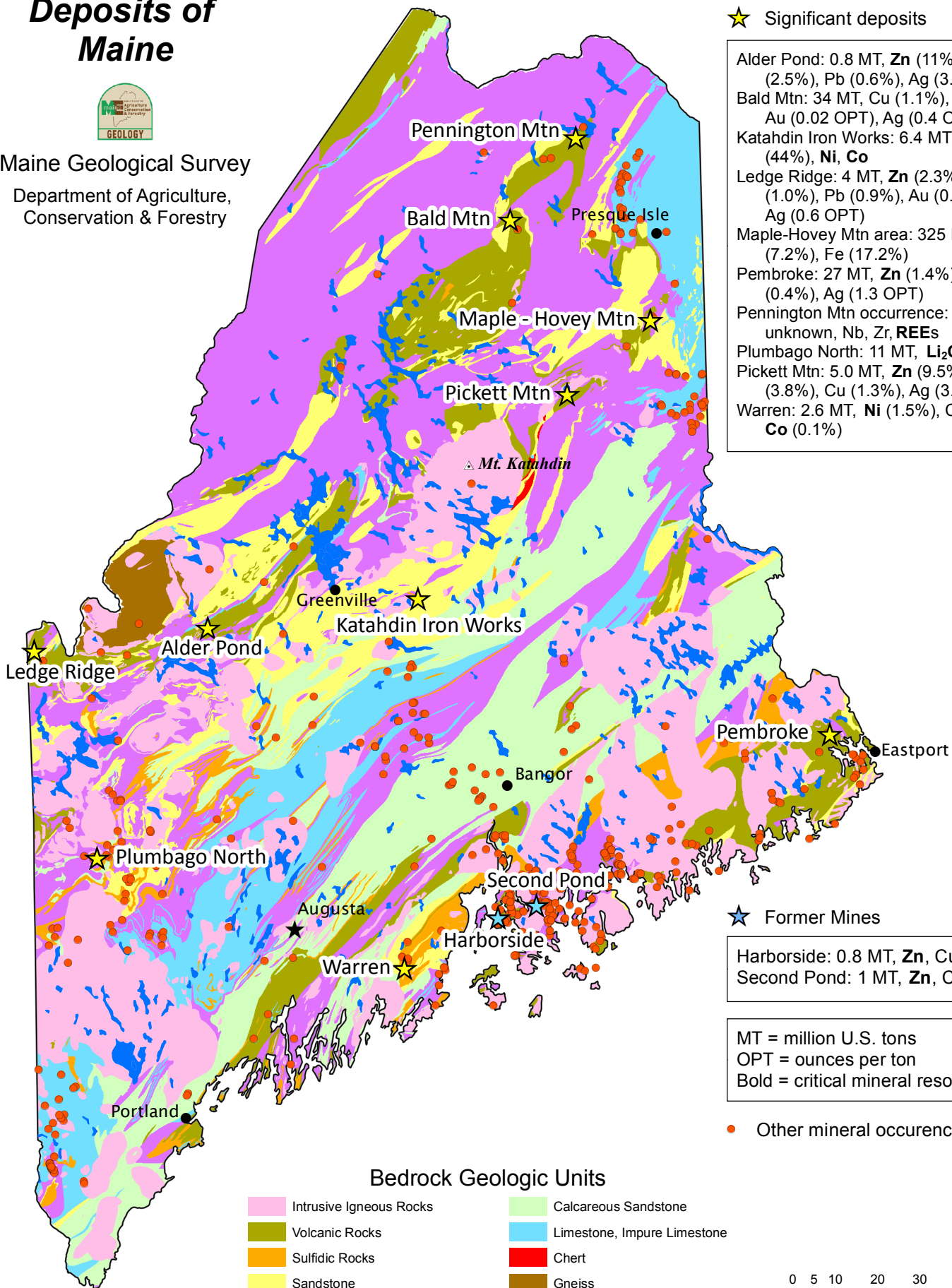


Maine Geological Survey

Department of Agriculture,  
Conservation & Forestry

★ Significant deposits

Alder Pond: 0.8 MT, **Zn** (11%), Cu (2.5%), Pb (0.6%), Ag (3.8 OPT)  
 Bald Mtn: 34 MT, Cu (1.1%), **Zn** (1.0%), Au (0.02 OPT), Ag (0.4 OPT)  
 Katahdin Iron Works: 6.4 MT/100 ft, Fe (44%), **Ni, Co**  
 Ledge Ridge: 4 MT, **Zn** (2.3%), Cu (1.0%), Pb (0.9%), Au (0.02 OPT), Ag (0.6 OPT)  
 Maple-Hovey Mtn area: 325 MT, **Mn** (7.2%), Fe (17.2%)  
 Pembroke: 27 MT, **Zn** (1.4%), Pb (0.4%), Ag (1.3 OPT)  
 Pennington Mtn occurrence: size unknown, Nb, Zr, **REEs**  
 Plumbago North: 11 MT, **Li<sub>2</sub>O** (4.68%)  
 Pickett Mtn: 5.0 MT, **Zn** (9.5%), Pb (3.8%), Cu (1.3%), Ag (3.1 OPT)  
 Warren: 2.6 MT, **Ni** (1.5%), Cu (0.7%), **Co** (0.1%)



★ Former Mines

Harborside: 0.8 MT, **Zn, Cu, Pb, Ag**  
 Second Pond: 1 MT, **Zn, Cu, Pb**

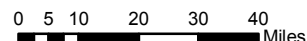
MT = million U.S. tons  
 OPT = ounces per ton  
 Bold = critical mineral resource

● Other mineral occurrences

## Bedrock Geologic Units

- |   |   |
|---|---|
| <span style="display:inline-block; width:15px; height:15px; background-color: #FFC0CB; border:1px solid black;"></span> Intrusive Igneous Rocks         | <span style="display:inline-block; width:15px; height:15px; background-color: #C8E6C9; border:1px solid black;"></span> Calcareous Sandstone        |
| <span style="display:inline-block; width:15px; height:15px; background-color: #8BC34A; border:1px solid black;"></span> Volcanic Rocks                  | <span style="display:inline-block; width:15px; height:15px; background-color: #81D4FA; border:1px solid black;"></span> Limestone, Impure Limestone |
| <span style="display:inline-block; width:15px; height:15px; background-color: #FF9800; border:1px solid black;"></span> Sulfidic Rocks                  | <span style="display:inline-block; width:15px; height:15px; background-color: #FF0000; border:1px solid black;"></span> Chert                       |
| <span style="display:inline-block; width:15px; height:15px; background-color: #FFF176; border:1px solid black;"></span> Sandstone                       | <span style="display:inline-block; width:15px; height:15px; background-color: #795548; border:1px solid black;"></span> Gneiss                      |
| <span style="display:inline-block; width:15px; height:15px; background-color: #E1BEE7; border:1px solid black;"></span> Interbedded Sandstone, Mudstone |   |

All units include metamorphic equivalents



April 11, 2023

<https://www.maine.gov/dacf/mgs/explore/mining/metallic.htm>

## ***Significant Known Metallic Mineral Occurrences in Maine***

Approximate tonnage and grade are listed, if known.<sup>1</sup>

Commodities on the 2022 federal Critical Minerals list are shown in **bold print**.

\*Alder Pond - 3.4 million tons (MT) massive sulfide, of which 0.8 MT grades 2-3% copper, 9-17% **zinc**, 0.5-1.0% lead, and 3-6 oz/ton silver. Advanced exploration permit issued by DEP to BHP mining in late 1980s for underground decline. BHP did not pursue mining operation. There is a current exploration lease on State Land. (*Lower Enchanted Twp, Somerset Co.*)

Bald Mountain - 33.8 MT total, including 30 MT massive sulfide, 2.4 MT copper-rich supergene zone and 1.4 MT gold-rich gossan cap. Average grade of massive body 1% copper, 1% **zinc**, 0.02 oz/ton gold, 0.4 oz/ton silver. Drilled extensively in 1980s, with over 400 holes. Mining application submitted in 1997 under 1991 rules; withdrawn by applicant, citing low metal prices. (*T12R8 WELS, Aroostook Co.*)

\*Harborside (or Callahan Mine) - 0.8 MT of massive sulfide ore mined in 1968-72, averaging 5.5% **zinc**, 1.3% copper, 0.5% lead, and 0.5 oz/ton silver. Mine closed in 1972 according to existing laws and current best practices. Now listed as Superfund site, with State of Maine as one of the responsible parties. (*Brooksville, Hancock Co.*)

Katahdin Iron Works (or Ore Mountain) - 6.4 MT per 100 feet depth (extent unknown); massive iron sulfide with gossan. 44% iron; copper, **nickel**, **cobalt** less than 0.5%. Historical surface mining of gossan in 1800s. (*Katahdin Iron Works Twp, Piscataquis Co.*)

Ledge Ridge - 4 MT massive sulfide, grading 2% **zinc**, 1% copper, 1% lead, 0.02 oz/ton gold, and 0.6 oz/ton silver. (*Parmachenee Twp, Oxford Co.*)

Maple-Hovey deposits - 325 MT, stratabound ore grading 7.2% **manganese** and 17.2% iron. Not a sulfide ore. Extensive investigation by U.S. Bureau of Mines and U.S. Geological Survey in 1950s-60s. (*across several townships, eastern Aroostook Co.*)

Pembroke - 27 MT massive sulfide, grading 1% **zinc**, 0.4% lead, and 1 oz/ton silver. Historical surface mine for lead in early 1900s at Big Hill. Further exploration, including geophysical surveys and drilling was done in 2007-2008 and in 2021. (*Pembroke, Washington Co.*)

Pennington Mountain occurrence - tonnage and grade unknown. Geophysical exploration and surface sampling by the USGS and Maine Geological Survey identified an area of highly mineralized rock enriched in Nb, Zr, and the **rare earth elements** (REE). (*T15 R6 WELS*)

Plumbago North - **Lithium**-bearing pegmatite with large spodumene crystals. Preliminary evaluation suggests 11 million U.S. tons with Li<sub>2</sub>O content of 4.68%. (*Newry, Oxford Co.*)

Pickett Mountain deposit - Indicated and inferred resource of 5.0 million tons massive sulfide, grading 9.5% **zinc**, 3.8% lead, 1.3% copper, and 3.1 oz/ton silver. There is a current LUPC rezoning application to allow mining. (*T6R6 WELS, Penobscot Co.*)

\*Second Pond (or Blue Hill Mine) - 1 MT of massive sulfide ore mined in 1972-1977, averaging 6.9% **zinc** and 0.9% copper with minor lead and silver. Reserves of about 1.4 MT at 8% **zinc** remain at depth. (*Blue Hill, Hancock Co.*)

Warren - 2.6 MT massive sulfide, grading 1.5% **nickel**, 0.7% copper, 0.1% **cobalt**. A mining proposal in the late 1980s was withdrawn after passage of a town ordinance. (*Warren, Knox Co.*)

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\* Asterisk indicates a deposit partly on State-owned land. Others are privately owned.

<sup>1</sup> *Disclaimer: This document contains historical information or estimates from various sources. It is not intended to comply with Canadian National Instrument NI 43-101 disclosure standards for resource or reserve estimates.*