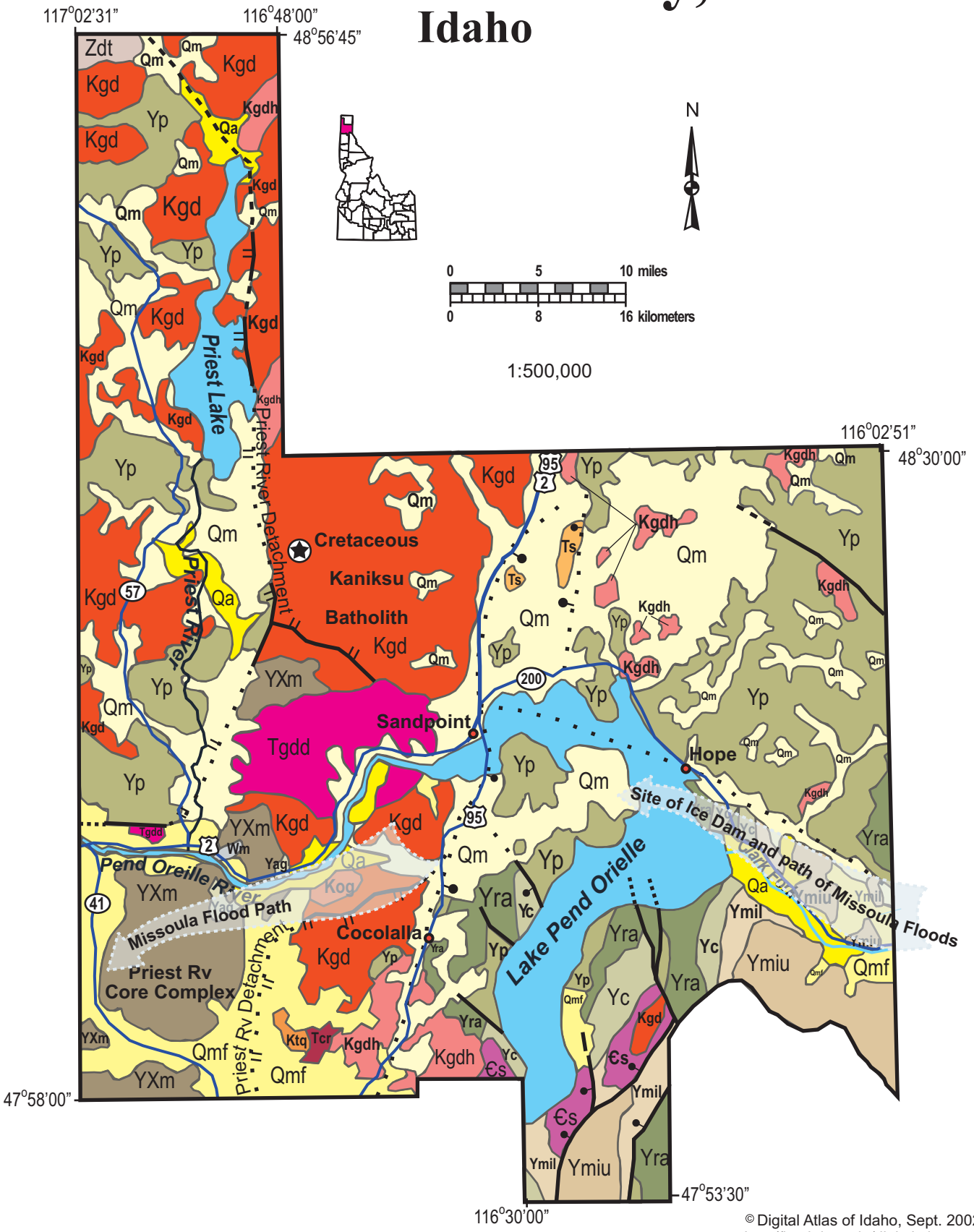
Bonner County,
Idaho



http://imnh.isu.edu/digitalatlas
Compiled by Reed Lewis,
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http://www.idahogeology.org

Bonner County

The northern and western parts of the Bonner county, west of Sandpoint contain the Priest River metamorphic core complex, containing highly metamorphosed rocks of Proterozoic age. The detachment fault which bounds the core complex runs north along the east side of Priest Lake.

Cretaceous intrusive rocks of the Kaniksu batholith (part of the Idaho batholith complex) are found both above and below the detachment fault. Eocene granodiorite intrusive rocks are also found in the center of the metamorphic core. The complex represents recurrent Eocene to Recent uplift.

In the eastern part of Bonner County relatively low-grade metasedimentary rocks of the Mesoproterozoic Belt Supergroup make up the mountains east of Lake Pend Oreille and along the Montana border.

Southeast of Lake Pend Oreille is a small area underlain by Cambrian limestones similar to those mined for lead, zinc and gold near Metaline Washington.

The Lake Missoula flood broke out of the Clark Fork Canyon in the eastern Bonner County about 16,000 years ago, with the ice dam spanning the eastern bays of Lake Pend Oreille. The flood broke out to the south and west of Lake Pend Oreille as it flowed into Rathdrum Prairie and the Spokane River

Written by P.K. Link, 9/02

Descripton of Units for Bonner County Idaho

Qa	Quaternary alluvial deposits
Qm	Quaternary moraine (unsorted boulders, cobbles and sand) and glaciofluvial outwash (bedded stream deposits formed from streams draining active glacial ice).
Qmf	Missoula Flood deposits; boulder bars and gravel along route of Missoula flood on Rathdrum Prairie south and west of Lake Pend Oreille.
Ts	Tertiary sedimentary rocks, undifferentiated. Includes Oligocene and Eocene sedimentary rocks in east-central Idaho (Paleogene basins of Janecke). In northern and western Idaho this unit contains Miocene lake and stream deposits formed adjacent to and above the Columbia River and Weiser basalts, which formed dams in stream canyons.
Tcr	Miocene basalt (Columbia River Basalt Group); flood basalt, extensively exposed in western Idaho; fed by fissures, many of which are near the Idaho-Oregon border. Flowed eastward up valleys cut into the Idaho mountains.
Tgdd	Eocene granodiorite and dacite porphyry intrusive, also includes diorite and, in northern Idaho, minor granitic rock; intermediate phase of Challis magmatic event (50 to 46 Ma). Summit Creek stock.
Kgd	Cretaceous granitic rocks of the 2 mica suite. Idaho batholith and related plutons; granite and granodiorite that contains both muscovite and biotite. Sodium (Na) rich. Intruded between 80 and 65 Ma.
Kgdh	Cretaceous granitic rocks of the hornblene-biotite suite; granite, granodiorite and megacrystic granodiorite. Potassium (K) rich. Age about 80 to 90 Ma.
Zdt	Deer Trail Group, quartzite, siltstone, conglomerate.
Yag	Mesoproterozoic augen gneiss and porphyritic granite; near Shoup on the Main Salmon River age is 1370 Ma.
Ymiu	Upper Missoula Group. Includes Swauger Quartzite, Lawson Creek Formation in Lemhi Range, and Striped Peak and Libby formations In northern Idaho.
Ymil	Lower Missoula Group. Includes Gunsight Formation in Lemhi Range and upper Wallace Formation (equivalent to Snowslip and Shepard formations) in northern Idaho.

Yc — Piegan Group or Middle Belt carbonate, Apple Creek Formation [includes lower and middle Wallace Formation in northern Idaho and Apple Creek Formation and argillaceous quartzite (including rocks at Cobalt) near Salmon].

Yra — Ravalli Group, sandstone (quartzite) and siltite, includes Big Creek Formation and lower part of Lemhi Group in Lemhi Range and Salmon River Mountains, and Burke, Revett and St. Regis formations in northern Idaho.

Yp — Prichard Formation (Lower Belt), dark fine-grained siltstone and sandstone, calcareous intervals in Boehl's Butte area.

Yqra — Quartzite and schist of the Ravalli Group.

Ysp — Schist, gneiss and minor quartzite of the Prichard Formation.

Metamorphic Rocks of Uncertain Affinity, pre- and/or syn Belt Supergroup

YXm — High-grade metamorphic rocks (schist, gneiss, quartzite, calc-silicate rocks); includes Elk City metamorphic sequence and related rocks, Syringa metamorphic sequence, and Priest River metamorphic complex.

Paleoproterozoic and Achaean Metamorphic Rocks

Wm — Archean gneiss and schist, Albion Range, and Priest River complex west of Sandpoint.

Symbols