

Clearwater County

Huge Clearwater County contains vast tracts of steep country drained by the North Fork of the Clearwater River, now impounded behind Dworshak Dam, and largely inaccessible. Pierce and Weippe occupy a relatively flat uplifted area between the North Fork Clearwater and the Lochsa River to the south. Lewis and Clark followed ridges north of the Lochsa as they crossed the continent in 1805 and 1806.

The northern part of the county is underlain by metamorphosed rocks of the Mesoproterozoic Belt Supergroup, folded and thrust in the Cretaceous Sevier orogeny. No Paleozoic rocks are preserved. The Belt rocks are intruded by Cretaceous and Eocene plutons.

The southern part of the county is underlain by the northern expanse of the Bitterroot lobe of the Idaho batholith near Pierce and Headquarters, and by a complex of Eocene intrusive rocks cut by the Kelly Forks Fault. Eocene granite of the Bungalow Pluton occupies the center of the County.

On the southwest is the suture zone between North America and accreted terranes to the southwest, across the Clearwater river near Grangeville. The suture zone runs through the southwest part of Dworshak reservoir. Cretaceous to Permian Orofino Series rocks and Cretaceous orthogneiss underlie lava flows of the Columbia River basalts in much of the southwest part of the county. Miocene sediments were deposited in the upper portions of river valleys dammed by Columbia River basalts and crop out in numerous patches south of Elk River. Some of these Miocene sediments contain gold placers.

P.K. Link, 9/02

Description of Units for Idaho County Geologic Maps

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| 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. |
| KPro | Riggins Group and Orofino series; metasedimentary and possible metavolcanic rocks; includes hornblende gneiss and marble; age uncertain between Permian and Cretaceous. |
| Tgs | Eocene granite, pink granite, syenite, rhyolite dikes, and rhyolitic shallow intrusive; last phase of the Challis magmatic event (46 to 44 Ma). Forms craggy scenic mountain landscape in central and northern Idaho. |
| 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. |
| Kog | Cretaceous orthogneiss, and foliated granodiorite and granite (includes mylonitic plutonic rocks in western Idaho suture zone); deformed early phases of the Idaho batholith. |
| Ktg | Cretaceous tonalite and quartz diorite; hornblende and biotite bearing early phases of the Idaho batholith. Intruded about 90 to 95 Ma. |
| Yan | Mesoproterozoic anorthosite, Boehl's Butte complex. Age uncertain. |
| 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.

Strongly Metamorphosed Belt Supergroup

- Ysw** Schist and phyllite of the upper part of the Wallace Formation (lower Missoula Group); garnet-bearing in Emerald Creek district, Benewah and Latah counties. Schist and phyllite of the upper part of the Wallace Formation (lower Missoula Group); garnet-bearing in Emerald Creek district, Benewah and Latah counties.
- Yqw** Quartzite and calc-silicate gneiss of the lower and middle parts of the Wallace Formation.
- 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.

