

**DESCRIPTION OF SURFICIAL GEOLOGIC AND WETLAND MAP UNITS:**  
(after Bookstrom and others, 1999)

	<b>Riverine unit --</b>	River channel at summer water level
	<b>River-bank wedge unit --</b>	Wedge shaped deposits of lead-rich sediments on the river-facing slope of the natural levee
	<b>Levee-upland unit --</b>	Floodplain-facing slope of the natural levee, from the levee crest to the adjacent lateral marsh or lateral lake
	<b>Palustrine unit --</b>	Lateral marshes, seasonally to perennially flooded to less than 2 m deep
	<b>Lacustrine unit--</b>	Lateral lakes, with littoral margins (less than 2 m deep), and limnetic bottoms (more than 2 m deep at summer water level), as shown on larger scale maps by Bookstrom and others, 1999.
	<b>Highland unit --</b>	Bedrock hills lateral to the floodplain, with surficial colluvium on hillsides and alluvium along tributary streams
	<b>Highland-floodplain transition unit--</b>	Alluvial and palustrine deposits, mostly on the outer margins of the floodplain, especially where alluvial deposits from tributary streams merge with floodplain deposits from the main stem of the Coeur d'Alene River
	<b>Anthropogenic unit --</b>	Includes roads, railroad embankments, and dredge-spoil deposits
	<b>Floodplain boundary--</b>	Approximate high-water line of the February 1996 flood (after Bookstrom and others, 1999)
	<b>Area of Lead-rich sediments --</b>	Area covered by sediments containing at least 1000 ppm Pb (after Bookstrom and others, 2001)

**Reference:**  
Bookstrom, A.A., Box, S.E., Jackson, B.L., Brandt, T.R., Derkey, P.D., and Muntz, S.R., 1999. Digital map of surficial geology, wetlands, and deepwater habitats, Coeur d'Alene River valley, Idaho: U.S. Geological Survey Open-File Report OF 99-548, 121 p.  
Bookstrom, A.A., Box, S.E., Campbell, J.K., Foster, K.L., and Jackson, B.L., 2001. Lead-rich sediments, Coeur d'Alene River valley, Idaho: Area, volume, tonnage, and lead content: U.S. Geological Survey Open-File Report OF 01-14, 44 p.

**Baseline Rate of Sediment Deposition**

- 0 - 1.9 cm/decade
- 2.0 - 2.9 cm/decade
- 3.0 - 3.9 cm/decade
- 4.0 - 8.9 cm/decade
- 9.0 - 29 cm/decade

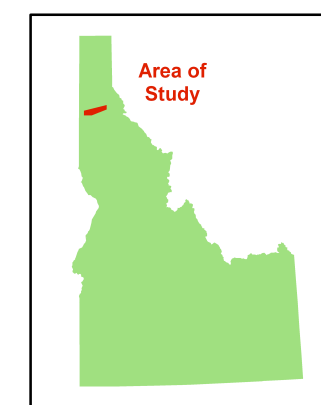
○ **Measurement site with 1980 marker --** At most sites the baseline rate of sediment deposition was determined by measuring the thickness (cm) of sediment above the 1980 Mt. St. Helens volcanic-ash layer. Most measurements were made in 1993, and all were made between 1991 and 1995. Measured thickness was divided by the number of years from 1980 to the measurement date, and multiplied by ten, to indicate a 10-year time-averaged baseline rate of deposition in cm/decade.

○ **M92CS Cesium isotopic dating site --** The 1980 volcanic-ash layer is not present in bottom sediments in limnetic zones of the lateral lakes. Cesium-isotopic dating of sediments frozen to the sides of a freeze-box sampler at site M92CS indicate that in 1969 (one year after tailings stopped being discarded directly into streams) deposition of finely layered silty sediments changed to deposition of non-layered, water-saturated, organic-rich sediment (Rember and others, 1993).

○ **Freeze-box sample site --** In freeze-box samples, we recognized the 1969 time-stratigraphic marker, described above, and used it to calculate an average post-tailings release sedimentation rate, which we suggest is indicative of the baseline rate. See text for full explanation of how baseline sediment-deposition rate was estimated for limnetic sites that lack the 1980 marker layer, but were sampled with a freeze box.

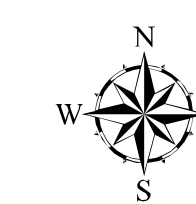
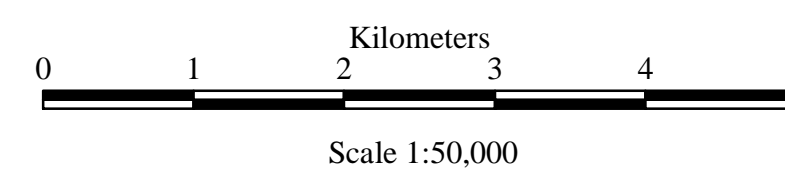
Map Projection and 5,000-meter grid  
UTM zone 11, 1927 North American Datum

The digital elevation model (DEM) base map was compiled using the following 7.5 minute USGS 10 meter DEM's: Black Lake, Cataldo, Harrison, Lane, Mica Bay, Medimont, Mount Coeur d'Alene, Rochat Peak, Rose Lake, and Twin Crags.



**Baseline Deposition Rates for Sediments Deposited after 1980 on the Floodplain of the Coeur d'Alene River, Idaho**

By  
Arthur A. Bookstrom, Stephen E. Box, John C. Wallis, and Berne L. Jackson



Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change in size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map.

**BASELINE AND HISTORIC DEPOSITIONAL RATES AND LEAD CONCENTRATIONS, FLOODPLAIN SEDIMENTS, LOWER COEUR D'ALENE RIVER, IDAHO**

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