Historical Data from the Lake Mills Gage Used in Analysis

Parameter Description	Data Date Range and Frequency	No. of samples	Sampling Equipment/Technique	Reference	Notes
Streamflow Discharge and Channel Geometry Measurements					
Instantaneous streamflow discharge, channel width, mean channel depth, channel cross-sectional area, mean streamflow velocity	3/25/1994 – 4/27/1994; Intermittent	11	*Velocity/Discharge:* standard Price-AA velocity meter. Measurements made from boat or wading in the water. *Width, depth, area:* Not described.	Childers et al. 2000 (Table 2a)	Also available at: https://waterdata.usgs.gov/wa/nwis/measurements/?site_no=12044900&agency_cd=USGS&amp
Instantaneous streamflow discharge, channel width, mean channel depth, channel cross-sectional area, mean streamflow velocity	5/11/1994 – 10/13/2011; Intermittent	80	*Discharge:* Varies- midsection method, acoustic doppler current profiler or unspecified. Measurements made from boat, causeway or wading in the water. *Velocity:* Varies- standard Price-AA velocity meter, acoustic doupler current profiler or unspecified. *Width, depth, area:* Not described.	USGS 2016	Website also includes 7 measurements collected upstream or downstream of the gage as well as 11 measurements from Childers et al., 1999 streamflow data (these 18 samples are excluded from the listed number of samples, 80).
Daily mean streamflow discharge	3/26/1994 – 5/31/1998, 2/18/2004 – 9/30/2011; Daily	3911	*Streamflow Discharge:* USGS streamflow gaging station.	USGS 2016	Streamflow discharge collected in 15-minute intervals is also available from the USGS but is not directly used in this analysis.
Bedload Discharge					
Instantaneous bedload discharge, Instantaneous streamflow discharge, Particle size distribution (0.5 mm - 64 mm)	4/8/1994-7/26/1994; Intermittent	19 (74 sub-samples)	*Bedload Sampler:* "Elwha sampler" with 10.2 x 20.3 cm intake nozzle, 1.40 expansion ratio and catchment bag with 0.5 mm mesh. Connected to a standard or long wading rod. *Bedload Technique:* MEWI cross-section sampling (Edwards and Glysson, 1999) from the side of a boat. Most samples consisted of four subsamples (range of two to six), each subsample representing an individual transect sample. *Bedload Size Distribution:* Lab analysis. *Streamflow Discharge* : standard Price-AA velocity meter with a standard or long wading rod from the side of a boat.	Childers et al. 2000 (Table 2a)	On 6/21/1994, two samples collected within 1 hour of each other were reported with a large difference in bedload discharge. On 7/26/1994, no streamflow discharge was reported. 20 samples were reported however 1 sample (collected on 7/26/1994) was not used in this analysis because it did not include a streamflow discharge measurement.
Instantaneous bedload discharge, Instantaneous streamflow discharge, Particle size distribution (0.5 mm - 64 mm), channel width	11/1/1994-10/15/1997; Intermittent	23 (82 sub-samples)	*Bedload Sampler:* "Elwha sampler" with 10.2 x 20.3 cm intake nozzle, 1.40 expansion ratio and catchment bag with 0.5 mm mesh. Connected to a standard or long wading rod. *Bedload Technique:* EWI cross-section sampling (Edwards and Glysson, 1999) from side of a boat or modified hand-held version at low flows when channel could be waded. Most samples consisted of four subsamples (range of one to six), each subsample representing an individual transect sample. Individual transect samples typically consisted of 13 evenly spaced sampling points along cross section. *Bedload Size Distribution:* Laboratory analysis. *Streamflow Discharge:* standard Price-AA velocity meter. Measurements made from boat or wading in the water. *Width:* Not described.	Curran et al., 2009 (Appendix C) and personal correspondence with Chris Curran, USGS	25 samples were reported however 2 samples (collected on 11/4/1994 and 11/30/1995) were not used in this analysis because they did not include particle size distributions for the bedload discharge. Study also uses bedload measurements from Childers et al., 2000.
Channel bed/Gravel Bar/Subsurface Samples					
Wetted channel bed sediments	4/9/1994	1 sample (5 sub-samples)	*Streambed Sampler:* Steel pipe dredge (76 mm diameter, 304.8 mm length) with cap on one end and baler handle on the other, from side of a boat with a rope. *Streambed Technique:* EWI cross-section sampling (Edwards and Glysson, 1999) consisting of 5 evenly spaced sampling points along cross section. *Streambed Size Distribution:* Laboratory analysis. *Streamflow Discharge* : standard Price-AA velocity meter.	Childers et al. 2000 (Table 8)	
Gravel bar surface and subsurface	6/21/1994	2 surface, 1 bulk subsurface	*Surface:* Particle counts of 200 sampling points. *Subsurface:* Bulk sample collected.	Childers et al. 2000 (Table 9a)	Gravel bar surface particle counts conducted from the upstream and downstream ends of the left bank gravel bar near Lake Mills gage. Bulk sample of subsurface collected with each particle count.
Suspended Sediment Concentration or Discharge					
Instantaneous suspended sediment concentration and discharge, Instantaneous streamflow discharge, Percent sand and silt/clay, Sand particle size distribution	3/25/1994-6/21/1994; Intermittent	30	*Suspended Sediment Sampler:* DH-48 or D-74 with a standard or long wading rod from the side of a boat. *Suspended Sediment Technique:* EWI cross-section sampling (Edwards and Glysson, 1999). *Streamflow Discharge:* Standard Price-AA velocity meter with a standard or long wading rod from the side of a boat.	Childers et al. 2000 (Table 4a)	Two consecutive samples were collected on the same day at the site in most cases, and both sets of sample results are included in the table. Data is also available on USGS website (http://cida.usgs.gov/sediment/). Particle size distribution for sand fraction of 7 samples included on USGS website.
Instantaneous suspended sediment concentration, Instantaneous streamflow discharge	4/11/1996-7/31/1997; Intermittent	7	Unavailable	USGS 2016	
Instantaneous suspended sediment concentration and discharge, Instantaneous streamflow discharge	10/5/1994 – 12/11/1997; Intermittent	39	*Suspended Sediment Sampler:* D-74 from motorized bank operated cableway *Suspended SedimentTechnique:* EWI cross-section sampling (Edwards and Glysson, 1999). *Streamflow Discharge:* USGS streamflow gaging station.	Curran et al. 2009 (Appendix A)	Data is also available on USGS website (http://cida.usgs.gov/sediment/). Percent silt available for 2 samples on USGS website.
Instantaneous suspended sediment concentration and discharge, Instantaneous streamflow discharge, Percent sand and silt/clay	11/2/2005 - 11/6/2006; Intermittent	13	*Suspended Sediment Sampler:* D-74 from motorized bank operated cableway (except on 12/29/05- see notes) *Suspended SedimentTechnique:* EWI cross-section sampling (Edwards and Glysson, 1999) (except on 12/29/05- see notes) *Streamflow Discharge:* Standard Price-AA velocity meter with a standard or long wading rod from the side of a boat.	Curran et al. 2009 (Table 1)	Study also uses suspended load measurements from Childers et al., 2000 and collected by USGS in water years 1995-1997 (latter dataset is included in Appendix A). Percent sand and silt/clay reported for 6 most recent samples. On 12/29/05, only a grab sample was collected.

Notes

EDI = equal- discharge increment, EWI= equal- width increment, MEWI= multiple equal- width increment

Additional parameters collected at the Lake Mills gage but not shown in this table included gage height, streamflow temperature, suspended sediment concentration, turbidity and streamflow water quality measurements.